WATER EFFICIENT LANDSCAPE DESIGN MANUAL

COUNTY OF SAN DIEGO

DEPARTMENT OF PLANNING & DEVELOPMENT SERVICES

PDS (05/16)

APPROVAL

I hereby certify that this **Water Efficient Landscape Design Manual** has been considered and approved by the Director of Planning & Development Services on the 27th day of May 2016, to be used in conjunction with the County's Water Conservation in Landscaping Ordinance, County Code, Title 8, Division 6, Chapter 7.

Mark Wardlaw

Director of Planning & Development Services

PURPOSE

The State Legislature determined in the Water Conservation in Landscaping Act (the "Act"), Government Code sections 65591 et seq., that the State's water resources are in limited supply. The legislature also recognized that while landscaping is essential to the quality of life in California, landscape design, installation, maintenance and management must be water efficient. The primary purpose of this document is to establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and projects with modified landscapes. Promoting the use of tertiary treated recycled water and graywater for irrigation, set a Maximum Applied Water Allowance as an upper limit for water use, It also encourages landscapes that create defensible space in the event of a wildfire.

This document incorporates the requirements of the County's Water Conservation in Landscaping regulations (County Code of Regulatory Ordinances Section 86.701 *et seq.*) with landscape design guidelines and installation specifications. It provides guidance on preparing the various components of landscape plans which may be required as part of a discretionary or ministerial permit process. Compliance with this manual will result in a more efficient process and avoid unnecessary time delays. For those people who are not required to submit a formal landscape plan, this manual serves as a resource to educate and assist in the design and installation of a water efficient landscape.

Lake Oroville June 2005

Lake Oroville February 2008

Lake Oroville October 2015

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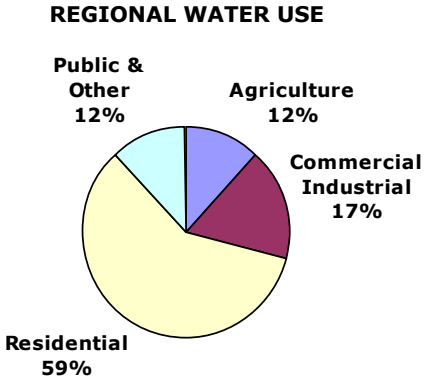
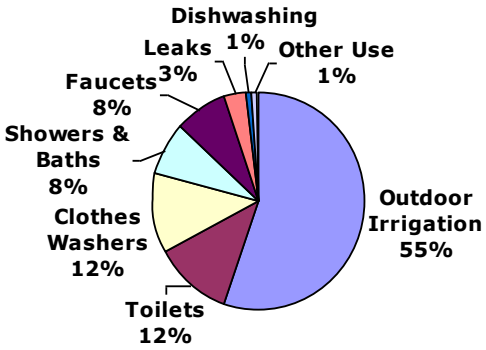


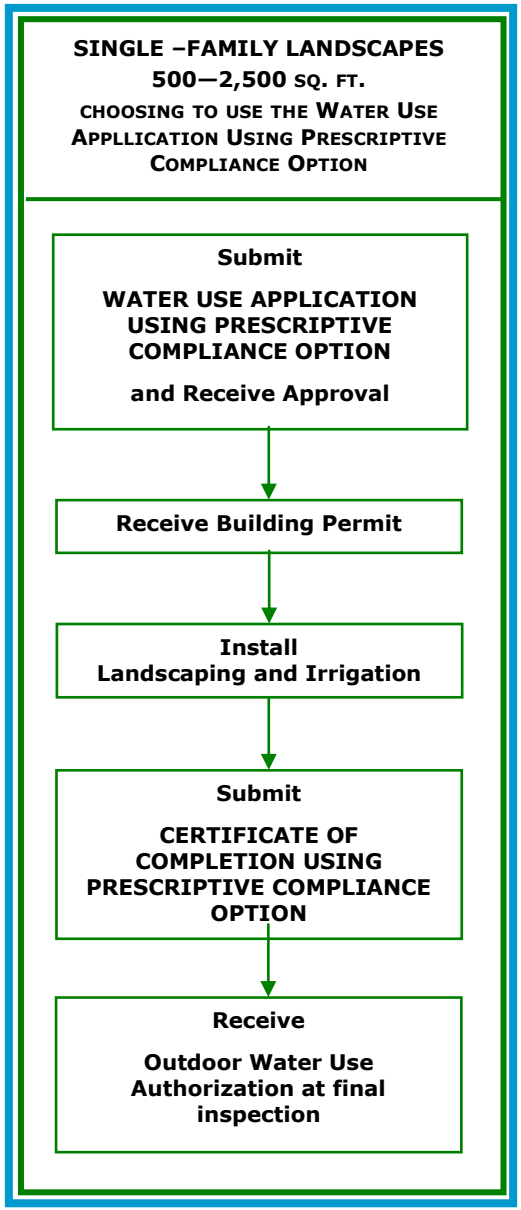
"Estimates of Water Use in the San Diego Region." *Our Water, Our Future – 2009 Update*, California Landscape Contractors Association, San Diego Chapter, May 2009

SINGLE FAMILY RESIDENTIAL



"Estimates of Water Use in the San Diego Region." *Our Water, Our Future – 2009 Update*, California Landscape Contractors Association, San Diego Chapter, May 2009

Cover photograph of the Water Conservation Garden at Cuyamaca College taken by Dixie Switzer.



SECTION 1
APPLICABILITY AND PROCESS

A. Construction of New Single-Family Residences

1. Landscapes under 500 square feet

a. Landscapes with less than 500 square feet of aggregate area will not require any landscape review in order to obtain a building permit.

2. Landscapes between 500 and 2,500 square feet

Note: Single family residences may conform to the Prescriptive Compliance Option set forth in Section 86.722 of the ordinance, or comply with the performance criteria of the Water Conservation in Landscaping ordinance.

a. A Water Use Application Using Prescriptive Compliance Option form must be submitted to Planning & Development Services (PDS) at time of building permit application for all new construction of primary single-family residences that meet the applicability requirements of the Water Conservation in Landscaping regulations and that contain an aggregate a landscaped area between 500 sq. ft. and 2,500 sq. ft.

b. A Landscape Documentation Package may be submitted to PDS for all new construction of primary single-family residences that choose, or require compliance with the performance criteria within the Water Conservation in Landscaping regulations section 86.707.

i. Single-family residences that choose to meet their water budget requirements through an expanded plant palette rather than the restrictions of the Prescriptive Compliance Option (Section 86.722a.3) shall be required to submit a Landscape Documentation Package and provide calculations that show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55.

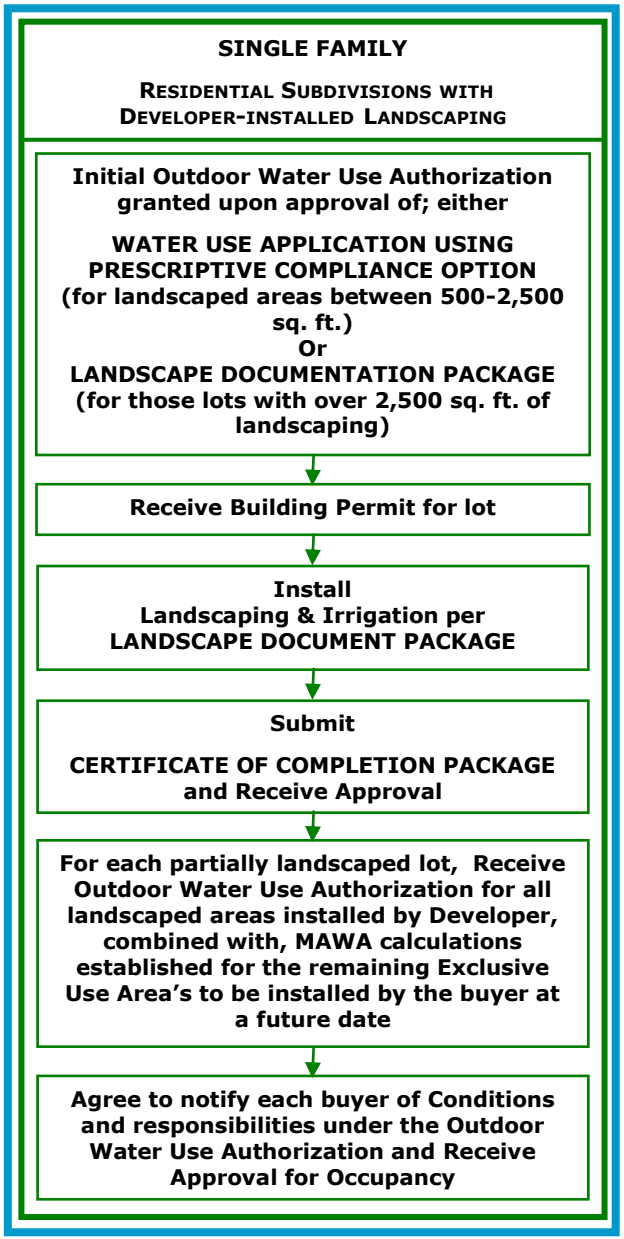
c. The regulations apply to residences that are or will be served by a member agency of the San Diego County Water Authority (Appendix K) or by the Borrego Water District, and by residences using well water, or graywater. Recycled water is not allowed for use with single-family residences.

d. The Application may be submitted by the property owner or the owner's agent, but must be signed by the property owner. No other signatures will be accepted. The application must be approved by the Director of Planning & Development Services in order to achieve an initial Outdoor Water Use Authorization, as described in the County Code of Regulatory Ordinances Section 86.704, and to receive a building permit.

e. The Application consists of project information, the size of the landscaped area, the water supply type, plant material criteria and restrictions, minimum irrigation requirements, final inspection requirements, a signed agreement to comply, and determination of the maximum applied water allowance (MAWA). It also includes a certification that the installation and maintenance of the landscape and the irrigation system will comply with County regulations and will not exceed MAWA. (See Appendix B).

3. Landscapes 2,500 square feet or greater

a. A Landscape Documentation Package (LDP) must be submitted to Planning & Development Services for all new construction of primary single-family residences that meet the applicability requirements of the Water Conservation in Landscaping regulations and that contain an aggregate landscaped area of 2,500 square feet or greater. The LDP is described in detail in Section 2 of this manual. The regulations apply to residences that are or will be served by a member agency of the San Diego County Water Authority (Appendix K) or by the Borrego Water District, and by residences using well water, or graywater. Recycled water is not allowed for use with single-family



residences. A Water Efficient Landscape Worksheet is not required for projects utilizing on-site well water, however, all other requirements of the Landscape Documentation Package shall be provided.

b. The LDP shall be prepared and certified by a California licensed landscape architect, licensed civil engineer, licensed architect, or licensed landscape contractor, or the personal property owner. The LDP must be approved by the Director of Planning & Development Services in order to obtain an Outdoor Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

c. If the LDP is prepared by a California licensed landscape contractor, evidence of a signed contract with the property owner, acknowledging that the contractor will also install the landscaping, must be provided as part of the LDP submittal.

d. The LDP must be submitted and approved prior to issuance of the building permit. Upon installation of the landscaping and the irrigation system, the applicant will submit a Certificate of Completion Package (County Code of Regulatory Ordinances Section 86.725). The landscaping and the irrigation system must be installed and approved before final inspection of the residence will be approved for occupancy.

4. Single Family Residential Subdivisions

a. Before a building permit for a residential subdivision (1019 permit for tract home) can be issued for an individual lot within a residential subdivision the developer shall first obtain initial Outdoor Water Use Authorization. The initial Outdoor Water Use Authorization will be issued to the developer based on approval of either a Water Use Application Using Prescriptive Compliance Option form (landscaped areas between 500 sq. ft. and 2,500 sq. ft.) or a Landscape

Documentation Package for those lots having 2,500 sq. ft. of Exclusive Use Area or more.

b. Before a building permit can be issued for an individual lot where all or any portion of the landscape will be installed by the developer, the developer must receive approval for either the Landscape Documentation Package (LDP), or the Water Use Application Using Prescriptive Compliance Option form, whichever is applicable.

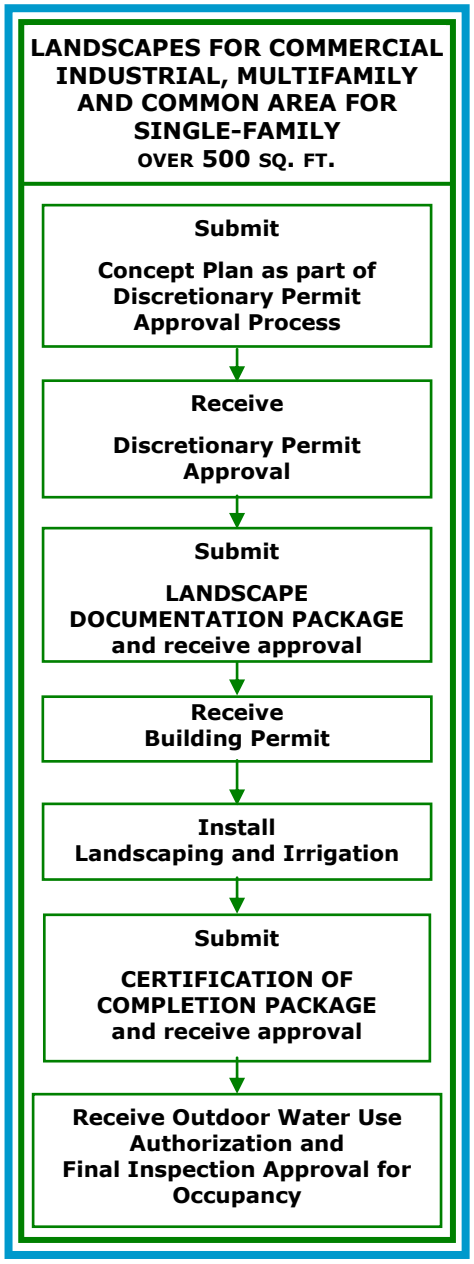
c. If the developer allows the buyer to choose from among various standard landscape design plans, one set of plans must be submitted and approved for each standard design, prior to issuance of a building permit. If the landscaping on a lot will not conform to an approved design plan, the developer must submit a separate set of plans for each non-standard landscape.

d. If the developer installs only a portion of the landscaping on a lot:

   i. If the total landscaped area for the entire lot is less than 2,500 sq. ft., and the developer only installs front yard landscaping, the Maximum Applied Water Allowance (MAWA) is established for the entire lot upon submittal of the Water Use Application Using Prescriptive Compliance Option (PDS-410).

   ii. If the project total landscape area is greater than 2,500 sq. ft. and the developer only installs a portion of the landscape, a Landscape Documentation Package shall be submitted and water budget calculations established for the portion installed by the developer and added to the Exclusive Use Area to be installed by the buyer at a future date.

e. A Certificate of Completion (PDS-407) shall only be required for projects submitting a Landscape Documentation Package. Developers installing landscapes utilizing the Water Use Application Using Prescriptive Compliance Option form shall agree to provide the buyer with a copy of the Form.



f. The developer must advise the buyer of the Outdoor Water Use Authorization and the buyer's obligation not to exceed the outdoor water budget established by the authorization, and to design, install, and maintain their landscape in accordance with the prescriptive compliance options within the County's Water Conservation in Landscaping Ordinance.

g. If no other landscape related improvements are required on the lots such as structural BMP's associated with County storm water regulations, or erosion control slope protection requirements of the Grading Ordinance, or association with a grading permit, the developer may elect not to provide any landscape, but must first establish water budget calculations for all lots within the subdivision prior to issuance of a building permit. A plan shall be submitted showing the entire subdivision, along with building footprints and driveway layouts for each lot. A chart shall be provided that establishes the Maximum Applied Water Allowance calculations for each individual residential lot based on 25% of the yard being planted in turf and 75% of the yard being planted with low water use plants having an average plant factor of 0.3. Included on the plan will be all the criteria and notes from Form PDS-410 that instruct homeowners on the types of irrigation components necessary to install in their yards, the restrictions on turf use, and notes and specifications about compost and mulch. Included on the plan will be a signature block for the developer to sign acknowledging that they will disclose this information to each future homebuyer.

h. If a Homeowner's Association will be responsible for reviewing landscape plans submitted by each homeowner within a subdivision, they shall verify that the water budgets established by the County are still being adhered to and that the plans are compliant with the Water Conservation in Landscaping Ordinance and the Water Efficient Landscape Design Manual.

B. Construction of New Commercial, Industrial and Multifamily Landscapes of 500 square feet or more and New Single-Family Common Area Landscapes of 500 square feet or more

1. Concept Plan

a. Landscape projects that meet the applicability requirements of the Water Conservation in Landscaping Regulations and are required to submit an application for a discretionary permit must submit a concept plan as part of the discretionary permit process (Sec. 86.704 (b)(2)).

b. The concept plan is a generalized notion as to how the goal of water conservation will be attained. It should include a representation of the site features, proposed plantings and the proposed method and type of irrigation.

c. When a concept plan is submitted, it will be compared to the Landscape Documentation Package which is required before a building permit for the site can be issued.

2. Landscape Documentation Package

a. The Landscape Documentation Package (LDP) is a detailed plan submittal that is required before a building permit will be issued. The LDP is described in detail in Section 2 of this manual.

b. The LDP shall be prepared and certified by a California licensed landscape architect, licensed civil engineer or licensed architect. Personal property owners may also prepare plans and specifications for any property owned by that person.

c. The LDP must be approved by the Director of Planning & Development Services in order to obtain an Outdoor Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

d. The LDP must be submitted and approved prior to issuance of a building permit.

e. Upon installation of the landscaping and the irrigation system, the applicant will submit a Certificate of Completion (County Code of Regulatory Ordinances Section 86.725).

f. The landscaping and the irrigation system must be installed and approved before final inspection of the site will be approved for use or occupancy.

g. The landscape architect, civil engineer, architect, or property owner shall conduct periodic site visits during construction to ensure that the landscaping and irrigation system are being installed per the approved Landscape Documentation Package and shall certify to such as part of the Certificate of Completion requirements.

C. Model Homes

1. The new construction of one or more landscaped model homes in a single-family residential development that is subject to the Water Conservation in Landscaping regulations requires the submittal and approval of a Landscape Documentation Package and a Certificate of Completion before use and reliance is permitted.

2. In addition, the developer shall use signs and written information to demonstrate the principals of water efficient landscapes as described in Section 86.718 of the County Code of Regulatory Ordinances.

D. Public Agencies

A public agency project that contains a landscaped area of 500 square feet or more is required to adhere to the prescriptive measures of the Water Conservation in Landscaping Ordinance and the Water Efficient Landscape Design Manual.

E. Cemeteries

1. Recognizing the special landscape management needs of cemeteries, new and modified cemeteries will not be required to submit a Landscape Documentation Package, but must submit a concept plan and a water efficient irrigation worksheet with the application for the discretionary permit.
2. The applicant is also required to submit a landscape and irrigation maintenance schedule that complies with Section 86.727 of the Water Conservation in Landscape Ordinance.

F. Graded Slopes

1. An applicant for any discretionary permit that includes grading and landscaping, where the landscaping will require temporary or permanent irrigation, must submit a Landscape Documentation Package and Certificate of Completion to Planning & Development Services. Occupancy of the site may be delayed until the landscaping is sufficiently established to prevent erosion as required by the County Grading Ordinance.
2. Water budget calculations established during approval of the Landscape Documentation Package associated with a grading permit will be combined with the water budget calculations associated with subsequent building permit applications for a particular parcel to ensure that the overall Estimated Total Water Use does not exceed the Maximum Applied Water Allowance for the entire site.

G. Modified Landscapes

1. Any re-landscaping of any property with a total aggregate landscape from 500 square feet to less than 2,500 square feet may conform to the restrictions of the Prescriptive Compliance Option (Section 86.722) before a new building permit is issued.

GIVE YOUR LANDSCAPE A MAKEOVER

- **Simple design changes can save water and give your landscape a fresh, new look.**
- **Replace lawn areas with water smart groundcovers, trees and shrubs.**
- **Use permeable landscaping materials to create pathways or borders.**
- **Attend classes on water smart landscaping.**
- **Visit the Water Conservation Garden at Cuyamaca College or the Quail Botanical Gardens in Encinitas.**
- **Look for water-saving plants at local nurseries.**
- **Check with your water agency or equipment retailer for rebates on irrigation equipment.**

2. Any re-landscaping of any property requiring discretionary review or issuance of a building permit with a total aggregate landscape in excess of 2,500 square feet, requires the submittal and approval of a Landscape Documentation Package.

3. Any previously approved Landscape Documentation Package that proposes revisions that amount to 10% or more, require the submittal and approval of a Modified Landscape Documentation Package.

SECTION 2
LANDSCAPE DOCUMENTATION PACKAGE

A. General Information

1. A Landscape Documentation Package (LDP) must be submitted to the Department of Planning & Development Services for all new construction projects that meet the applicability requirements of the Title 8, Division 6, Chapter 7, of the San Diego County Code of Regulatory Ordinances Relating to Water Conservation in Landscaping. The LDP shall address water conservation techniques and efficient irrigation systems. The owner or his agent shall be responsible for implementation of the LDP.

2. The LDP shall be prepared and certified by a California licensed landscape architect, licensed civil engineer or licensed architect. A California licensed landscape contractor may prepare and certify the LDP for the homeowner of a single family residence if evidence of a signed contract with the property owner, acknowledging that the contractor will also install the landscaping, is provided. Personal property owners may also prepare plans and specifications for any property owned by that person.

3. The LDP must be submitted and approved before a building permit will be issued. The landscape architect, civil engineer, architect, or landscape contractor shall conduct periodic site visits during construction

to observe and ensure that the landscaping and irrigation system are being installed per the approved Landscape Documentation Package and shall certify to such as part of the Certificate of Completion requirements.

4. The LDP consists of:
   a. Project Information
   b. Soil Management Report (sec.86.708)
   c. Landscape Design Plan (sec.86.709)
   d. Irrigation Design Plan (sec.86.709)
   e. Grading Design Plan (sec.86.710)
   f. Water Efficient Landscape Worksheet (sec.86.711)
5. The LDP must be approved by the Director of Planning & Development Services in order to obtain Outdoor Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

A rain barrel captures roof and gutter runoff to irrigate landscape.

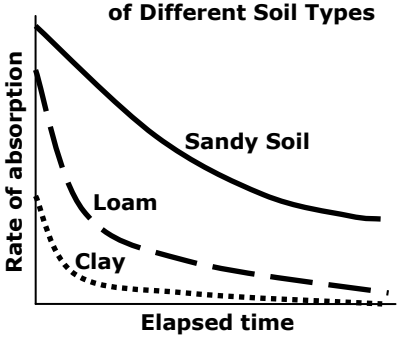
Photograph Courtesy of Arid Solutions, Inc.

B. Project Information

The applicant shall provide the following information:

1. Date of application
2. Project applicant/Property Owner & Contact Information
3. Project Address (including parcel and lot number(s))
4. Total irrigated landscape area (square feet)
5. Landscape type (e.g., new, existing, private, cemetery, home-owner installed, etc)
6. Water supply type (potable, recycled, well, graywater)
7. Checklist of all documents in Landscape Documentation Package

Infiltration Rate of Different Soil Types



C. Soil Management Report

1. In order to reduce runoff and encourage healthy plant growth, a soil management report must be submitted.
2. The analysis shall be completed by a properly certified or accredited laboratory using accepted industry protocol. The analysis shall be of the soil for the proposed landscaped areas of the project that include information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium and percent of organic matter.
3. The report should also contain recommendations, which shall be implemented, about the type and amount of amendments necessary to sustain the vegetation proposed in the landscape design plan.
4. The information contained within the soils analysis report must be made available to the preparer of the required landscape and irrigation plans to make any necessary adjustments to the design relating to soil erosion, runoff, and plant establishment.
5. When a project involves mass grading of a site the applicant shall submit a soil management report that complies with subsection (1 & 2) above with the Certificate of Completion required by section 86.725.
6. 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.

D. Landscape Design Plan

For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project.

1. General Submittal Requirements

a. Submit two complete sets.

b. Submit a copy of either the project's Standard Storm Water Quality Management Plan (SWQMP) or Priority Development Project Storm Water Quality Management Plan with all vegetated Best Management Practices (BMPs) highlighted. SWQMP must be a copy of the approved plan or most recent version, updated and highlighted for landscape review. See Section 2.D.11. Projects shall be compliant with all applicable Fact Sheets (Appendix E) within the County's Best Management Practice's Design Manual.

c. Plans must address fire safety issues and demonstrate compliance with State and County requirements for defensible space around buildings and structures.

d. Plans must be standard 24" X 36" blueprint sheets. Any other size must be approved in advance.

e. Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5').

f. Plans must be legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

g. All sheets must be signed, stamped, and dated along with a renewal date by the professional licensed by the State of California who prepared the plans. Personal property owners preparing their own plans must sign and date the plans

h. Each sheet must contain the following certification:

I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water.

Once a year, groom ornamental grasses. Do not mow.

Buffalo Grass

California Meadow Sedge

2. Plan Requirements

Plans shall:

a. Delineate and label each hydrozone by number, letter, or other method.

b. Identify each hydrozone as very low, low, moderate, high water use or a special landscaped area.

c. Show specific location of all vegetation, retained or planted, the plant spacing and plant quantities by container size. If seed is to be planted, the plan shall describe the seed mixes and applicable germination specifications.

d. Include a legend listing the common and botanical plant names of each plant shown on the drawing, including the species' plant factor.

e. Identify recreational areas (both passive and active) except on plans for single family residential projects.

f. Identify areas permanently and solely dedicated to edible plants.

g. Identify areas irrigated with recycled water, graywater and other non-potable water.

h. Identify temporarily irrigated areas.

i. Show all pervious and non-pervious hardscapes.

j. Show all natural features.

k. Identify the type, and surface area of all water features.

l. Identify the type and amount of mulch for each area where mulch is applied.

m. Identify any soil amendments, the type, and quantity.

3. Plant Material

a. Landscaping includes the planting and maintenance of trees,

groundcover, shrubs, vines, flowers, or turf varieties. In addition, when appropriate for the site and intended use, the landscaping may include natural features such as rock and stone or structural features including, but not limited to, fountains, pools, art work or pervious pathways.

b. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic and topographical conditions of the project site. Low-water use, deep-rooted plants and native species are highly recommended, as well as plants that are well-suited for the soil type that exists on site.

c. Plants shall be grouped into hydrozones with plant species having similar water demands and by their soil, sun, shade, and maintenance requirements.

d. Within hazardous fire areas, highly flammable plant materials and mulches, such as straw or small wood chips, should be avoided. Refer to the plant list in Appendix H for plants that are both ignition resistive and low water use. Also see Section 2.D.7.

e. Plant material at full maturity shall not obscure sight distance for all roadway users. Trees shall be planted a minimum of 24″ from sidewalk. Root barriers are required when used in parkways less than 3′ wide and where specified.

f. Plant material used in landscapes within the wildland/urban interface should design and maintain a defensible, ignition resistive landscape. Projects are encouraged to use ignition-resistive, low water use plants that reduce the chance for embers from the plants to spread to either urban areas or wildlands.

g. Plantings in transitional areas must consist of site adaptive and compatible native species and may also be combined with site adaptive and compatible non-native species. Invasive plant species

TURF MANAGEMENT

- **30% of San Diego's water is used to irrigate residential landscapes. Turf consumes the majority of that water.**
- **Turf should be at least 2 to 3 inches high.**
- **Leave grass clippings on the lawn**
- **Use warm season turf instead of cool season turf.**
- **As an alternative, try low water use ornamental grasses such as buffalo grass or California meadow sedge.**
- **Dethatch or aerate your lawn to allow water to penetrate the soil.**

must not be planted in transitional areas and must be eradicated when and where they occur. See Section 2.D.6. and Appendix J.

4. Turf Areas

a. Turf must be efficiently irrigated so as to avoid runoff or overspray.

b. Turf shall not exceed 25% of the total aggregate landscape area for single family residences and multi-family residential projects.

c. No turf is allowed in non-residential areas unless included in a special landscape area. In multi-family residential areas turf is only allowed where it is readily useable by residents and serves more than just an ornamental function.

d. Only subsurface irrigation or other means that produces no runoff or overspray shall be used for turf in a landscaped areas where any dimension of the landscaped area is less than ten feet wide.

e. Turf and all other high water use plants, characterized by a plant factor of 0.7 to 1.0 are prohibited in street medians.

f. Turf shall not be allowed within 24 inches of impermeable surfaces unless it is irrigated with low volume or subsurface irrigation or unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

g. Turf shall not be allowed on slopes where the grade is greater than 25 percent (4:1) and where the toe of the slope is adjacent to an impermeable hardscape.

h. A ball field, park, golf course, cemetery and other similar use shall be designed to limit turf in any portion of the landscaped area not essential to operation of the facility.

i. Turf shall not be allowed in a landscaped area if the turf cannot be irrigated without causing runoff, overspray or other wasteful water uses.

j. Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or other technology that creates no overspray or runoff.

5. Water Features

a. Recirculating water systems must be used for water features.

b. The surface area of a water feature shall be included in the high water use hydrozone unless the water feature is a pool or a spa and is equipped with a durable cover. If a cover is used, the pool or spa may be included in a moderate water use hydrozone.

c. The total of all water features, excluding a swimming pool or spa, shall be limited to 15 percent of the total landscaped area of the project, or as determined by the Water Efficient Landscape Worksheet.

d. If groundwater resources are proposed to be used, long term availability of this resource and the water quality must be approved to the satisfaction of the Director of Planning & Development Services.

e. Where available, recycled water shall be used as a source of water for decorative water features.

6. Transitional Landscapes

a. Transitional landscape areas are the areas between non-native landscapes and undeveloped areas. The plants specified for transitional landscapes, including slopes and other disturbed areas typically consist of a combination of site adaptive and compatible native and non-native species. The mix of native and non-native plant materials should generally vary, with areas contiguous to existing native vegetation being planned with predominantly native material.

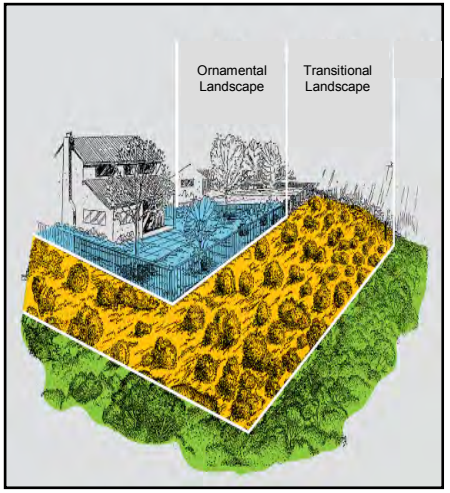
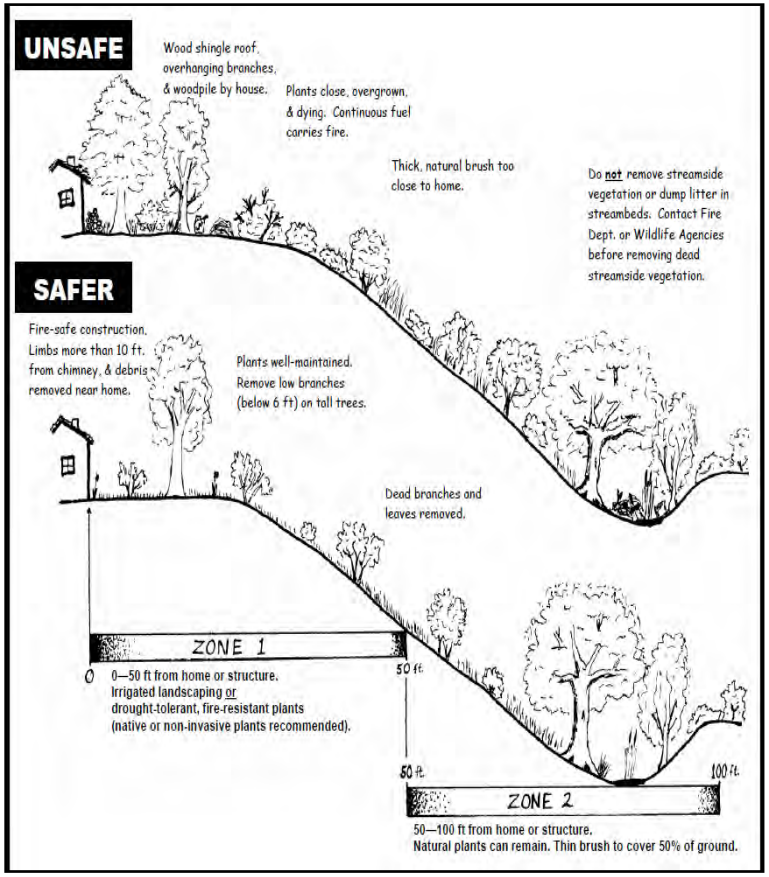


Illustration of a Transitional Landscape

b. Invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities) non-native plant species are prohibited in all transitional landscapes. Invasive plants that sprout in transition areas shall be promptly abated. The irrigation in a transitional area shall not influence adjacent vegetation.



7. Fuel Management

a. Combustible vegetation must be cleared in a 100-foot radius from any structure. Combustible vegetation is any material that left in its natural state will readily ignite, burn and cause fire to move to any structure or other vegetation. Examples are dry grass, brush, weeds, litter, waste and dead and dying vegetation. See the Undesirable Plant List in Appendix I for plants to avoid.

i. The first 50 feet from the structure may be permanently irrigated and planted with ignition resistive plants which must be maintained all year around.

ii. Within the remaining 50 feet of the 100-foot area, all dead and dying vegetation must be removed and the remaining vegetation must be thinned by 50 percent.

b. Vegetation can only be removed or thinned by mowing, cutting or grazing. The root structure must be left intact to prevent erosion. Do not completely remove or disturb the existing plant root system.

c. No irrigated or non-native landscaping is allowed within an open space easement.

d. Trees that overhang or touch your structures must be trimmed back away from the structure.

e. Remove any tree limbs within 10 feet of your chimney.

f. For fire truck access, remove trees and shrubs within 10 feet of each side of your driveway.

g. Avoid planting trees under or near electrical lines. If the trees grow into overhead lines or make contact with overhead lines under windy conditions, they could cause a fire.

h. Existing trees should be pruned by cutting off any branches up to 6 feet above the ground and the vegetation beneath the canopy of the tree should be trimmed to prevent ground fires from spreading upward into trees.

i. Vary the height of plants and adequately space them. Taller plants need to be spaced wider apart.

j. To conserve water, plant low water use trees and shrubs that can be maintained by deep watering as infrequently as once or twice a month. Trees and shrubs shall be valved separately.

k. Work with your neighbors to clear common areas between houses, and prune areas of heavy vegetation that are a fire threat to both properties.

l. If you have a heavily wooded area on your property, removing dead, weak or diseased trees may improve growing conditions. This will leave you with a healthy mixture of both new and older trees.

m. Except in hazardous fire areas, any removed trees may be chipped and used as mulch provided the depth of the mulch does not exceed six inches. In hazardous fire areas, highly flammable mulch such as straw or small size wood chips must not be used.

n. Don't forget to legally dispose of all your cut vegetation. You may contact your local landfill to inquire about green waste recycling. Open burning may not be allowed. Contact your fire agency for more information.

o. Stack firewood and scrap wood piles at least 30 feet from any

Properly maintained defensible space saves property and lives.

Vegetated slopes prevent erosion.

structure and clear away any combustible vegetation within 10 feet of the piles. Many homes have survived as a fire moved past it, only to burn later from a wood pile that caught fire after the firefighters had moved on to protect other homes.

p. Check and clean your roofs and gutters on all structures several times during the spring, summer and fall to remove debris that can easily ignite from a spark.

q. Check with your local fire district for additional requirements.

8. Slope Erosion Control

a. At a minimum, all manufactured slope areas shall be covered within 10 days of completion of grading with hydroseed/mulch, punched straw mulch, jute netting or other approved geotextile material capable of controlling surface soil erosion.

b. Except where approved otherwise, all slopes and any other areas disturbed in conjunction with grading activities shall be maintained until vegetation is well established, with coverage equal to at least 70 percent of coverage, as compared to the native background plants is achieved. This threshold must be met before occupancy of the site will be permitted.

c. A minimum of 50 percent of the total slope area of manufactured slopes shall be planted with deep rooting plantings (i.e., those with a typical root depth of approximately 5 feet or greater). For seeded plantings, at least 50 percent of the viable seed count shall be deep rooting species.

d. All plant materials on manufactured slopes shall be appropriate to the site conditions, shall be water efficient when established and shall be adequately spaced to control soil erosion.

e. All slopes in excess of 15 feet shall be planted with rooted container stock at an average rate of one per 100 square feet unless approved otherwise by the Director of Planning & Development Services.

Containers shall be a minimum of one gallon for shrubs and five gallons for trees. All container stock shall be provided with a temporary irrigation system.

f. Turf shall not be allowed on slopes where the grade is greater than 25 percent (4:1) and where the toe of the slope is adjacent to an impermeable hardscape unless the turf is irrigated with low volume or subsurface irrigation.

g. Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies 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 for approval of a Certificate of Completion.

MULCH TIPS

- **Organic mulch absorbs and retains water so do not irrigate areas covered with organic mulch until the mulch dries out (about once a week).**
- **Use gravel mulch in areas planted with succulents.**

9. Groundcovers

Herbaceous groundcovers shall be planted at a distance that will typically ensure 100 percent coverage within one year of installation.

10. Mulch and Amendments

a. 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.

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

c. Stabilizing mulching products shall be applied on slopes that meet current engineering standards.

d. The mulching portion of the seed/mulch slurry in hydro-seed applications shall meet the mulching requirements.

Mulch can be a decorative ground cover that reduces evaporation and weeds.

e. Highly flammable mulch material, such as straw or small size wood chips, shall not be used in a "Hazardous Fire Areas". Inorganic mulches such as decomposed granite, gravel, or rocks may be used instead.

f. Preserve and reuse as much site topsoil as possible.

g. Amend disturbed soil with compost and prevent recompaction. Compacted soils shall be transformed to a friable condition.

h. Follow the recommendations from the soil analysis report. See Section 2.C.

i. Organic mulch materials made from recycled or postconsumer products/materials shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by County Fire Code.

J. To meet the requirements of (g) above, install compost at a rate of a minimum of four cubic yards per 1,000 sq. ft. 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.

11. Drainage

a. Landscape plans shall show the location and installation details of all vegetated stormwater best management practices required for on-site retention and infiltration of stormwater. Refer to the Fact Sheets (Appendix E) within the County's Best Management Practice's Design Manual for additional information. Examples include, but are not limited to:

- Infiltration beds, swales, and basins that allow water to collect and soak into the ground.

- Constructed wetlands and retention ponds that retain water, handle excess flows, and filter pollutants
- Pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.

b. No drainage shall flow or collect in such a manner as to allow breeding by mosquitoes or any other vermin.

c. Low areas that may cause standing water shall be filled and replanted.

12. Vehicular Use Areas Not Within the Street Right of Way

a. Landscape improvements, including, but not limited to, plants, berms, signs, and structures shall be selected, positioned, and maintained to avoid obstructing views of motorists near intersections of aisles, drives, and pedestrian walkways.

b. Trees shall be selected and maintained such that, at mature size, scaffold branches are a minimum of 60 inches above the finish grade as measured at the trunk.

c. Plant materials with known surface root problems shall not be used in vehicular use areas, paved pedestrian walkways, and structures with poured concrete slabs.

d. The plans shall certify that landscaping when planted and at full maturity shall not obscure sight distance for all roadway users.

13. Planting in the Right of Way

a. All public right of way areas between a newly developed property or rehabilitated landscapes and the existing sidewalk or street edge shall be fully landscaped for erosion control purposes and community character. Trees shall not be planted in the right of way unless pursuant to an encroachment permit issued by the Department of Public Works.

Surface roots have raised the sidewalk.

SMALL CHANGES FOR BIG SAVINGS

- **The easiest and most effective action you can take to conserve water is to reduce overwatering and runoff.**
- **Install a smart controller.**
- **If you have an old sprinkler system, replace the heads with newer, more efficient heads.**
- **Replace sprinkler heads with mini rotors to reduce runoff. Mini rotors have a reduced precipitation rate which allows time for water to penetrate the soil.**
- **Use rotors to water large areas of 25 feet by 25 feet or larger.**
- **Water in 2 to 3 short cycles rather than one long cycle.**
- **Switch to drip irrigation for watering trees and shrubs.**

b. Plans shall include a statement indicating who is responsible for on-going maintenance, including runoff and overspray prevention, repairs of broken or malfunctioning irrigation equipment, replacement of dead, dying, or diseased vegetation, and continual compliance with the project's approved water calculations.

c. Turf shall not be planted in the public right of way.

d. Trees shall be planted a minimum of 24" from sidewalk. Root barriers are required when used in parkways less than 3' wide and where specified.

14. Screening Requirements

a. When plant materials are used to satisfy screening requirements, planting shall be spaced and sized to ensure 100 percent screening within two years of installation.

b. All plant material will be spaced according to acknowledged characteristics of the plant's growth and any restrictions or requirements of the local fire district as applicable.

15. Staking

a. All trees which are not self-supporting must be staked or cabled.

b. Stakes or cables are to be removed once the tree is self-supporting.

E. Irrigation Design Plan

1. General Information

a. Submit two complete sets.

b. Plans must be standard 24" X 36" blueprint sheets. Any other size must be approved in advance.

c. Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5').

d. Plans must be legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

e. For the efficient use of water, an irrigation system shall meet all requirements listed in the Water Conservation in Landscaping regulations as well as the manufacturer's specifications.

f. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance.

g. The designated landscape architect, civil engineer, architect, irrigation consultant or landscape contractor shall conduct periodic site visits during construction to ensure that the landscaping and irrigation system are being installed per the approved Landscape Document Package and shall certify to such as part of the Certificate of Completion requirements. Preliminary inspection shall include, but not be limited to, mainline, lateral lines, control wires, communication wires, and sprinkler head layout. Personal property owners who have prepared plans and specifications for property they own, shall also perform irrigation installation inspections throughout construction.

h. All sheets must be signed, stamped (licensed professionals only), and dated along with a renewal date by the property owner or professional licensed by the State of California who prepared the plans.

i. Each sheet must contain the following certification:

I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7 of the San Diego County Code of Regulatory Ordinances. I have prepared this plan in compliance with

SAVE WATER

- **Learn how to operate your irrigation controller.**
- **Water between midnight and 6 a.m. to avoid evaporation and wind.**
- **Do not irrigate when it rains. Wait until the soil dries out.**
- **Check your irrigation system every month for:**
  - **leaking valves or heads**
  - **misaligned heads**
  - **runoff**
  - **puddles**

those regulations. I certify that the plan implements those regulations to provide efficient use of water.

Irrigation plans prepared by a California certified irrigation designer shall include the following statement:

I have complied with the criteria of the Water Conservation in Landscaping Ordinance and the Water Efficient Landscape Design Manual and applied them accordingly for the efficient use of water in the irrigation design plan. I certify that the plan implements those regulations to provide efficient use of water.

2. Plan Requirements

Plans, at a minimum shall:

a. Depict the location of a dedicated separate landscape water meter for all irrigated landscape projects greater than 5,000 square feet and all non-residential irrigated landscapes of 1,000 sq. ft. or more. Dedicated landscape water meters are not required for single family residences and landscapes with less than 5,000 square feet. However, they are highly recommended to help facilitate water management. A flow sensor attached to an automatic controller may also function as a landscape water meter or submeter.

b. Show the locations of the pipes that supply water for outdoor use and the pipes that connect to any dedicated irrigation meter.

c. Show the location of recycled irrigation pipes and water meter.

d. Conform to the hydrozones of the landscape plan.

e. Illustrate a system that efficiently irrigates each hydrozone without wasting water and without exceeding the MAWA. The irrigation system shall be designed to meet or exceed an average irrigation efficiency of 0.75.

f. Provide that only low volume or subsurface irrigation will be used to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

3. Water Supply

a. When recycled water is available within the basin containing the project site or when a Reclamation Master Plan indicating the availability of recycled water in the future has been adopted by either the County or a special district, the applicant shall incorporate the use of recycled water into the project design. If the project will also be using potable water, the original project shall provide for a dual distribution system for all landscaped areas. Projects proposing the use of recycled water must first submit irrigation plans through the Department of Environmental Health for approval prior to submitting final landscape plans to the Department of Planning & Development Services.

Overspray creates runoff and wastes water.

b. Untreated and recycled water supplies shall be clean and free of suspended particles, algae, or chemicals that may form insoluble precipitates in the equipment or may be detrimental to plantings.

c. Landscapes using recycled water are considered Special Landscape Area. The ET Adjustment Factor for new and existing (non-modified) Special Landscape Areas shall not exceed 1.0.

d. Graywater may be used legally in the County of San Diego when designed and installed in accordance with the regulations stated in the California Plumbing Code (California Code of regulations Title 24, Part 5, and Chapter 16A, Part 1) and under permit and inspection by San Diego County Department of Environmental Health.

e. If groundwater resources are proposed to be used, potential availability must be demonstrated to the satisfaction of the Director of Planning & Development Services.

HOW TO READ YOUR WATER METER

Water is typically measured by the cubic foot which equals approximately 7.5 gallons.

Your water meter records how much water you use in the same way the odometer in your car records how many miles you travel.

To check your daily water use:

1. **Record the reading on your meter on Day 1.**
2. **Twenty-four hours later, record the new reading.**
3. **Subtract the reading on Day 1 from the reading on Day 2.**
4. **Multiply the answer by 7.5.**
5. **The result is the number of gallons you have used in the last 24 hours.**

4. Runoff and Overspray.

a. All irrigation systems shall be designed to avoid runoff, seepage, low head drainage, overspray or other similar conditions onto adjacent property, non-irrigated areas, walks, roadways or structures. Systems benefiting from flushing shall accommodate the water generated by the flushing without erosion or disturbance to the planting. Water used for flushing shall be channeled into adjacent drainage structures (swales, gutter, etc.) where possible.

b. Overhead irrigation shall not be permitted within 24 inches of an impermeable surface. Allowable irrigation within the setback from impermeable surfaces may include drip, drip line, or other low flow non -spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel or other porous material. These restrictions may be modified if:

i. The landscape area is adjacent to permeable surfacing and no overspray and runoff occurs; or

ii. The adjacent impermeable surfaces are designed and constructed to drain entirely to landscaping; or

iii. The irrigation designer specifies an alternative design or technology and clearly demonstrates strict adherence to irrigation system design criteria as described in the Water Conservation in Landscaping regulations and this manual. Prevention of overspray and runoff must be confirmed as part of the Certificate of Completion.

5. Application Rate

The water delivery rate of the irrigation system shall take into account the slope gradient and percolation rate of the soil in order to minimize runoff.

6. Uniformity and Use

The irrigation system shall deliver water efficiently and uniformly. Water used for irrigation shall be minimized to the amount needed to maintain adequate plant health and growth.

7. Backflow Prevention

Approved backflow prevention units are required on all potable water irrigation systems. Installation shall comply with all applicable health and safety standards.

8. Electrical Service

Electrical service for the irrigation system controllers shall be indicated and referenced on the irrigation plans, including the use of battery operated valves or solar powered controllers.

9. Hydrozones

a. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

b. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

c. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

d. Individual hydrozones that mix plants of moderate and low water use plants or moderate and high water use plants, may be allowed if the plant factor of the higher water using plant is used for calculations.

e. High water use plants shall not be permitted in a low, or very low water use hydrozone, but low, or very low water use plants may be allowed in a high water use hydrozone if the plants are of the type that tolerate the additional water.

Hydrozone Plan

Hydrozone	Plant Water Use Type(s)
1	Moderate
2	Special Landscape Area
3	Moderate
4	High
5	High
6	Low

WHY ARE PARTS OF MY LAWN TURNING BROWN?

Typically these dry spots occur because overhead spray is not distributing water evenly.

1. **Place several small containers with straight sides around your lawn in even rows and on brown spots.**
2. **Run your irrigation system for 15 minutes.**
3. **Using a ruler, measure the amount of water in each container.**
4. **If there is a significant difference in the amount of water in each container, water is not being applied evenly.**
5. **Make sure that the spray isn't blocked by tall vegetation.**
6. **Change the rate and direction of spray by adjusting the screw on the top of the nozzle head.**
7. **Different heads have different application (precipitation) rates. Replace heads so that you have the same (or matched) precipitation rates through out the area.**

f. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Water Efficient Landscape Worksheet (see Appendix C). This table can also assist with pre and final inspections of the irrigation system and programming the controller.

10. Scheduling and Lateral Systems

a. Each lateral system shall be capable of meeting the minimum needs of the mature plant material during peak demands.

b. Lateral systems shall be divided by exposure (sun/shade, etc.), plant material (turf/shrub/trees, etc.), differing plant water requirements (tropical/low water using, etc.), elevation, and by type of application equipment (drip, spray, etc.), to the degree that is both practical and feasible.

c. Spray system heads of different manufacturers or of different basis types (drip, bubbler, stream, low gallonage, standard, impact etc.) shall have consistent operating characteristics on any single lateral circuit.

d. Spray heads on the same lateral circuit shall be balanced for matched precipitation rates within 5 percent from the average for any different arcs of coverage or operating radii.

e. Separately controlled lateral systems shall be used when head or nozzle precipitation rate varies more than 15 percent from the average application in the area.

f. Specially designed adjustable nozzles shall be used for odd shaped areas, maintaining even application rates.

g. After plants are established, the irrigation system is to provide sufficient water to sustain plants in a healthy, growing condition.

11. Design Pressure

a. The system design pressure and the recorded static pressure or hydraulic gradeline information (with the recording date) shall be indicated on the plans.

b. When the pressure reading is less than 40 psi, more than five years old, or is not available, the pressure shall be calculated from the hydraulic gradient (contact individual Water District Engineers) and the site elevation. The calculated pressure, meter elevation and hydraulic gradient shall be indicated on the plans.

c. When the actual measured or calculated minimum pressure is above 40 psi, irrigation systems shall include compensating design or equipment modifications.

12. Pressure Constraints

a. Irrigation systems shall be designed to operate correctly at the lowest available operational pressure expected during the year and shall withstand water system surges.

b. Pressure loss within lateral piping circuits shall not exceed 20 percent of the designed operating pressure of the equipment on that circuit.

c. Pressure regulating devices shall be installed on any systems with a static inlet pressure at the point of connection greater than 80 psi unless specifically approved by the Director of Planning & Development Services. Pressure shall be regulated to a pressure adequate to operate the equipment at designed pressures with all incidental and line losses included. Where the pressure within the system exceeds 80 psi (due to elevation drops, etc.) a pressure reducing valve shall be used to reduce pressure to designed levels.

Smart Controllers

d. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

e. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure regulating devices such as inline pressure regulators, booster pumps or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

f. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.

13. Velocity Constraints

Irrigation system piping shall be sized such that velocities remain below 5 feet per second for metal piping and 6 feet per second for PVC piping.

14. Coverage

a. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's specifications.

b. Head to head coverage is recommended. However, sprinkler spacing shall be set to achieve distribution uniformity using the manufacturer's specifications.

15. Equipment Protection

a. Any irrigation equipment located within 24 inches of pedestrian and vehicular use areas shall be located entirely below grade, including the use of pop-up type heads, or otherwise adequately protected from potential damage.

b. Pop-ups heads shall be installed with swing joints or other flexible assembly. Swing joints shall be installed in lines at all abrupt changes of grade.

c. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

16. Broken or Malfunctioning Equipment

a. Flow sensors that detect and report high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes of 5,000 square feet or larger.

b. 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.

17. Control Systems

a. Automatic control systems are required, and must be able to accommodate all aspects of the design, including multiple schedules, repeat cycles, evapotranspiration or soil moisture sensing and rain sensing override devices. Control mechanisms for an evapotranspiration (weather based) system or soil moisture detecting systems, utilizing non-volatile memory shall be accommodated within the controller enclosure. All control circuits shall be designed to operate one valve at a time unless otherwise approved by the Director of Planning & Development Services.

b. Controller units shall be enclosed in secure, weather and vandal resistant, locking housings manufactured expressly for that purpose or located within a structure.

c. All irrigation systems shall be adjusted seasonally and as weather and plant conditions warrant. Scheduling tools may be found at: www.cimis.water.ca.gov.

DEEP ROOT SYSTEMS

- **Deep root systems use less water.**
- **Deep root systems require less frequent irrigation.**
- **Encourage deep rooting:**
  - **Water in 2 to 3 short cycles rather than one long cycle with at least 30 minutes delay between each short cycle.**
  - **Slowly increase the number of days between waterings until you irrigate only 1 or 2 days per week. If necessary, increase the number of short cycles.**
  - **In winter, irrigate only after the top 2 or 3 inches of soil dries out.**

d. All control systems shall include weather sensors (rain, freeze, wind, ect.) appropriate to local climatic conditions, either integral or auxiliary, that will suspend or alter irrigation operation during unfavorable weather conditions acceptable to the Director of Planning and Development Services and installed per manufacture's recommendations.

e. Irrigation systems must be self-adjusting and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture sensor data.

18. Valves

a. Shutoff Valves: Globe or ball valves shall be provided at points of connection and loop or zone isolation points to divide the irrigation system into controllable units, and to avoid draining long runs of piping for system repairs. For manifold remote control valves, the globe or ball valve shall be equal to or larger than the size of the largest control valve in the manifold.

b. Remote Control Valves: Control valves shall be manifolded when the main line is greater than two inches in diameter and installed in individual valve boxes. Valves shall be of slow closing design, and automatically close in the event of power failure. Valves shall be sized to provide adequate pressure differential for proper operation.

c. Quick Coupling Valves/Hose Bibs: Quick coupler valves or hose bibs shall be spaced at 100 foot intervals, maximum, and as needed to logically service areas. Quick coupling valves located with valve manifolds shall be separate and up stream of the manifold shutoff valve.

d. Check valves or anti-drain valves are required for all irrigation systems.

19. Piping

All piping shall be as per the following charts:

Acceptable Pipe Materials

Location	Use	Material	Type	Notes
Above grade	Pressure Mains	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Red Brass	Sch 40	Threaded
	Lateral Lines	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Polyethylene	UV-Resistant	Drip Systems and Mulch Required
		Flexible PVC	Algae Resistant	Drip Systems and Mulch Required
		PVC	Sch 40	< 2"
		PVC	UVR-Sch 409	Any Size
	Fittings	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Molded Plastic	UV Resistant	Drip Systems
		PVC	Sch 40	W/Flex PVC pipe
		PVC	Sch 40	Any Size*
		PVC	UVR-Sch 40	Any Size
		Red Brass	Sch 40	Threaded

NOTE: When dissimilar metals are connected together, dielectric fittings are required.

Acceptable Pipe Materials

Location	Use	Material	Type	Notes
Below Grade	Pressure Mains	Copper	Type "L"	Any Size
		PVC	Class 315	≥ 2"
		PVC	Sch 40	< 1½"
		Red Brass	Sch 50	Threaded
	Lateral Lines	Copper	Type "L"	
		Galvanized Steel	Sch 40	Any Size
		Polyethylene	UV-Resistant	Drip Systems
		Flexible PVC	Algae Resistant	Drip Systems
		PVC	Class 315	½"
		PVC	Class 200	≥ ¾"
		PVC	Sch 40	Any Size
	Fittings	Cast Iron	Class 250	Threaded
		Copper	Type "L"	Drip Systems
		Galvanized Steel	Sch 40	Any Size
		Nylon or ABS	Specialty	Threaded
		PVC	Sch 40	Any Size
		Red Brass	Sch 40	Threaded

NOTE: When dissimilar metals are connected together, dielectric fittings are required.

20. Trench Widths

a. Trenches for irrigation pressure lines shall be excavated wide enough to allow a minimum of 8 inches between parallel pipe lines, and 8 inches from lines of other trades.

b. Lines shall not be installed parallel and directly over one another.

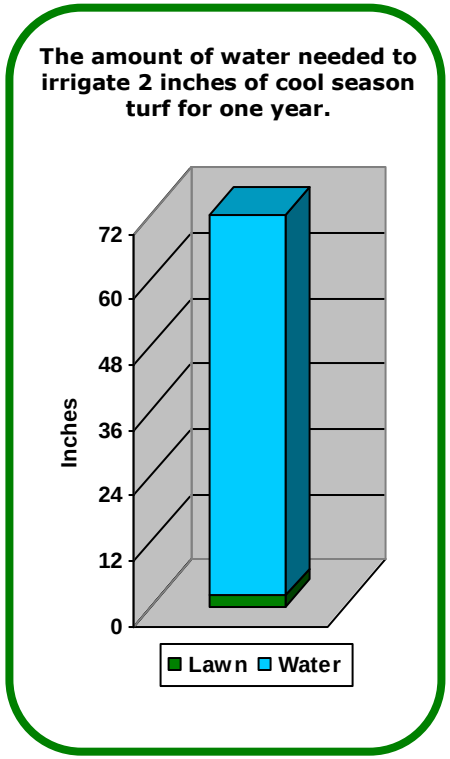
c. At least three inches of vertical clearance shall be maintained between crossing irrigation lines; and the minimum transverse angle shall be 45 degrees.

21. Trench Depths

The following trench depths shall be observed:

Trench Depths

Line Type	Location	Size	Depth (min.)
Pressure main	Within landscape	< 3″ I.D.	18″
		≥ 3″ I.D.	24″
		≥ 4″ I.D.	30″
	Under vehicular paving	< 3″ I.D.	30″
		< 3″ I.D.	36″
		≥ 3″ I.D.	36″
Non-pressure lateral	Within landscape	< 3″ I.D.	12″
		≥ 3″ I.D.	18″
	Under vehicular paving	< 3″ I.D.	24″
		< 3″ I.D.	30″
		≥ 3″ I.D.	30″



22. Sleeving

a. All pipe and wire under vehicular paving shall be installed in PVC schedule 40 sleeves.

b. Sleeves shall be at least twice the diameter of the pipe or wire bundle to be enclosed, with a minimum two inch size.

c. Sleeving locations shall be marked at each end at the time of installation with a painted spot on the back face of the curb or other similar marking.

23. Backfill

a. Backfill material shall be clean and free of debris, large rocks, and objects with sharp edges.

b. Finish grade of all trenches must conform to adjacent grades without dips, sunken areas, humps or other irregularities.

24. On-Grade Irrigation Systems

a. Permanent on-grade systems may only be allowed for selective watering of native areas or areas with highly erosive or rocky soils where trenching would disturb or loosen unstable materials and requires approval of the Director of Planning and Development Services.

b. On-grade piping shall not be allowed adjacent to pedestrian traffic.

c. All on-grade lines shall be secured to slopes every ten feet or less. The ends of all laterals shall also be staked.

d. On-grade lateral piping is allowed for temporary systems and irrigation in revegetation areas.

25. Drip and Sub-surface Irrigation Systems

a. All components shall be of non-corrosive materials.

b. Separate or multiple outlet emitters shall be of self-flushing, pressure compensating design.

c. The design of drip systems shall provide balanced water supplies to plant materials of different sizes irrigated with a common lateral line.

d. All drip systems shall be adequately filtered and regulated per the manufacture's recommended design parameters.

e. All systems shall be capable of flushing out accumulated particulate matter. Design shall provide a means for flushing with a minimum of erosion or disruption to the surrounding landscape. Water from flushing shall be accommodated back into the site, where feasible.

f. Emitters shall be protected from soil or root incursion and easily accessible. Metal studs may be required at underground emitters if necessary for easy location with a metal detector.

26. Special Irrigation Systems

Special systems shall be allowed at the discretion of the Director of Planning & Development Services.

F. Grading Design Plan

1. The grading on the project site shall be designed for the efficient use of water by minimizing soil erosion, runoff and water waste, resulting from precipitation and irrigation. Plans shall be signed by the project's California licensed landscape professional, or the private property owner.

2. Projects that require a grading permit and plans may submit a copy of these plans to satisfy the requirements of the Landscape Documentation Package as long as the required information is available on the plans.

3. The grading plan shall demonstrate grading has been designed to avoid obstructing roadway users' views of pedestrian crossings, driveways, roadways, other vehicular travel ways, traffic signs, and traffic signals. Sight distances lines, as provided by a California registered Civil

PLANTING HINTS

- **Plant in the fall when less water is required to establish the plants.**
- **Plant high water use plants in shady areas that are protected from the wind.**
- **For each irrigation zone, choose plants that need the same amount of water and sunlight.**
- **Use compost rather than fertilizer.**
- **Only use the minimum amount of fertilizer necessary.**
  - **Fertilizers result in higher water use.**
  - **Fertilizers encourage rapid growth which increases**

Highest Plant Factor	Hydrozone Category
0.0—0.1	Very low water use
0.2 – 0.3	Low water use
0.4 – 0.6	Medium water use
0.7 – 1.0	High water use

Example of a landscape using low water use plants

Engineer using the sight distance requirements defined in the County Public Road Standards, shall be shown on the plans as applicable. The plan shall also demonstrate compliance with requirements defined in the Landscape Architecture chapter of the most current Caltrans Highway Design Manual.

4. The grading design plan shall contain the following information:
   a. Finished configurations and elevations of the landscaped areas.
   b. Bottom and top of graded slope elevations.
   c. Drainage patterns.
   d. Pad Elevation
   d. Finished grade and pad elevations.
   e. Stormwater retention improvements:
      - Where feasible storm water must be captured and retained on site to improve water use efficiency and water quality.
      - Where feasible, rain water harvesting methods must be implemented.
      - Water harvesting containers must be operated in a manner that excludes trash, insects (including mosquitoes), animals, and children.
      - Where feasible, pervious hard surfaces shall be installed to harvest and cleanse rain water.
   f. All Structural BMP's shall be labeled
5. Projects that are not required to prepare grading plans for a grading permit shall provide sufficient information on the landscape plans to verify slope heights and drainage patterns. All applicable grading,

drainage, and stormwater improvement information must be shown on the landscape design plan or by separate sheet.

6. Areas planned for vegetation should be protected from soil compaction activities and shall be transformed to a friable condition.

7. Retain and protect native topsoil and vegetation where practical.

8. Stockpile and reuse good quality topsoil.

G. Water Efficient Landscape Worksheet

See Appendix C for the required Worksheet to verify that the project's Estimated Total Water Use (ETWU) does not exceed the project's Maximum Applied Water Allowance (MAWA).

1. For the calculations of the MAWA, the evapotranspiration adjustment factor (ETAF) is equal to 0.55 for residential areas and 0.45 for non-residential areas except for special landscaped areas where the additional ET adjustment is 1-ETAF, pursuant to the County Code of Regulatory Ordinances Section 86.711.

2. For calculation of the ETWU, a project applicant shall use the evapotranspiration values from the Reference Evapotranspiration (ETo) Table or the average annual ETo value based on the County classification of the Community Planning Area where the site is located. See Appendix A for the ETo Table and information on County classifications and corresponding average ETo values.

3. Each hydrozone in the landscape plan must be categorized (very low, low, moderate, high water use or special landscaped area) based on the plant within the hydrozone with the highest plant factor. The applicant shall utilize the Water Use Classification of Landscape Species publication (WUCOLS) to determine plant factors (crop coefficients).

4. High water use plants cannot be planted in a low, or very low water use hydrozone.

5. All surface area of water features shall be included in a high water use hydrozone.
6. Temporarily irrigated areas shall be included in a low water use hydrozone.
7. Artificial turf shall be included in a low water use hydrozone.
8. After the appropriate hydrozone category has been established, the ETWU calculation will utilize a plant factor for each hydrozone category as shown on the Worksheet in Appendix C.

SECTION 3
PRESCRIPTIVE COMPLIANCE OPTION

A. General Information

1. Those projects eligible to utilize and electing to use the Prescriptive Compliance Option, as per PDS form 410 in appendix B, to comply with the County of San Diego County Code of Regulatory Ordinances, the following items are mandatory and must be submitted to the Director of Planning & Development Services.
2. Any project with an aggregate landscape area from 500 square feet to below 2,500 square feet per section 86.703 (b).
3. Any lot or parcel within a project with less than 2,500 square feet of aggregate landscaped area that meets the Estimated Total Water Use (ETWA) requirements, found in Section 86.713 entirely with treated or untreated graywater, or through stored rainwater captured on site. These projects need only comply with the requirements of Section 86.722(a)(5) & (6). See (sec. 86.702 (b)).
4. The Prescriptive Compliance Option Plan consists of:

a. Project Date

b. Project applicant

c. Project address

d. Total landscape area (square feet), including a breakdown of turf and plant material

e. Project type (new/modified, public, private, cemetery, homeowner installed, developer installed)

f. Project water type for irrigation (eg., potable, recycled, well, greywater) and identify the local retail water purveyor if the applicant is not served by a private well

g. Contact information for the project applicant and property owner

h. Applicant signature and date with statement, "I agree to comply with requirements of the Prescriptive Compliance Option contained in Title 8, Division 6, Chapter 7, of San Diego County Code of Regulatory Ordinances related to water conservation in landscaping."

5. Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test in which prescribed volumes of compost can be modified as approved by the Director).

B. Plant material

Plant material shall comply with the following:

a. Residential areas shall install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water.

b. Non-residential areas shall install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water.

c. A minimum of three (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. Prescribed depths of mulch and location may be modified as approved by the Director.

C. Turf

Turf shall comply with the following:

a. Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas.

b. Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length.

c. Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

D. Irrigation

Irrigation systems shall comply with the following:

a. Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor. Controller shall be type which does not lose programming data in the event the primary power source is interrupted.

b. Pressure regulators shall be installed on the irrigation system to ensure dynamic pressure of the system.

c. Manual shut-off valves (such as a gate valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

d. 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.

e. 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.

f. Non-residential projects with landscape areas of 1,000 square feet or more, a private submeter(s) to measure landscape water use shall be installed. Flow sensor's connected to an automatic irrigation controller may also function as a landscape water meter.

E. Final Inspection

1. 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.

2. Certificate of Completion Using Prescriptive Compliance Option shall be submitted, as per PDS Form 407A in Appendix G, provided by the Director of Planning & Development Services upon completion of the landscape project, verifying that the landscaping and irrigation were installed as required in the approved Water Use Application Using Prescriptive Compliance Option, that all composting and mulch were implemented and

HOW QUICKLY DOES YOUR SOIL ABSORB WATER?

1. **Dig a hole 6 inches deep by 6 inches across.**
2. **Fill the hole with water and let it stand for one hour to saturate the soil.**
3. **Refill the hole with water. Measure depth of the water with a ruler.**
4. **Let stand one hour. Then measure depth of the water.**
5. **The difference in the water level between step 3 and step 4 is the amount of water absorbed by your soil in an hour.**

installed, and that all plant materials meet average WUCOLS plant factor of 0.3.

3. Upon submittal of the signed Certificate of Completion Using Prescriptive Compliance Option, the County Landscape Architect shall verify compliance prior to issuance of Water Use Authorization. Prior to any occupancy or use of the premises in reliance with a building permit, the landscaping shall be installed and certified.

SECTION 4
CERTIFICATE OF COMPLETION

A. Landscape Certificate of Completion

1. A Certificate of Completion shall be submitted as per PDS Form 407 for all those projects that have an approved Landscape Documentation Package.
2. The applicant shall provide this information to the Director of Planning & Development Services within 10 days after installation of the landscaping and irrigation system.
3. An irrigation schedule and a maintenance schedule must also be submitted. In addition, a soil management report will also be required if one was not submitted as part of the Landscape Documentation Package. See Appendix D for the Certificate of Completion form and the required documentation to be submitted, verified, and approved prior to obtaining use of the property
4. The Certificate of Completion certifies that the landscaping and irrigation system have been installed in compliance with the approved Landscape Documentation Package or Prescriptive Compliance Option Plan and that the irrigation system functions as designed and approved.

5. The landscape architect, civil engineer or architect shall conduct periodic site visits during construction to ensure that the landscaping and irrigation system are being installed per the approved Landscape Document Package or Prescriptive Compliance Option Plan and shall certify to such as part of the Certificate of Completion requirements. Where a single family homeowner who either hired a licensed landscape contractor to install the landscaping and irrigation, or installed it themselves, the certificate shall be signed under penalty of perjury by the homeowner and the contractor, or by the homeowner if installed by them. Personal property owners who designed and installed landscape on their own property shall also be required to sign the certificate. Preliminary inspection and observations shall include, but not be limited to, mainline, lateral lines, control wires, communication wires, and sprinkler head layout. Incorporation of composting and that soils are friable shall be confirmed and that soil amendments per the required soils test have been implemented shall also be confirmed.
6. An irrigation audit report shall be submitted with the Certification of Completion that shall include, but is not limited to: inspection, system tune -up, system test with distribution uniformity, soil moisture test/observation for drip and subsurface irrigation, 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.
7. The applicant shall submit two sets of the signed Landscape Certificate of Completion.

B. Irrigation Scheduling

An annual irrigation program with monthly or seasonal irrigation schedules shall be submitted with the Landscape Certificate of Completion and provide the following information:

Broken sprinkler heads can waste water at the rate of 10 gallons per minute.

1. A description of the automatic irrigation system that will be used for the project. A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes. A copy shall be provided with the submittal of the Certificate of Completion to verify compliance.
2. The time period when overhead irrigation will be scheduled and confirm that overhead irrigation shall only be used during the shorter of the following two intervals; 1) between 8:00 p.m. and 10:00 a.m., or 2) any more restrictive mandated by a public water purveyor.
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. The parameters used for setting the irrigation system controller for the following:
   a. The plant establishment period (monthly).
   b. The established landscape (seasonal).
   c. Temporarily irrigated areas (monthly).
   d. Different seasons during the year.
5. Each schedule for each station should consider 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 water scheduled to be applied on a monthly basis.

e. Application rate setting, root depth setting, plant type setting, soil type, slope factor setting, shade factor setting, application rate setting, and irrigation uniformity or efficiency setting.

C. Landscape and Irrigation Maintenance and Schedule

1. A person using water under a water use authorization that the County issued pursuant to Section 2. Title 8, Division 6, Chapter 7 of the San Diego County Code of Regulatory Ordinances shall maintain the landscaping and irrigation on the property to ensure compliance with the MAWA.
2. All required plantings shall be maintained in good growing condition and whenever necessary, shall be replaced with similar plant materials to ensure continued compliance with applicable landscaping, buffering, and screening requirements.
3. All landscaping and irrigation systems shall be properly maintained for the life of the permit and per the approved irrigation and maintenance schedules.
4. Broken or malfunctioning equipment and material shall be repaired or replaced immediately with equipment and material of the same type and operating characteristics as the original.
5. All irrigation systems shall be maintained in a fully operational condition. The irrigation system must function at a minimum average efficiency factor of 0.75.

HOW TO CHECK FOR LEAKS

- **Turn off all water (including ice makers).**
- **Record the reading on your water meter and mark the position of the needle.**
- **Wait 30 minutes to one hour and check the meter.**
- **If the needle has moved or the reading**

6. Plans shall include a statement indicating who is responsible for on-going maintenance, including runoff and overspray prevention, repairs of broken or malfunctioning irrigation equipment, replacement of dead, dying, or diseased vegetation, and continual compliance with the project's approved water calculations.
7. A regular maintenance schedule must be submitted as part of the Certificate of Completion and shall include, but not be limited to:
   a. Routine inspection of the irrigation system to guard against runoff and erosion.
   b. Adjustments and repair of the irrigation system and its components.
   c. Aerating and dethatching turf areas.
   d. Replenishing mulch.
   e. Fertilizing of non-native vegetation.
   f. Pruning, weeding and removing any obstruction to emission devices.
   g. Brush management.
   h. Storm water management.
   i. Identify who will be responsible for maintenance and include emergency contact information.
8. A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

SECTION 5
DEFINITIONS

Aggregate means the sum total of landscaped areas on a given parcel.

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 sensor data.

Building permit means a permit issued by the County Building Department authorizing the permit holder to among other things, erect, construct, enlarge, alter, repair or improve a building or structure.

Certified landscape irrigation auditor means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other accredited certification program.

Common interest developments means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 4100.

Cool season turf means a type of grass that remains green in the winter months.

Developer includes the owner of a project and the owner's partners, associates, employees, consultants, trustees or agents or any other persons who have any other business or financial relationship with the owner.

Director PDS means the Director of Planning & Development Services or anyone whom the Director has appointed or hired to administer or enforce this chapter.

Discretionary permit means any permit requiring a decision making body to

exercise judgment prior to its approval, conditional approval or denial.

Established landscape means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

Establishment period of the plants means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

Estimated total water use (ETWU) means the estimated total water use in annual gallons per year for a landscaped area.

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 water requirements and irrigation efficiency, two major influences on the amount of water that is required for a healthy landscape. The ETAF for new and existing non-Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-modified 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 period.

Exclusive Use Area for a single family tract home includes all outdoor areas within the boundaries of the property and excludes any slope planting and/or front yard landscaping installed by the developer under a previously approved Landscape Documentation Package. Areas of native vegetation, open space easements, and vegetated BMP's are not Exclusive Use Area's.

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.

Graywater means untreated waste water 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.

Grading means any importation, excavation, movement, loosening or compaction of soil or rock.

Hardscape means any durable surface material, pervious or non-pervious.

Hazardous Fire Area means any geographic area mapped by the State or designated by a local jurisdiction as a moderate, high or very high fire hazard area or which the fire authority having jurisdiction has determined is a hazardous fire area, because the type and condition of vegetation, topography, weather and structure density increase the probability that the area will be susceptible to a wildfire. (See County Code Section 96.1.202)

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

Initial Outdoor Water Use Authorization is achieved at time of Landscape Documentation Package approval, and prior to installation and submittal of the Certificate of Completion. This allows a property owner to proceed with installation of the landscape prior to final Outdoor Water Use Authorization being granted. This also allows those applicants utilizing the Outdoor Water Use

Application Using Prescriptive Compliance Option form to install landscaping prior to submittal of the Certificate of Completion (Prescriptive Compliance Option). Single-family tract homes will be issued Initial Outdoor Water Use Authorization to the developer after approval of a Landscape Documentation package, an Outdoor Water Use Application Using Prescriptive Compliance Option, or submittal and approval of a subdivision plan and chart identifying each residential lots' water use budget as described in Section 1.A(4)(g).

Invasive plant species means species of plants not historically found in California that spreads outside cultivated areas cultivated areas and may damage environmental or economic resources.

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, soil moisture test/observation for drip and subsurface irrigation, 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 "Watercourse" labeled auditing program.

Irrigation efficiency means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.90 for point source drip, 0.85 for in-line emitter tubing, or subsurface, 0.85 for bubblers, 0.75 for overhead rotator or precision nozzle spray devices, 0.70 for rotor, and 0.60 for all other spray nozzles.

Landscaped area means all the planting areas, turf areas, and water features in a landscape design 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). A landscape area may also include features adjacent to an area with vegetation when allowed under section 86.714.

Landscape design manual means the manual, approved by the Director of Planning & Development Services that establishes specific design criteria and guidance to implement the requirements of this chapter.

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.

Licensed landscape contractor means a person licensed by the State of California as a specialty contractor in the C-27 category, to construct, maintain, repair, install or subcontract the development of a landscape system.

Low head drainage means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

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

Major grading permit means all grading activities requiring a grading permit from the County that are considered to be 'major grading" within the scope of section 87.208 of the San Diego County Code of Regulatory Ordinances.

Mass grading means the movement of more than 5000 cubic yards of soil by mechanical means to alter the topographic features of a site.

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 measured in annual gallons for the established landscaped area as specified in Section 86.712. 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 = (ETo) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)].

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

Minor grading permit means all grading activities requiring a grading permit from the County that are considered to be 'minor grading' within the scope of section 87.206 of the Diego County Code of Regulatory Ordinances.

Modified landscape means a deviation from an approved landscape plan, that results in a cumulative increase or decrease from the original approved plan in excess of 10 percent of the landscaped area; or, whether a landscape plan was previously approved or not, the re-landscaping of any property where the modified landscape area is 2,500 square feet or greater.

Mulch means an organic material such as leaves, bark, straw, compost or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

New construction means 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.

Outdoor water use authorization is granted by the County after a Landscape Documentation Package, as per Section 86.707 has been approved, landscape and irrigation has been installed, and a Certificate of Completion, per Section 86.725 has been accepted and approved.

Overspray means the water from irrigation that is delivered outside an area targeted.

Parkway as defined by the County's Public Road Standards, means the distance measured from the curb face, or edge of pavement where no curb is provided, to the property line of a road right-of-way. It may be planted or unplanted, and with or without pedestrian facilities.

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

Plant factor means a factor that when multiplied by the ETo, estimates the amount of water a plant needs. 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 0.2 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 used shall be from the publication "Water Use Classification of Landscape Species" (WUCOLS). 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).

Public water purveyor means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

Recreational area 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.

Recycled water means waste water that has been treated at the highest level required by the California Department of Health Services for water not intended for human consumption as regulated per Title 22 of the California Code of regulations for various outdoor irrigation uses by either secondary or tertiary treatments.

Reference evapotranspiration (ETo) means a standard measurement of environmental parameters which affects the water use of plants. ETo is expressed in inches per day, month, or year and is an estimate of the evapotranspiration of a large field of four-inches to seven-inches tall, cool season grass that is well watered. Reference evapotranspiration is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

Residential landscape means landscapes surrounding single or multifamily homes, and also includes residential structures within a mixed use development.

Runoff means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

Special landscaped area means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

Structural BMP means a subset of best management practices (BMP'S) which detain, retain, filter, remove, or prevent the release of pollutants and control runoff discharge rates to surface waters from developments projects in perpetuity, after construction of a project is completed. These BMP's can satisfy the requirements for Pollutant Control BMP's and Hydromodification BMP requirements for Priority Development Projects.

Submeter means a metering device to measure water applied to the landscape that is installed after the primary utility water meter. Flow sensor's connected to an automatic irrigation controller may also function as a landscape water meter.

Subsurface irrigation means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

Tertiary treated recycled water means water that has been through three levels of treatment including filtration and disinfection and meets California Code of Regulations, Title 22 standards for use as outdoor irrigation.

Transitional area means a portion of a landscaped area that is adjacent to a natural or undisturbed area and is designated to insure that the natural area remains unaffected by plantings and irrigation installed on the property.

Turf means a groundcover surface of cool season or warm season mowed grass. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue and tall fescue are cool season grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysias grass and buffalo grass are warm season grasses.

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. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool where a public water purveyor provides water for the feature. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are used solely for water treatment or stormwater retention are not water features.

WUCOLS means Water Use Classification of Landscape Species and refers to the most recent version of the Department of Water Resources publication authored by the University of California Cooperative Extension and the Department of Water Resources 2014.

APPENDICES

APPENDIX A

REFERENCE EVAPOTRANSPIRATION (ETO) DATA

County Classification	CIMIS Station/ Location	Annual ETo	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coastal	Torrey Pines	46.4	1.8	2.2	3.4	4.5	5.3	5.7	5.9	5.6	4.5	3.4	2.4	1.8
Coastal	Oceanside	48.7	2.1	2.4	3.7	4.8	5.4	5.7	6.0	6.0	4.6	3.6	2.4	2.0
Coastal	Chula Vista*	44.2	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0
Coastal Corridor	San Diego	46.5	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0
Coastal Corridor	Miramar	46.4	1.8	2.2	3.4	4.5	5.3	5.7	5.9	5.6	4.5	3.4	2.4	1.8
Inland	Otay Lake	50.5	1.3	1.9	3.3	4.7	5.9	7.0	7.8	6.8	5.2	3.5	2.0	1.2
Inland	Santee*	51.1	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0
Inland	Ramona	51.6	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1
Mountain	Escondido	57.0	2.5	2.7	3.9	5.3	6.1	6.9	7.3	7.0	5.5	4.2	3.0	2.5
Mountain	Pine Valley*	54.8	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7
Mountain	Warner Springs*	56.0	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3
Desert	Borrego Springs	75.4	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2

APPENDIX A
REFERENCE EVAPOTRANSPIRATION (ETO) DATA

With the exception of those locations identified with an asterisk (*), the values in the ETo table are based on the monthly average ETo data available on the California Irrigation Management Information System (CIMIS) website (http://www.cimis.water.ca.gov). Locations identified with an asterisk (*) are included in the State's Model Efficient Landscape Ordinance ETo Table (Appendix A) but do not have data available on the CIMIS site. For these locations, the ETo table uses the data contained in the State's ETo table.

Monthly average ETo is a long-term average of monthly ETo. The time period over which the data is averaged varies from station to station depending on how long the station has been active. The minimum time requirement was five years. Stations with less than five years of data at the time of calculation (year 2000) were assigned regional averages.

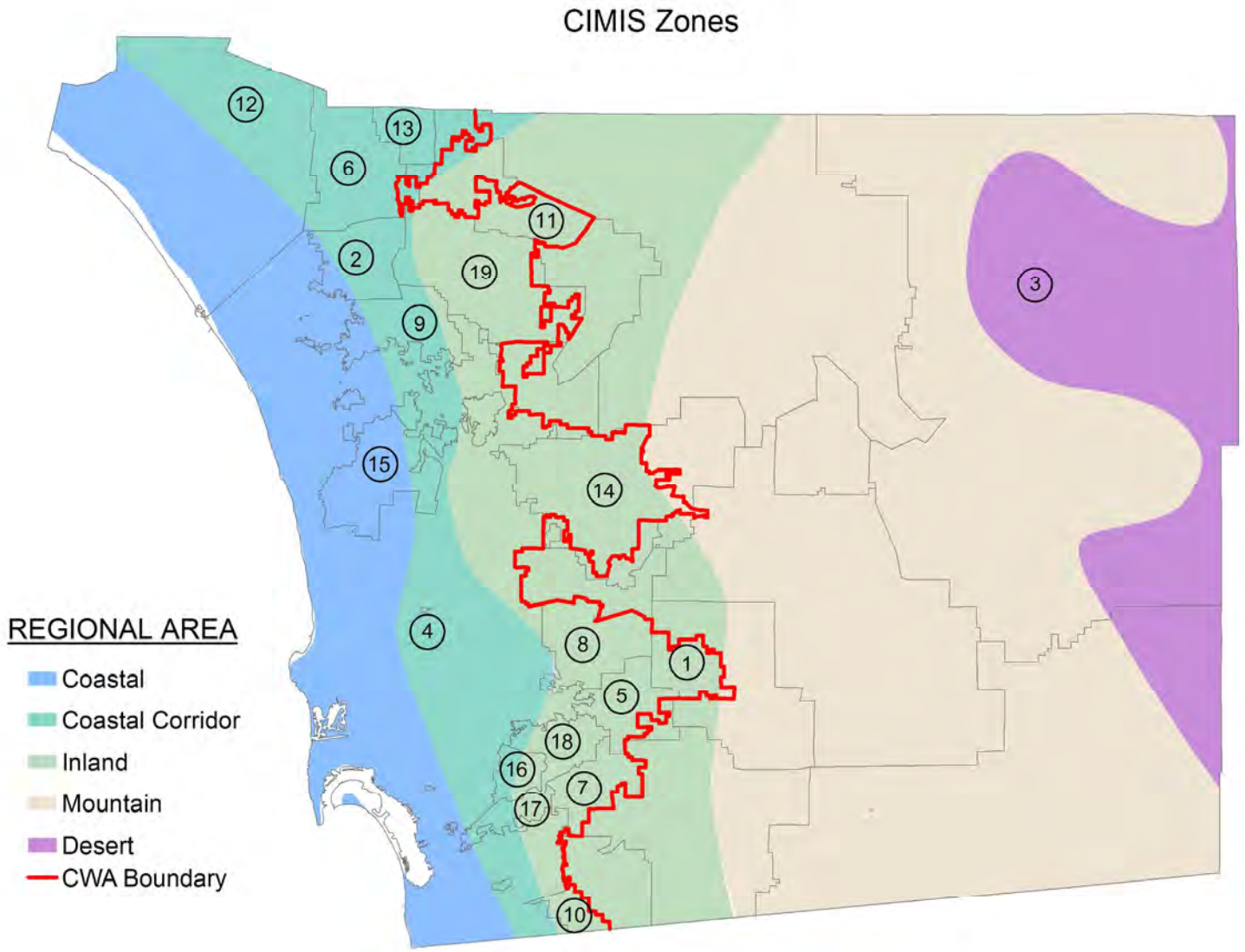
County Classification Alternative

The following classifications have been assigned by the County to the various California Irrigation Management Information System (CIMIS) zones. (See the Reference Evapotranspiration (ETo) Table above and the CIMIS Zones map below). The average annual ETo for each classification is based on the average annual ETo of the CIMIS stations within the classification. For sites within geographical areas not included in the Reference Evapotranspiration (ETo) Table above, the average annual ETo from the table below may be used. This table has also been used to calculate the Maximum Applied Water Allowance for the Water Use Application Using Prescriptive Compliance Option. (See Appendix B).

Classification	Average Annual ETo (inches per year)
Coastal	46.4
Coastal Corridor	46.4
Inland	51.1
Mountain	55.9
Desert	75.4

APPENDIX A

REFERENCE EVAPOTRANSPIRATION (ETO) DATA



APPENDIX A

REFERENCE EVAPOTRANSPIRATION (ETO) DATA

	Community Planning Area	County Classification	Average Annual ETo (inches per year)
1	Alpine	Inland	51.1
2	Bonsall	Coastal corridor	46.4
3	Borrego Springs	Desert	75.4
4	County Islands	Coastal corridor	46.4
5	Crest	Inland	51.1
6	Fallbrook	Coastal corridor	46.4
7	Jamul/Dulzura	Inland	51.1
8	Lakeside/Pepper Drive-Bostonia	Inland	51.1
9	North County Metro	Coastal corridor	46.4
10	Otay	Inland	51.1
11	Pala-Pauma	Inland	51.1
12	Pendleton/DeLuz	Coastal corridor	46.4
13	Rainbow	Coastal corridor	46.4
14	Ramona	Inland	51.1
15	San Dieguito	Coastal	46.4
16	Spring Valley	Inland	51.1
17	Sweetwater	Inland	51.1
18	Valle de Oro	Inland	51.1
19	Valley Center	Inland	51.1

NOTE: Only areas within the County Water Authority and the Borrego Water District are classified.

APPENDIX B

County of San Diego, Planning & Development Services

WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION

COUNTY LANDSCAPE ARCHITECT

This form contains prescriptive requirements for all projects included in Section 86.703(b) of the Water Conservation in Landscaping Ordinance and shall be completed in its entirety. Compliance with the following items is mandatory and must be documented on this form, provided by the Director of Planning & Development Services, in order to use the prescriptive compliance option and obtain water use authorization. This form must accompany the building permit application for construction of a single family primary residence or non-residential structure with a proposed aggregate landscaped area of between 500 square feet to 2,500 square feet. If the irrigated landscaped area is over 2,500 square feet, please contact the Zoning Division for more information at (858) 565-5981.

STEP 1: IDENTIFY RELEVANT PROJECT INFORMATION

Owner Name:	**Contact Phone:**	**Contact Email:**
Project Address:		
Assessor's Parcel Number/ Lot No.:	**Record ID:**	

Select Type of Project: ☐ Tract Home by Homebuilder ☐ New/Modified ☐ Homeowner Installed
☐ Public ☐ Private ☐ Cemetery ☐ Developer Installed

Select Type of Water for Irrigation:
☐ Potable *(Water District Service)* ☐ Well ☐ Reclaimed ☐ Gray Water

IDENTIFY WATER AGENCY:

- ☐ Borrego Water District
- ☐ Fallbrook Public Utility District
- ☐ Helix Water District
- ☐ Lakeside Water District
- ☐ Olivenhain Water District
- ☐ Otay Water District
- ☐ Padre Dam Municipal Water District
- ☐ Rainbow Municipal Water District
- ☐ Ramona Municipal Water District
- ☐ Rincon Del Diablo Municipal District
- ☐ San Dieguito Water District
- ☐ Santa Fe Irrigation District
- ☐ Sweetwater Authority
- ☐ Vallecitos Water District
- ☐ Valley Center Municipal Water District
- ☐ Vista Irrigation District
- ☐ Yuima Municipal Water District
- ☐ Not served by any of the Agencies above

STEP 2: DETERMINE APPLICABILITY

- ☐ **Single Family Primary Residence** (Homeowner or Developer installed) with between 500 sq. ft. to below 2,500 sq. ft. of aggregate landscaped area. Note: Not applicable if Developer is installing more than one lot.
- ☐ **Non-Residential properties** between 500 sq. ft. to below 2,500 sq. ft. of aggregate landscaped area.
- ☐ **Single Family Residential Subdivision** (Tract Home by Homebuilder proposing no landscaping) – only applicable to those lots below 2,500 sq. ft. of aggregate landscaped area – Proceed to Steps 3 and 9
- ☐ **Single Family Residential Subdivision** (Tract Home by Homebuilder installing a portion of the landscape where the total landscaped area for the entire lot is less than 2,500 sq. ft.)

APPENDIX B

County of San Diego, PDS, Zoning Division
WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION
Continued

STEP 2: DETERMINE APPLICABILITY (continued)

Note: These prescriptive compliance option requirements may not apply to properties with a 'B' Designator, projects requiring compliance with the County's Parking Design Manual and Section 6792 of the Zoning Ordinance, projects requiring compliance with the Grading Ordinance for erosion control, projects proposing planting within the public right-of-way, or project's requiring discretionary review.

Any project proposing less than an aggregate of 2,500 square feet of irrigated landscape that meets the Estimated Total Water Use requirements, found in Section 86.713 of the Water Conservation in Landscaping Ordinance, entirely with treated or untreated graywater, or through stored rainwater captured on site. These projects need only comply with the requirements of Section 86.722(a)(5)&(6).

A. Building Pad/Lot Size:			=	(sq. ft.)
B. Building Footprint(s):			=	(sq. ft.)
C. Driveway/Parking:			=	(sq. ft.)
D. Pervious or non-pervious hardscape			=	(sq. ft.)
E. Other non-irrigated area			=	(sq. ft.)
F. Total landscaped area:	**=**	**100 % of Total**	**=**	**(sq. ft.)**
i. Sum of all planting areas (per lot)	=	% of Total	=	**(sq. ft.)**
ii. Sum of all turf areas (per lot)	=	% of Total	=	**(sq. ft.)**
iii. Surface area of all water features (per lot)	=	% of Total	=	**(sq. ft.)**

STEP 3: Maximum Applied Water Allowance (MAWA) Tables for Outdoor Use

Determine the (MAWA) for the property from a table below and CIRCLE IT.

MAWA for Residential Compliance in gallons per year:

REGIONAL AREA	SIZE OF LANDSCAPED AREA			
	500 - 999 sq. ft.	1,000 - 1,499 sq. ft.	1,500 - 1,999 sq. ft.	2,000 - 2,499 sq. ft.
Coastal	15,806	23,718	31,629	39,540
Coastal Corridor	15,806	23,718	31,629	39,540
Inland	17,408	26,120	34,839	43,545
Desert	25,686	38,541	51,397	64,253

MAWA for Non-Residential Compliance gallons per year:

REGIONAL AREA	SIZE OF LANDSCAPED AREA			
	500 - 999 sq. ft.	1,000 - 1,499 sq. ft.	1,500 - 1,999 sq. ft.	2,000 - 2,499 sq. ft.
Coastal	12,933	19,405	25,878	32,351
Coastal Corridor	12,933	19,405	25,878	32,351
Inland	14,243	21,371	28,449	35,628
Desert	21,016	31,534	42,052	52,570

For more information on Maximum Applied Water Allowance (MAWA), please refer to the County's Water Conservation in Landscaping regulations and the Water Efficient Landscape Design Manual.
http://www.sandiegocounty.gov/pds/Landscape-Ordinance_Design_Review_Manual.html.

County of San Diego, PDS, Zoning Division
WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION
Continued

STEP 4: PLANT MATERIAL

Single Family Residential

- 75% of the total aggregate planted areas will be climate adapted plants that require occasional, little, or no summer water (average WUCOLS plant factor 0.3), excluding edible vegetation. The plant factor for very low water use plants range from 0-0.1, from 0.2 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water used plants. Water features are considered high water use and would receive a factor of 0.8.
- Turf will not exceed 25% of the total aggregate landscaped area.
- Turf will not be planted on sloped areas which exceed a slope of 1foot elevation change for every 4 feet of horizontal length.
- Turf is not located in parkways less than 10' wide. Any turf in parkways will be irrigated by subsurface irrigation or other technology that creates no overspray or runoff.

Non-Residential

- 100% of the total aggregate planted areas will be climate adapted plants that require occasional, little, or no summer water (average WUCOLS plant factor 0.3), excluding edible vegetation and areas using recycled water.
- There is no turf proposed.

STEP 5: IRRIGATION SYSTEM

- Automatic irrigation controller(s) will be either evapotranspiration or soil moisture based with sensor data and will utilize a rain sensor.
- Irrigation controller(s) will be of a type which does not lose programming data in the event the primary power source is interrupted.
- Pressure regulators will be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.
- Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) will be installed as close as possible to the point of connection of the water supply.
- Areas less than ten (10) feet in width in any direction will be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
- Non-residential projects with an aggregate landscape area of 1,000 sq. ft. or more will install a private submeter to measure landscape water use.

STEP 6: NOTES AND SPECIFICATIONS

- Compost will be incorporated (shovel mix/rototill) at a rate of at least four cubic yards per 1,000 sq. ft. to a depth of six inches in to all planting areas, including turf areas in residential lots.
- A minimum of three inch (3") layer of mulch will 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.

APPENDIX B

County of San Diego, PDS, Zoning Division
WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION
Continued

STEP 7: FINAL INSPECTION

The following information shall be submitted to the County Landscape Architect for verification and compliance prior to issuance of water use authorization. Prior to any occupancy, or use of the premises in reliance with a building permit, the landscaping shall be installed and certified.

Final inspection may take upwards of 5 - 7 business days after submittal of this information in order to establish water use authorization. Plan accordingly.

☐ Certificate of Completion (PDS Form 407A) also available at the hyperlink below.
http://www.sandiegocounty.gov/content/dam/sdc/pds/zoning/formfields/PDS-407A.pdf

Please note that Planning & Development Services (PDS) will not perform any field inspections, but holds the right to inspect property per Section 86.729 of the Water Conservation in Landscaping Ordinance. PDS will rely on the Certificate of Completion to acknowledge final inspection. Building Inspector's with the Building Division must confirm Mandatory Measures for both Residential and Non-Residential projects per the California Green Building Standards Code.

STEP 8: AGREE TO COMPLY

I acknowledge that it is my responsibility to design, install, and maintain this landscape project in accordance with the Prescriptive Compliance Option requirements within the County's Water Conservation in Landscaping Ordinance. I agree that the water used outdoors on this property shall not exceed the Maximum Applied Water Allowance authorized by the County as shown in this document. If after I install the landscaping and irrigation, the information I provided to the County in the Certificate of Completion, Certificate of Installation, and the irrigation schedule is not accurate, within ten (10) days after submittal, I agree to make necessary revisions in order to be compliant with the County's authorization. I certify under the penalty of perjury under the laws of the State of California that the foregoing information is true and correct.

Signature of Property Owner **(No Agents Or Applicants)** Date

Print Name of Property Owner

STEP 9: TRACT HOME BY HOMEBUILDER

As the developer/homebuilder of this lot, I agree to provide a copy of this signed and dated Water Use Application Using Prescriptive Compliance Option form to the buyer advising them of their obligations not to exceed the Outdoor Water Use budget, Maximum Applied Water Allowance (MAWA) established herein by this Form and the issuance of a building permit for this lot, and to design, install, and maintain their landscape in accordance with the prescriptive compliance option requirements within the County's Water Conservation in Landscaping Ordinance, Section 86.722.

Signature of Homebuilder Date

Print Name of Homebuilder

APPENDIX C

County of San Diego, Planning & Development Services

WATER EFFICIENT LANDSCAPE WORKSHEET

COUNTY LANDSCAPE ARCHITECT

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

PROJECT INFORMATION

Project Applicant:	
Name of Project Applicant	*Phone No.*
Title	*Email*
Company	*Fax No.*
Address (must include City, State and Zip Code)	

Project:	
Project's Name	
Assessor's Parcel No.	*County Landscape Plan No.*
Address (must include City, State and Zip Code)	

Use the information and formulas below to fill out the worksheet and calculations on page 2.

Hydrozone Category[(a)]	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

Irrigation Method[(b)]	IE- Irrigation Efficiency[(c)]
Filler Pipe for Pools/Spas	1.0
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

ETWU[(d)] (Annual Gallons Required) =
Eto x 0.62 x ETAF x Area

ETo - see Appendix A in Water Efficient Landscape Design Manual.
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

MAWA[(e)] (Annual Gallons Allowed) =
(ETo)(0.62)[(ETAF x LA) + (1- ETAF) x SLA)]

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.55 for residential areas
ETAF is 0.45 for non-residential areas.

APPENDIX C

County of San Diego, PDS, Zoning Division
WATER EFFICIENT LANDSCAPE WORKSHEET
Continued

REFERENCE EVAPOTRANSPIRATION (ETo) _____

Hydrozone # / Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
				Totals	***(A)***	***(B)***	
Special Landscape Areas							
				1			
				1			
				1			
				1			
				Totals	***(C)***	***(D)***	
						ETWU Total	
						Maximum Water Allowance (MAWA)[e]	
						Average Irrigation Efficiency**	

****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

ETAF CALCULATIONS

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas. ***Provide Totals based on information calculated in Worksheet above.***

Regular Landscape Areas		***Totals***
Total ETAF x Area	(B) =	
Total Area	(A) =	
Average ETAF	**B ÷ A =**	

All Landscape Areas		***Totals***
Total ETAF x Area	(B+D) =	
Total Area	(A+C) =	
Site wide ETAF	**(B+D)÷(A+C) =**	

APPENDIX D

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION

COUNTY LANDSCAPE ARCHITECT

This certificate is filled out by the Project Applicant upon completion of the landscape project. Where there have been significant changes made in the field during construction, these 'as-built' or record drawings shall be included with the certification and may require submittal of a 'modified' landscape plan after review and before final outdoor water use authorization can be granted. Please complete all sections below.

SECTION A. INFORMATION

Project Applicant:	
Name of Project Applicant	*Phone No.*
Title	*Email*
Company	*Fax No.*
Address (must include City, State and Zip Code)	

Project:	
Project's Name	
Assessor's Parcel No.	*County Landscape Plan No.*
Address (must include City, State and Zip Code)	

Property Owner:	
Name of Property Owner	*Phone No.*
Title	*Email*
Company	*Fax No.*
Address (must include City, State and Zip Code)	
"I acknowledge that I have received copies of all documents within the Landscape Documentation Package and the Certificate of Completion and that it is my responsibility to maintain the landscaping and irrigation in accordance with the Schedule of Landscape and Irrigation Maintenance. I understand that I may be subject to fines or penalties if I fail to meet my responsibilities."	
Property Owner's Signature	Date

APPENDIX D

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION

COUNTY LANDSCAPE ARCHITECT

Please provide the following information:

Date when the Landscape Documentation Package was approved by the County? _____

Date when the landscape and irrigation commenced? _____

Date when the landscape and irrigation was completed? _____

Maximum Applied Water Allowance (MAWA) from approved Landscape Documentation Package? _____

Estimated Total Water Use from approved Landscape Documentation Package? _____

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

*Signer of the Landscape Documentation Package	
Name	*Phone No.*
Title	*Email*
License No. or Certification No.	*Fax No.*
Company	
Address (must include City, State and Zip Code)	
"I certify under penalty of perjury under the laws of California that 1) the landscaping and irrigation project approved by the County of San Diego has been completed, 2) the landscaping and irrigation installation conforms to the criteria and specifications of the approved Landscape Documentation Package and 3) the irrigation system has been certified by an independent irrigation auditor verifying that it operates and performs as designed and approved."	
Signature* *(must be Signer of the Landscape Documentation Package)*	Date

SECTION C. IRRIGATION SCHEDULING

Attach the irrigation schedule for each controller as required by County Code Section 86.726.

SECTION D. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach the schedule of landscape and irrigation maintenance as required by County Code Section 86.727.

SECTION E. SOIL MANAGEMENT REPORT

Attach soil analysis report as required by County Code Section 86.708 if not previously submitted with the Landscape Documentation Package.
Attach documentation verifying implementation of recommendations from soil analysis report.

SECTION F. IRRIGATION AUDIT REPORT

Attach signed and dated report as required by County Code Section 86.725 along with proof of landscape irrigation auditor certification by the preparer of the report.

Acceptance and approval of this Certificate of Completion by the County will serve as the Outdoor Water Use Authorization per Section 86.704 of the County Code.

5510 OVERLAND AVE, SUITE 110, SAN DIEGO, CA 92123 • (858) 565-5981 • (888) 267-8770
http://www.sdcounty.ca.gov/pds

APPENDIX E

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

APPLICATION PROCESSING

All applications for a Landscape Documentation Package must meet the following requirements. Incomplete applications will not be accepted; or if accepted, will be returned to the applicant.

FIRST PLAN CHECK: the turn-around time is 30 days from the date of submittal.

SECOND PLAN CHECK: the turn-around time is 1 week after resubmittal. Return with the corrected plans and a copy of the Plan Check Letter. Plans will be rejected without the Plan Check Letter.

THIRD PLAN CHECK: the turn-around time is 1 week after resubmittal. **NOTE:** If the plans are not acceptable after the third plan check, a new fee and application will be required in order to continue.

GENERAL REQUIREMENTS

INITIAL

_____ I have read, and understand, the Permit Coversheet with submittal requirements for the LANDSCAPE PLAN: **Application (Landscape Documentation Package).**

_____ If the application package is incomplete or incorrect the submittal will be rejected.

_____ All Fees/Deposits for review and approval of the Landscape Plan, per the County's Schedule of Filing Fees and Deposits, are due at submittal.

_____ All required information and layouts have been provided as per the applicable Sections and Appendices within the Water Efficient Landscape Design Manual.

Storm Water Quality Management Plan (SWQMP) Information

_____ The Storm Water Intake Form determines whether a project requires a Standard SWQMP or Priority Development Project (PDP) SWQMP. These must be submitted on paper and as PDF files on the USB Flash Drive and have all required signatures.

_____ SWQMPs are required for all Landscape Design Plan submittals, including Model Home Landscape Design Plans and Prescriptive Compliance Option Plans for non-residential projects. SWQMPs are not required for Prescriptive Compliance Option Plans for single-family residences.

_____ Submitted SWQMP copies must be of an approved set, or the most recent version, updated and highlighted for Landscape Design Plan review. All vegetated Best Management Practices (BMPs) must be highlighted.

Each item below has been provided as an electronic PDF file and saved onto a USB Flash Drive.

_____ Landscape Design Plan

_____ Irrigation Design Plan

_____ Grading Design Plan (per Section 86.710)

_____ Soil Management Report (per Section 86.708)

_____ Storm Water Intake Form for All Permit Applications **AND**

_____ Standard Project SWQMP **OR** One (1) Priority Development (PDP) SWQMP

APPENDIX E

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

INITIAL

Each item provided below has been printed, completed and has all required signatures.

_____ Two (2) complete (rolled) sets of the Landscape Design Plan

_____ Two (2) complete (rolled) sets of the Irrigation Design Plan

_____ Two (2) copies (rolled) of the Grading Design Plan (per Section 86.710)

_____ Two (2) copies of the Soil Management Report (per Section 86.708)

_____ One (1) Discretionary Permit Application (PDS-346)

_____ One (1) Landscape Documentation Package Checklist (PDS-404)

_____ One (1) Water Efficient Landscape Worksheet (PDS-405)

_____ One (1) Storm Water Intake Form for All Permit Applications **AND**

_____ One (1) Standard Project SWQMP **OR** One (1) Priority Development (PDP) SWQMP

PLAN REQUIREMENTS

_____ Plans are printed on standard 24" X 36" blueprint sheets. **Any other size must be approved in advance by the County Landscape Architect.**

_____ Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5')

_____ Plans must be legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

_____ Plans show plants and irrigation for all areas that require vegetated protection for erosion control, storm water management, or fuel management and for all areas that contain decorative landscaping.

_____ If plans are for a single-family residential landscape project for a homeowner and the plans are prepared by a California licensed landscape contractor, evidence of a signed contract with the property owner acknowledging that the contactor will also install the landscaping has been submitted.

All sheets in the document set are signed, stamped, and dated along with a renewal date by the landscape professional licensed by the State of California (landscape architect, civil engineer, or architect) who has prepared the plans.

A landscape contractor may also perform this requirement if the landscaping is for the homeowner of the single-family residential project. Property owners preparing their own

_____ plans must sign and date the plans.

Signed and dated Compliance Statement shall be provided on the title sheet for each set of plans as follows:

> *"I am familiar with the requirements for Landscape and Irrigation Plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7, of the San Diego County Code of Regulatory Ordinances. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water."*

_____ **IMPORTANT: PLANS WITHOUT THE STATEMENT ABOVE WILL NOT BE ACCEPTED.**

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

LANDSCAPE DESIGN PLAN

INITIAL	
_____	Plan includes location, botanical name, common name, size and quantity of all retained plants, and those to be removed.
_____	Plan includes location, botanical name, common name, size and quantity of all new plants. Plant legend includes species' plant factor per WUCOLS.
_____	Soil amendment specifications and planting specifications with all industry standard guarantees listed. Specifications are included to transform all compacted soils to a friable condition and that all planting areas will include a minimum of four cubic yards of compost per 1,000 sq. ft. of area to a depth of six inches.
_____	Mulch applied to a depth of at least 3" to all areas of bare soil except in areas where mulch is contraindicated.
_____	All buildings, property lines, paving, fencing, walls, and above ground utilities are shown.
_____	A finish grading note such as: All landscape areas shall be finish graded to remove rocks and to ensure surface drainage away from buildings.
_____	Details, specifications, guarantees and necessary notes on all planting plans. Construction details of walls, fencing, lighting and paving for clarity of intent may be required.
_____	All required street trees are planted outside of the public right-of-way on private property. If tree planting is proposed within the public right-of-way, a copy of an encroachment permit issued by the Department of Public Works has been included with this submittal.
_____	All required screening (parking lots, trash enclosures, etc.) is shown on plans. Plants spaced and sized to insure 100% screening within two growing seasons.
_____	Root barrier is provided for all trees within 5 feet of hardscape.
_____	Landscape improvements, including, but not limited to, plants, berms, walls (decorative or retaining), signs, and structures have been selected and positioned so as to avoid obstructing views of motorists near intersections or aisles, drives, and pedestrian walkways. Trees have been selected (and shall be maintained) such that, at mature size, scaffold branches will be a minimum of 60 inches above the finished grade. Tree Separation Note provided.
_____	A note on the plans indicates who is responsible for maintaining the landscape, including the public right-of-way, in a healthy, disease free condition.
_____	Plantings adjacent to open space lots do not contain any non-native, invasive, or fire prone plants.
_____	Erosion control planting is provided for all slopes over 3 feet in vertical height and additional planting (as per Section 87.417 of the Grading Ordinance) is provided for slopes over 15 feet in vertical height.
_____	All vegetated Structural BMPs, as per the approved Storm Water Quality Management Plan (SWQMP), are shown on the Landscape Design Plan as required by Section 67.804 (g) of the Watershed Protection, Storm Water Management, and Discharge Control Ordinance and all the applicable Fact Sheets within the County's BMP Design Manual.

APPENDIX E

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

IRRIGATION DESIGN PLAN

INITIAL

_____ Dedicated Irrigation water meter, and/or submeter location, size and available pressure are shown as required.

_____ Plan shows all hydrozones by number, letter or other method and identifies each as very low water use, low water use, moderate water use, high water use or special landscaped area.

_____ Point of connection and backflow prevention are shown on the Irrigation Design Plans. Include make and model number of backflow prevention device.

_____ The irrigation legend provides a complete description of all the irrigation equipment.

_____ Location, size, and type of valves and sprinklers (include make and model number in an irrigation legend).

_____ Location, depth, size and type of pressure and lateral lines. Use of sleeves for pipes under driveways and paved surfaces.

_____ All piping is sized, including sleeve pipe.

_____ The system design pressure and the recorded static pressure or hydraulic gradeline information (with recording date) is indicated on the plans.

_____ An automatic controller shall be weather based (or have a moisture sensor) and utilize a rain sensor either integral or auxiliary, capable of shutting off the unit. The controller is shown on the plans graphically, for placement in the field, and described in the legend.

_____ Details such as water filters, air release valves, flush valves and pressure regulators on any drip irrigation systems are provided.

_____ Irrigation layout is consistent with the Water Efficient Landscape Design Manual.

_____ Avoid sprinkler risers in corner, along walls and parking areas. No overhead irrigation within 24" of an impermeable surface or in areas less than 10' wide in any direction.

_____ Check valves/anti-drain valves shown on slopes where needed.

_____ Temporary, on-grade irrigation is shown for areas planted solely with native vegetation. Temporary irrigation is required to help establish native vegetation and then shall be removed (typically two to three years after initial planting and up to five years for tree establishment).

_____ An overspray note such as: *"Field adjust all sprinklers to eliminate overspray onto sidewalks or driveways."*

_____ Details/specifications and guarantees on all Irrigation Design Plans.

Reclaimed Water:

For projects using reclaimed water or projects where reclaimed water will be available in the future;

_____ The local water district has confirmed that reclaimed water is available and plans have been submitted and approved by the Department of Environmental Health (DEH) prior to submittal to Planning & Development Services (PDS). Irrigation Plans have the required LRWS# posted as required by DEH. LRWS#_____

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

INITIAL

Reclaimed Water: *(continued)*
For projects using reclaimed water or projects where reclaimed water will be available in the future;

_____ The local water district has confirmed that reclaimed water will be available in the future, or is currently available, and the submitted plans provide for a dual distribution system for all landscaped areas (dual distribution is required if potable water is used for areas where food is served or consumed).

Graywater:
For Projects Using Graywater;

_____ All areas utilizing graywater for irrigation conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and section 86.720 of the Water Conservation in Landscape Ordinance.

WATER EFFICIENT LANDSCAPE WORKSHEET

_____ All sections of form PDS-405 are complete and accurately conform to the Landscape Design Plan, Irrigation Design Plan and County regulatory requirements.

_____ Calculations of Estimated Total Water Use (ETWU) and Maximum Applied Water Allowance (MAWA) are provided and the average ETAF value is compliant with County regulations based on project type.

_____ Confirm that Estimated Total Water Use (ETWU) does not exceed the Maximum Applied Water Allowance (MAWA).

_____ Confirm that the Average Irrigation Efficiency for the overall irrigation system shall meet or exceed 0.75.

GRADING DESIGN PLAN

_____ Demonstrate the elimination or minimization of soil erosion, runoff and water waste resulting from precipitation or irrigation.

_____ Finished configuration and elevations of each landscaped area shown.

_____ Height of graded slopes shown.

_____ Drainage pattern shown.

_____ Pad elevations shown.

_____ Finish grade shown.

_____ All structural BMP storm water retention improvements are shown and labeled.

_____ Sight line distances are shown per the project's California registered Civil Engineer as applicable and certification provided acknowledging grading has been designed to avoid obstructing roadway user's views.

APPENDIX E

INITIAL

Grading Permit in lieu of Grading Design Plan:
If the project requires a grading permit and a plan, that grading plan may be used in lieu of a grading design plan provided it meets all the grading design plan requirements listed above and the additional requirements of the Grading Ordinance listed below;

_____ All planting shown as required by Section 87.417 of the Grading Ordinance.

_____ All irrigation shown as required by Section 87.418 of the Grading Ordinance.

_____ Certification statement, as required by Section 87.401.a.2 (cuts) and 87.406.a (fills) for all slopes steeper than 2:1.

_____ **Compliance Statements** - per the Department of Public Works (DPW) – are provided on all sheets in document set prepared by, or under the direct supervision of, the California licensed landscape professional of record.

The required signed and dated Compliance Statements are as follows:

"I, _____, certify that the landscape and irrigation plan as shown hereon per this grading plan L- _____ satisfy the grading ordinance requirements as stated per section 87.417 (planting) and section 87.418 (irrigation)."

"I am familiar with the requirements for grading design plans contained in the County Landscape Water Conservation Regulations, in Title 8, Division 6, Chapter 7 of the San Diego County Code of Regulatory Ordinances. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water."

_____

_____ Prior to the approval of the record plan, the licensed landscape professional of record shall certify that the landscape and irrigation has been constructed per the approved landscape and irrigation as is shown hereon.

SOIL MANAGEMENT REPORT

_____ If the project requires mass grading, the soil management report should be submitted with the Certificate of Completion. Mass grading projects shall provide a soil sampling test for every 25,000 sq. ft. of area graded. Otherwise, the soil management report must be submitted as part of the Landscape Documentation Package.

_____ Soil analysis, completed by a properly certified or accredited laboratory using accepted industry protocol, of the landscaped areas with information on the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent of organic matter.

_____ Recommendations for improving the soil to efficiently utilize irrigation to sustain the health of landscape plantings.

_____ Soil sampling tests have been submitted for those projects with multiple landscape installations, such as production home developments, for every 1 in 7 lots. Large projects shall also provide test results at a rate equivalent to 1 in 7 lots.

APPENDIX E

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

NOTE: For all building permit applications not requiring a discretionary review (per the zoning of the property), landscape plans shall be submitted to Planning & Development Services, when there is 2,500 square feet or more of single-family residential landscaped area or 500 square feet or more of any other type of landscaped area. All submittal requirements, certification of landscape plan compliance, reclaimed water, and off-street parking standards mentioned above are applicable and shall be addressed and initialed by the California licensed landscape professional of record, or property owner upon submittal.

NOTE: All built structures proposed with the approval of these landscape plans shall require the applicant to obtain necessary building permits to comply with the most current version of the County's Building, Electrical, Fire, and Plumbing Codes.

NOTE: When a Fire District requires District review and approval, the applicant shall first submit Landscape Design Plans for review to Planning & Development Services (PDS). If plans require corrections, the applicant will be issued a comment letter outlining necessary revisions. At this time, the applicant shall make the corrections and then submit those 'revised' plans to the local Fire District for their review. Once the Landscape Design Plans have been approved by the Fire District, resubmit two sets of plans to PDS (with the Fire District's approval stamp and signatures on plans). At this stage the plans should be ready for approval and there should be no further iteration submittals. PDS will review to assure corrections have been made and will then stamp the plans approved. The approved plans (two sets) will have both the PDS and Fire District's approval stamp on the title sheet. If the plans are ready for approval after the first submittal, PDS will require the applicant to pick up the plans and proceed with the Fire District review as mentioned above. All other submittal procedures shall remain the same.

NOTE: Per Sections 86.723 and 86.725 of the San Diego County Code, the landscape professional who prepared the Landscape Documentation Package is required to submit (to the County Landscape Architect), prior to the issuance of a Certificate Of Occupancy, or Notice Of Completion, whichever is applicable, a Certificate of Completion acknowledging that the landscape improvements have been installed per the approved landscape plans. Periodic inspections may be conducted by PDS to verify conformance and corrections may be required if needed.

For additional information, please contact:

David Kahler
County Landscape Architect, LLA 3945
County of San Diego
Planning & Development Services
(858) 694-3040
David.Kahler@sdcounty.ca.gov

As a landscape professional licensed by the State of California, or owner of the property, I hereby acknowledge that the preceding items initialed by me are provided on the attached landscape plans. I understand that Planning & Development Services may verify compliance.

Signature	Date
Print Name	Phone No. (include area code)
License No.	Renewal Date

APPENDIX E

County of San Diego, Planning & Development Services

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Summary of Landscape Approval Process

(based on the type of permit)

SINGLE-FAMILY LANDSCAPES 500 - 2,500 sq. ft. choosing to use the Water Use Application Using Prescriptive Compliance Option	SINGLE-FAMILY LANDSCAPES 2,500 sq. ft. or more	SINGLE-FAMILY RESIDENTIAL SUBDIVISIONS WITH DEVELOPER-INSTALLED LANDSCAPING	LANDSCAPES FOR COMMERCIAL, INDUSTRIAL, MULTIFAMILY AND COMMON AREA FOR SINGLE-FAMILY over 500 sq. ft.
Submit **WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION** and Receive Approval	Submit **LANDSCAPE DOCUMENT PACKAGE** and Receive Approval	Initial Outdoor Water Use Authorization Granted upon approval of; either **WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION** (for landscaped areas between 500 – 2,500 sq. ft.) or **LANDSCAPE DOCUMENTATION PACKAGE** (for those lots with over 2,500 sq. ft. of landscaping)	Submit Concept Plan as part of Discretionary Permit Approval Process
Receive Building Permit	Receive Building Permit	Receive Building Permit for lot	Receive Discretionary Permit Approval
Install Landscaping & Irrigation	Install Landscaping & Irrigation	Install Landscaping & Irrigation Per **LANDSCAPE DOCUMENT PACKAGE**	Submit **LANDSCAPE DOCUMENTATION PACKAGE** and Receive Approval
Submit **CERTIFICATE OF COMPLETION USING PRESCRIPTIVE COMPLIANCE OPTION**	Submit **CERTIFICATE OF COMPLETION** Package and Receive Approval	Submit **CERTIFICATE OF COMPLETION PACKAGE** and Receive Approval	Receive Building Permit
Receive Outdoor Water Use Authorization at Final Inspection	Receive Outdoor Water Use Authorization and Final Inspection Approval For Occupancy	For each partially landscaped lot, Receive Outdoor Water Use Authorization for all landscaped areas installed by Developer, combined with, MAWA calculations established for the remaining Exclusive Use Area's to be installed by the buyer at a future date.	Install Landscaping & Irrigation
		Agree to Notify each buyer of Conditions and Responsibilities under the Outdoor Water Use Authorization and Receive Approval for Occupancy	Submit **CERTIFICATE OF COMPLETION** Package and Receive Approval
			Receive Outdoor Water Use Authorization and Final Inspection Approval for Occupancy

5510 OVERLAND AVE, SUITE 110, SAN DIEGO, CA 92123 • (858) 565-5981 • (888) 267-8770
http://www.sdcounty.ca.gov/pds

APPENDIX F

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION CHECKLIST

COUNTY LANDSCAPE ARCHITECT

The Landscape Certificate of Completion must be submitted within 10 days after installation to the County Landscape Architect and approved before the project site can receive approval for occupancy.

INITIAL **GENERAL REQUIREMENTS**

_____ Two copies of the completed and signed Landscape Certificate of Completion form.

_____ Two copies of the Irrigation Schedule (per Section 86.726).

_____ Two copies of the Landscape and Irrigation Maintenance schedule (per Section 86.727).

_____ Two copies of the Soil Management Report, if not previously submitted, and documentation verifying implementation of soil report recommendations .

_____ Two copies of an Irrigation Audit Report prepared by a certified landscape irrigation auditor. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification Program or other US Environmental Protection Agency 'WaterSense' labeled auditing program. Proof of certification must be provided with the signed and dated report.

_____ Two copies of a diagram of the irrigation plan showing hydrozones to be kept with the irrigation controller for subsequent management purposes.

LANDSCAPE CERTIFICATE OF COMPLETION

_____ Completed and signed form certifying that the installed landscaping and irrigation system conform to the approved plans and the requirements of the County's Water Conservation in Landscaping Ordinance.

_____ Signed acknowledgment by property owner of ongoing responsibility to maintain the landscape and irrigation system in compliance with approved plans.

IRRIGATION SCHEDULE

_____ Description of irrigation system and name of responsible party.

_____ Schedule of irrigation events and parameters used for setting the system controller (per Section 86.726). No overhead irrigation allowed between 8:00 p.m. and 10:00 a.m. or any more restrictive period mandated by a public water purveyor.

_____ Irrigation schedules for plant establishment period, established landscaping, temporarily irrigated areas, and different seasons during the year.

_____ Irrigation scheduling matches the Estimated Total Water Use approved with the Landscape Documentation Package for the established landscape. Actual applied water use in gallons per year to show compliance are provided.

APPENDIX F

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION CHECKLIST

COUNTY LANDSCAPE ARCHITECT

INITIAL	LANDSCAPE AND IRRIGATION MAINTENANCE SCHEDULE
_____	A regular maintenance schedule for the landscaping and irrigation is provided that includes, but is not limited to, all the requirements listed in Section 86.727 (b) and ensures continuing compliance with the Total Estimated Water Use authorized by the County.
_____	Verification that the irrigation system, as installed, meets or exceeds the average irrigation efficiency of 0.75 and will be maintained as such has been provided.
_____	Emergency contact information has been provided, along with identification of the name of who will be responsible for irrigation system inspection, repair and ongoing maintenance activities.
_____	Identification of established landscape industry sustainable Best Practices for all landscape maintenance activities has been provided.
_____	Schedule of inspection and eradication of invasive species in transitional areas and areas where cuttings from maintenance activities could be transported downstream through storm water conveyance systems.
_____	Instructions to replace broken irrigation components with the same or equivalent parts, or components with greater efficiency, and to maintain an average irrigation efficiency factor of at least 0.75 and that precipitation/application rates will remain matched on any given valve.
_____	Instructions to replace a removed plant with a plant that is classified within the same hydrozone.

SOIL MANAGEMENT REPORT

_____	Soil analysis completed by a properly certified or accredited laboratory using accepted industry protocol of the landscaped areas with information on the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent of organic matter.
_____	Soils analyses have been provided for mass grading projects for every 25,000 square feet of area.
_____	Soils analyses have been provided at a rate of 1 in 7 lots for multiple landscape installations such as subdivision residential projects. Landscape projects over 5,000 square feet have provided soil analyses equivalent to 15% of the total area.
_____	Recommendations for improving the soil to efficiently utilize irrigation to sustain the health of landscape plantings.
_____	Verification that all required compost, at the minimum rates established by the Water Conservation in Landscaping Ordinance, have been incorporated to a depth of at least 6" in depth into the soil for all landscaped areas.

APPENDIX F

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Random audits may be conducted by the County to verify conformance, and corrections may be required if needed.

As a landscape professional licensed by the State of California, the property owner, or the California licensed landscape contractor who designed and was hired by a single family homeowner, I hereby acknowledge that the preceding items initialed by me are being provided to the County. Upon approval, I will provide copies to the property owner. I understand that the County may verify compliance.

Signature	Date
Name	Phone No.
License No.	Email
Renewal Date	

For additional information, please contact:

David Kahler
County Landscape Architect, LLA 3945
Planning & Development Services
(858) 694-3040
David.Kahler@sdcounty.ca.gov

APPENDIX G

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF COMPLETION USING PRESCRIPTIVE COMPLIANCE OPTION

COUNTY LANDSCAPE ARCHITECT

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

SECTION A.1 INFORMATION

Project Applicant:	
Name of Project Applicant	*Phone No.*
Title	*Email*
Company	*Fax No.*
Address (must include City, State and Zip Code)	

Project:	
Project's Name	
Assessor's Parcel No.	*County Landscape Plan No.*
Address (must include City, State and Zip Code)	

Property Owner or their Designee:	
Name of Property Owner	*Phone No.*
Title	*Email*
Company	*Fax No.*
Address (must include City, State and Zip Code)	
"I/we certify that I/we have received, at the time of final inspection, a Certificate of Completion, Certificate of Installation, Irrigation Schedule and a Schedule of Landscape and Irrigation Maintenance, as described in the Water Conservation in Landscaping Ordinance, and that it is our responsibility to see that the project is maintained in accordance with the aforementioned Schedule of Landscape and Irrigation Maintenance."	
Property Owner's Signature	Date

APPENDIX G

County of San Diego, Planning & Development Services

LANDSCAPE CERTIFICATE OF INSTALLATION USING PRESCRIPTIVE COMPLIANCE OPTION

COUNTY LANDSCAPE ARCHITECT

Please provide the following information:

Date when the Landscape Documentation Package was approved by the County? _____

Date when the landscape and irrigation commenced? _____

Date when the landscape and irrigation was completed? _____

Maximum Applied Water Allowance (MAWA) from approved Landscape Documentation Package? _____

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

Property Owner, or a California Licensed Landscape Contractor:	
Name of Owner, or CA Licensed Landscape Contractor:	*Phone No.*
Title	*Email*
License No. or Certification No.	*Fax No.*
Company	
Address (must include City, State and Zip Code)	
"I/we certify, by signing below, that based upon periodic site observations, the work has been completed in accordance with the Water Conservation in Landscaping Ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Water Use Application Using Prescriptive Compliance Option."	
Signature of Owner, or CA Licensed Landscape Contractor	Date

SECTION C.1 IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per ordinance Section 86.726. Irrigation scheduling shall demonstrate that the system does not exceed the Maximum Applied Water Allowance circled on the approved Water Use Application Using Prescriptive Compliance Option.

SECTION D.1 SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 86.727. Verification that the irrigation system, as installed, meets or exceeds the average irrigation efficiency of 0.75 and will be maintained as such shall also be provided.

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

Courtesy of Dixie Switzer

The intent of this list is to provide examples of plants that are less prone to ignite or spread flames to other vegetation during a fire and that can naturalize or survive without irrigation after growth has been established. This list indicates those plants that are considered native to California. It also excludes non-native invasive species that easily spread into natural, non-irrigated areas.

No plant is totally fire resistant. The plants listed have been chosen because they contain minimal amounts of flammable resins and have a low fuel volume. All plants on this list are considered to be drought-tolerant.

When first planting drought-tolerant plants, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. During this establishment period, many plants will require more water in summer than in winter but be careful not to overwater. Even in summer some natives will die if watered too much. Over a three year establishment period, these plants should be weaned off supplemental irrigation. Once established, these plants can grow and reproduce with only natural moisture such as rainfall. Occasional irrigation is necessary only in extreme drought conditions.

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

LEGEND

* Native plant as identified in the Native Plant list published by the San Diego Chapter of the California Native Plant Society or the California Native Plant Link Exchange for San Diego County www.cnplx.info.

TYPE: A = Annual
C = Succulent
G = Groundcover
P = Perennial
S = Shrub
T = Tree

The following references were used to avoid any listing of invasive plants:

Los Angeles Regional Guide to Invasive Plants http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf.

California Invasive Plant Council Inventory of California Invasive Plants http://www.cal-ipc.org/ip/inventory/index.php.

American Society of Landscape Architects, San Diego Chapter: Invasive Ornamental Plant Guide http://www.asla-sandiego.org/Download/PG_08_mod.pdf.

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

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Yarrow

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California Buckeye

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Desert Century

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Shaw's Century

BOTANICAL NAME	COMMON NAME	TYPE
Achillea Tomentosa*	Wooly Yarrow	G
Aesculus californica*	California Buckeye	T/S
Agave		
americana	Century Plant	C
deserti*	Desert Century Plant	C
shawii*	Shaw's Century Plant	C
Aloe arborescens	Tree Aloe	C
Alyogyne huegelii	Blue Hibiscus	S
Antigonon leptopus*	San Miguel Coral Vine	V
Arbutus unedo	Strawberry Tree	T
Baccharis glutinosa*	Mule Fat	S
Brachychiton populneus	Bottle Tree	T
Caesalpinia gilliesii	Bird of Paradise Bush	S
Calliandra californica*	Baja Fairy Duster	S
Cassia artemisioides	Feathey Senna	S
Ceanothus spp.*	California Lilac	S/G
Ceratonia siliqua	Carob	T
Cercidium floridum	Blue Palo Verde	T
Cercis occidentalis*	Western Redbud	T/S

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Mule Fat

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California Mountain Lilac (Ceanothus)

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Western Redbud

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

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Summer Holly

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Coast Sunflower

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Giant Coreopsis

BOTANICAL NAME	COMMON NAME	TYPE
Comarostaphylis diversifolia*	Summer Holly	S
Convolvulus cneorum	Bush Morning Glory	S
Coreopsis		
gigantea*	Giant Coreopsis	P
maritima*	Sea Dahlia	P
verticillata	Coreopsis	P
Dalea		
orcuttii	Orcutt's Delea	S
spinosa	Smoke Tree	S
Delosperma alba	White Trailing Ice Plant	G
Dudleya		
brittonii*	Britton's Chalk Dudleya	G
pulverulenta*	Chalk Dudleya	G
virens*	Island Live-Forever	G
Elaeagnus pungens	Silverberry	S
Encelia		
californica*	Coast Sunflower	P
farinosa*	White Brittlebush	P
Eriophyllum confertiflorum*	Golden Yarrow	S
Erythrina caffra	Kaffirboom Coral Tree	T

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Sea Dahlia

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Chalk Dudleya

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White Brittlebush

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

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Golden Yarrow

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California Poppy

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Island Bush-Snapdragon

BOTANICAL NAME	COMMON NAME	TYPE
Eschscholzia californica*	California Poppy	G/A
Ferocactus viridescens*	Coast Barrel Cactus	C
Fouquieria splendens*	Ocotillo	C
Galvezia		
Juncea*	Baja Bush-Snapdragon	S
speciosa*	Island Bush-Snapdragon	S
Garrya flavescens*	Ashy Silktassel	S
Grevillea spp.	Grevillea	T/S/G
Helianthemum spp.*	Sunrose	G
Hesperaloe parviflora	Red Yucca	C
Heteromeles arbutifolia*	Toyon	S
Iva hayesiana*	Poverty Weed	P
Juglans		
californica*	California Walnut	T
hindsii	California Black Walnut	T
Keckiella cordifolia*	Heart-Leaved Penstemon	V
Kniphofia uvaria	Red-Hot Poker	P
Lampranthus aurantiacus	Ice Plant	G
Lantana spp.	Lantana	S/G

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Ashy Silktassel

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Sunrose

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Toyon

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Poverty Weed

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

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California Walnut

Used with permission of www.laspilitas.com

Heart-Leaved Penstemon

Used with permission of www.laspilitas.com

Chaparral Honeysuckle

BOTANICAL NAME	COMMON NAME	TYPE
Lasthenia californica*	Common Goldfields	G
Laurus nobilis	Sweet Bay	T/S
Lavandula spp.	Lavender	P
Leucophyllum frutescens	Texas Ranger	S
Lonicera subspicata*	Chaparral Honeysuckle	V
Lotus scoparius*	Deerweed	S
Lupinus spp.	Lupine	G/A
Lyonothamnus floribundus spp.		
asplenifolius*	Fernleaf Catalina Ironwood	T
Malacothamnus fasciculatus*	Mesa Bushmallow	S
Nolina		
parryi*	Parry's Nolina	C
parryi spp. Wolfii*	Wolf's Bear Grass	C
Penstemon spp. (wild)*	Penstemon wild	P
Pittosporum phillyraeoides	Willow Pittosporum	T
Portulacaria afra	Elephant's Food	T/S
Prunus		
ilicifolia*	Hollyleaf Cherry	T/S
lyonii	Catalina Cherry	T/S

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Deerweed

Used with permission of www.laspilitas.com

Fernleaf Catalina Ironwood

Used with permission of www.laspilitas.com

Mesa Bushmallow

APPENDIX H
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Wild Penstemon

Used with permission of www.laspilitas.com

Hollyleaf Cherry

Courtesy of Dixie Switzer

Coast Live Oak

BOTANICAL NAME	COMMON NAME	TYPE
Quercus		
agrifolia*	Coast Live Oak	T
dumosa*	Scrub Oak	S
engelmannii*	Engelmann Oak	T
suber	Cork Oak	T
Rhamnus californica*	Coffeeberry	S
Robinia Ambigua 'Purple Robe'	Purple Robe Locust	T
Romneya coulteri*	Matilija Poppy	S
Rosa		
californica*	California Wild Rose	S
minutifolia*	Baja California Wild Rose	S
Sambucus spp.	Elderberry	S
Santolina		
chamaecyparissus	Lavender Cotton	P
virens	Santolina	P
Sedum spp.	Stonecrops	C
Senecio cineraria	Dusty Miller	P
Sisyrinchium bellum*	Blue-Eyed Grass	P
Symphoricarpos mollis*	Creeping Snowberry	S

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Engelmann Oak

Used with permission of www.laspilitas.com

Coffeeberry

Used with permission of www.laspilitas.com

Matilija Poppy

APPENDIX H

LOW WATER USE, IGNITION RESISTIVE PLANTS

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California Wild

Used with permission of www.laspilitas.com

Blue-Eyed Grass

Used with permission of www.laspilitas.com

Creeping Snowberry

BOTANICAL NAME	COMMON NAME	TYPE
Tagetes lemmonii	Copper Canyon Daisy	P
Teucrium fruticans	Bush Germander	S
Ulmus pumila	Siberian Elm	T
Verbena lilacina*	Lilac Verbena	P
Viguiera laciniata*	San Diego Sunflower	G
Westringia fruticosa	Coast Rosemary	S
Yucca		
schidigera*	Mojave Yucca	C
whipplei*	Foothill Yucca	C
Zauschneria		
californica	California Fuschia	P
cana	Hoary California Fuschia	P
'Catalina'	Catalina Fuschia	P

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San Diego Sunflower

Used with permission of www.laspilitas.com

Mojave Yucca

Used with permission of www.laspilitas.com

Foothill Yucca

Please note: The above list is not intended as a comprehensive compilation of all plants that meets the criteria of low water use, ignition resistive, and non-invasive. It only suggests some plants that meet the criteria.

APPENDIX I

UNDESIRABLE PLANTS

The following vegetation is more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. To reduce the possibility of fire spreading to structures, these plants should be avoided within the first 50 feet adjacent to a structure.

- ⇒ Eucalyptus
- ⇒ Pines
- ⇒ Rosemary
- ⇒ Larger California sagebrush
- ⇒ Chamise
- ⇒ Tea trees
- ⇒ Pepper trees
- ⇒ Acacias
- ⇒ Junipers
- ⇒ Pampas grass
- ⇒ Palms

If the owner wishes to retain these plants, they must be adequately maintained (pruning, thinning, irrigation, litter removal and weeding) to reduce the potential for spreading a fire.

APPENDIX J

INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Acacia baileyana	Bailey Acacia
Acacia cyclops	Coastal Wattle
Acacia dealbata	Silver Wattle
Acacia longifolia (A. latifolia)	Golden Wattle
Ailanthus altissima	Tree of Heaven
Anthemis cotula	Mayweed
Aptenia cordifolia	Red Apple Iceplant
Arctotheca calendula	Cape Weed
Arundo donax	Giant Cane
Asparagas asparagoides	Bridal Creeper
Asparagus densiflorus & all varieties	Asparagus Fern
Asparagus setaceus	Fern Asparagus
Asphodelus fistulosa	Onionweed
Atriplex semibaccata	Australian Saltbush
Brassica nigra	Black Mustard
Brassica rapa	Field Mustard
Brassica tournefortii	Asian Mustard, Sahara Mustard

BOTANICAL NAME	COMMON NAME
Callistemon viminalis	Weeping Bottlebrush
Carpobrotus chilensis	Sea Fig, Highway Ice Plant
Carpobrotus edulis	Ice Plant
Centaurea solstitialis	Yellow Starthistle
Centranthus ruber	Red Valerian, Jupiter's Beard
Chrysanthemum coronarium	Garland or Crown Daisy
*Cirsium vulgare**	Wild Artichoke
Conium maculatum	Poison Hemlock
Cortaderia jubata & all varieties	Jubata Grass & all varieties
Cortaderia selloana & all varieties	Pampas Grass & all varieties
Cotoneaster lacteus	Cotoneaster
Cotoneaster pannosus	Silverleaf Cotoneaster
Crassula ovata (C. argentea)	Jade Plant
Cupaniopsis anacardioides	Carrot Wood
*Cynara cardunculus**	Artichoke Thistle
Cyperus involucratus (C. alternifolius)	African Umbrella Plant
Echium candicans (E. fastuosum)	Pride of Madeira

APPENDIX J
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta longiflora	Long-flowered/Annual Veldt Grass
Eucalyptus camaldulensis (E. rostrata)	Red Gum, River Red Gum
Eucalyptus globulus	Eucalyptus Blue Gum
Ficus carica	Edible Fig
Foeniculum vulgare	Sweet Fennel, Wild Fennel
Fraxinus uhdei	Evergreen/Shamel/ Mexican/Tropical Ash
Gazania linearis (Gazania longiscapa)	Gazania, Gazania Daisy, Colorado Gold
Genista monspessulana	French Broom
Hedera canariensis	Algerian Ivy
Hedera helix	English Ivy
Hypericum canariense	Canary Island Hypericum
Hypericum perforatum	St. John's Wort
Ipomoea purpurea	Common Morning Glory
Iris pseudacorus	Yellow Iris

BOTANICAL NAME	COMMON NAME
Koelreuteria paniculata	Goldenrain Tree
*Lactuca serriola**	Prickly Lettuce
Lepidium latifolium	Perennial Pepperweed
Limonium perezii	Perez's Marsh-rosemary, Sea Lavender
Limonium ramosissimum	Algerian Sea Lavender
Limonium sinuatum	Wavy Leaf Sea Lavender, Statice
Lobularia maritima	Sweet Allyssum
Lonicera japonica & all varieties	Japanese Honeysuckle & all varieties
Lotus corniculatus	Birdfoot Trefoil
Ludwigia hexapetala (L. uruguayensis)	Uruguay Marsh-Purslane, Water Primrose
Lythrum salicaria	Purple Loosestrife
Malephora crocea	Red-flowered Ice Plant, Croceum Ice Plant
Melinus repens (Rhynchelytrum repens)	Natal Grass, Natal Ruby Grass, Red Top
Mentha pulegium	Pennyroyal

APPENDIX J
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta calycina	Perennial Veldt Grass
Ehrharta erecta	Panic Veldt Grass
Mentha spicata	Spearmint
Mesembryanthemum crystallinum	Crystalline Ice Plant
Mesembryanthemum nodiflorum	Slender-leaved Ice Plant
Mirabilis jalapa (M. lindheimeri)	Four O-Clock, Marvel of Peru
Myoporum laetum	Ngaio Tree, Myoporum
Myriophyllum aquaticum	Parrotfeather
Myriophyllum spicatum	Eurasian Watermilfoil
Nassella tenuissima	Finestem Needlegrass, Mexican Feather Grass
Nerium oleanader	Oleander
Nicotiana glauca	Tree Tobacco
Oenothera speciosa	Mexican Evening Primose
Olea europaea (fruiting varieties)	Olive Tree

BOTANICAL NAME	COMMON NAME
Opuntia ficus-indica	Mission Prickly-Pear, Indian Fig, Tuna Cactus
Osteospermum fruticosum (Dimorphotheca fruticosa)	Trailing African Daisy, Freeway Daisy
Parkinsonia aculeata	Mexican Palo Verde, Jerusalem Thorn
Pennisetum villosum (Cenchrus villosus)	Feathertop Fountain Grass
Pennisetum ciliare (Cenchrus ciliare)	Buffelgrass
Pennisetum clandestinum (Cenchrus clandestinum)	Kikuyu Grass
Pennisetum setaceum (Cenchrus setaceum) & all varieties except 'Rubrum'/'Cupreum'	Fountain Grass
Phoenix canariensis	Canary Island Date Palm
Pittosporum undulatum	Victorian Box
Platanus x acerifolia	London Plane Tree
Prunus lyonii (Prunus ilicifolia ssp. lyonii*)*	Catalina Cherry
Retama monosperma (Genista monosperma)	Bridal Veil Broom
Ricinus communis	Castor Bean
Robinia pseudoacacia	Black Locust

APPENDIX J
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Salsola tragus	Russian Thistle
Schinus molle	California Pepper
Schinus terebinthifolius	Brazilian Pepper
Senna didymobotrya (Cassia didymobotrya)	Popcorn Senna, Popcorn Cassia, African Senna
Silybum marianum	Milk Thistle
Spartium junceum	Spanish Broom

BOTANICAL NAME	COMMON NAME
Tamarix species	Tamarisk
Tropaeolum majus	Garden Nasturtium
Ulmus parvifolia	Chinese Elm Tree
Vinca major	Periwinkle
Washington robusta	Mexican Fan Palm
Zantedeschia aethiopica (Calla aethiopica)	Calla-lily

APPENDIX K

San Diego County Water Authority

Water Authority Member Agencies

CONTACT YOUR LOCAL WATER AGENCY FOR INFORMATION ON RESTRICTIONS, RATES

1 Carlsbad Municipal Water District
www.carlsbadca.gov/water
Ph: 760-438-2722

2 City of Del Mar
www.delmar.ca.us
Ph: 858-755-3294

3 City of Escondido
www.ci.escondido.ca.us
Ph: 760-839-4658

4 Fallbrook Public Utility District
www.fpud.com
Ph: 760-728-1125

5 Helix Water District
www.hwd.com
Ph: 619-466-0585

6 Lakeside Water District
www.lakesidewaterdistrict.com
Ph: 619-443-3805

7 City of National City*
www.ci.national-city.ca.us
Ph: 619-336-4241
www.sweetwater.org
Ph: 619-420-1413

8 City of Oceanside
www.ci.oceanside.ca.us
Ph: 760-435-5800

9 Olivenhain Municipal Water District
www.olivenhain.com
Ph: 760-753-6466

10 Otay Water District
http://www.otaywater.gov
Ph: 619-670-2222

11 Padre Dam Municipal Water District
www.padredam.org
Ph: 619 448-3111

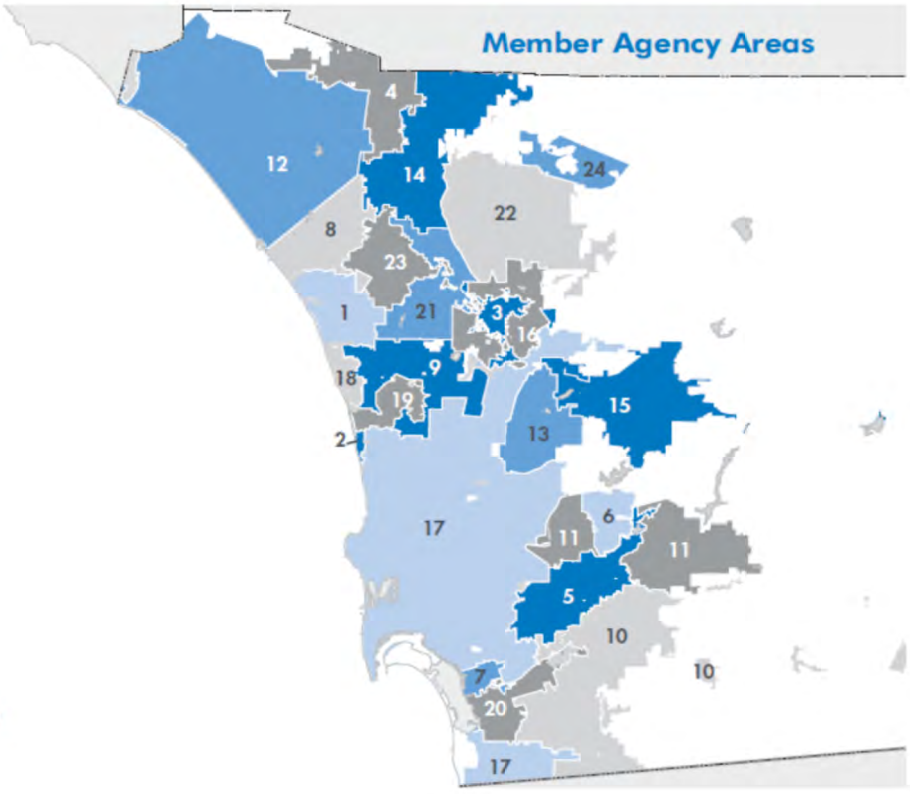
12 Camp Pendleton Marine Corps Base
www.cpp.usmc.mil
Ph: 760-725-4743

13 City of Poway
www.poway.org
Ph: 858-668-4700

14 Rainbow Municipal Water District
www.rainbowmwd.com
Ph: 760-728-1178

15 Ramona Municipal Water District
www.rmwd.org
Ph: 760-789-1330

16 Rincon del Diablo Municipal Water District
www.rinconwater.org
Ph: 760-745-5522



17 City of San Diego
www.sandiego.gov/water
Ph: 619-515-3500

18 San Dieguito Water District
www.ci.encinitas.ca.us
Ph: 760-633-2810

19 Santa Fe Irrigation District
www.sfidwater.org
Ph: 858-756-2424

20 South Bay Irrigation District*
www.sbid.us
Ph: 619-427-0868
www.sweetwater.org
Ph: 619-420-1413

21 Vallecitos Water District
www.vwd.org
Ph: 760-744-0460

22 Valley Center Municipal Water District
www.vcmwd.org
Ph: 760-749-1600

23 Vista Irrigation District
www.vid-h2o.org
Ph: 760-597-3100

24 Yuima Municipal Water District
www.yuimamwd.com
Ph: 760-742-3704

*Sweetwater Authority manages City of National City and South Bay Irrigation District.

APRIL 2009

APPENDIX L

WATER CONSERVATION PROGRAM FOR ESTABLISHED LANDSCAPES

ESTABLISH A WATER BUDGET FOR LANDSCAPE IRRIGATION

The water applied to your landscape, including any water features such as swimming pools, should not exceed your water budget.

For properties served by public water providers, figure your water budget as follows:

1. Locate your community planning area in the table.
2. Multiply the corresponding Water Budget Factor by the area of your irrigated landscape, including the surface area of any water features. The size of your landscape should be in square feet.

Budget = Water Budget Factor * landscaped area (sq. ft.)

The water budget sets the maximum number of gallons per year that should be used to water your landscape.

The water you actually use should not exceed your budget.

Community Planning Area	Water Budget Factor
Alpine	22.2
Bonsall	20.1
Borrego Springs	32.7
County Islands	20.1
Crest	22.2
Fallbrook	20.1
Jamul/Dulzura	22.2
Lakeside/Pepper Drive-Bostonia	22.2
North County Metro	20.1
Otay	22.2
Pala-Pauma	22.2
Pendleton/DeLuz	20.1
Rainbow	20.1
Ramona	22.2
San Dieguito	20.1
Spring Valley	22.2
Sweetwater	22.2
Valle de Oro	22.2
Valley Center	22.2

APPENDIX L

WATER CONSERVATION PROGRAM FOR ESTABLISHED LANDSCAPES

ELIMINATE OVER-WATERING

This is the easiest and most effective way to conserve water.

You will use less water.

Your water bill will be reduced.

You will prevent runoff which contaminates our beaches.

Over-watering occurs when the soil is not able to absorb water as quickly as the water is applied. If your soil does not absorb water very quickly, you should irrigate for only a short time, wait until that water has completely infiltrated the soil, and then irrigate for another short time.

FIX LEAKS

How to check for leaks in your plumbing:

1. Record the reading on your water meter and mark the position of the needle.
2. Turn off all water inside and outside, including an ice maker.
3. Wait at least 30 minutes to one hour.
4. Check the water meter.
5. If the reading has changed or the needle has moved, there is a leak in your plumbing.

FIX BROKEN IRRIGATION EQUIPMENT

A broken sprinkler head can waste water at a rate of 10 gallons per minute. That's equal to 100 gallons during a 10 minute irrigation cycle.

Check your irrigation system at least once a month.

1. Manually start the system.
2. Check the valves for leaks.
3. Check each head for leaks or puddling around the head.

4. Check for overspray onto surfaces that should not be watered such as sidewalks, structures, or patios.
5. Adjust and properly align heads.
6. Check for vegetation or other obstacles that block spray.
7. Check for over-watering or runoff.
8. Shorten the watering cycle if necessary.

ADJUST THE IRRIGATION SCHEDULE

The amount of water that is necessary for a healthy landscape will vary depending on the time of year and the type of plants.

- During the summer months, water 2 or 3 days per week for grass and 1 or 2 days per week for other plants.
- In winter, irrigate only when the top 2 to 3 inches of soil is dry.

Force plants and lawns to develop deep roots rather than shallow roots. Plants with deep roots can be watered less often, once a week may be sufficient. Shallow roots develop from frequent watering. To develop deep roots:

1. Apply water using 2 or 3 short cycles rather than one long cycle.
2. Add one extra day between waterings.
3. After three weeks, add another day between waterings and, for overhead spray systems, increase the watering time by 1 to 3 minutes.
4. If the plants respond well, try adding another day between waterings.

Your irrigation schedule should be adjusted at least once a month.

Learn how to use your irrigation controller. Replace an old controller with a smart controller which will automatically suspend irrigation during rainy weather conditions.

Do not water when it rains. Wait until the soil dries out.

Water between midnight and 6 a.m. to reduce water loss due to evaporation and wind.

For overhead spray systems, water between 4 a.m. and 6 a.m. to allow the morning sun to dry the vegetation.

Experiment to find the most efficient schedule for your landscape.

Check the following website for a calculator that provides estimates for irrigation schedules:

http://www.bewaterwise.com/calculator.html

PERFORM REGULAR MAINTENANCE

Turf

- Do not mow lawns any shorter than 3 inches to encourage deep roots.
- Leave grass clippings on the lawn to provide nutrients and reduce green waste.
- Use a mulching mower.
- Dethatch or aerate your lawn to allow water to penetrate into the soil.
- Sporadic brown spots on your lawn are usually caused by the uneven distribution of water from your spray heads. Check the heads to be sure they are not blocked and that vegetation is not obstructing the spray. Adjust the spray heads or the pressure of your irrigation system if necessary. Using more water is not the solution.

Plants

- Plant in the fall when less water is required to establish plants.
- Do not overprune shrubs and trees.
- Ornamental grasses should be groomed once a year. Do not mow.
- Use plants that are well-suited to the type of soil on your site.

Mulch

- Place a 2 or 3 inch layer of mulch over bare dirt to reduce water evaporation, improve the soil, and control weeds.

- Organic mulch absorbs and retains water. If it gets wet during irrigation, allow it to dry out. Otherwise is will become vulnerable to molds, fungi and other diseases that may spread to the plants.
- Re-mulch every 1—2 years.
- Use gravel mulch around succulents to keep the plants from becoming too wet.

Soil

- Amend the soil with compost to improve filtration, texture and nutrients which will produce healthy plants with less water.
  - For turf, 1—2 inches of compost tilled into an 8-inch depth.
  - For trees and shrubs, 2—4 inches compost tilled at least 12 inches deep.
  - If not tilling the soil, mulch with compost, then put wood chips on top for weed control.
- Use only the minimum amount of fertilizer necessary. Fertilizers result in higher water use, increased maintenance, and more green waste.
- When using fertilizer, try more frequent applications using smaller amounts. Fertilizer is toxic and any excess washes into waterways.
- Select slow-release or natural organic fertilizers to reduce runoff pollution.

Pests

- Select pest-resistant plants.
- If necessary, spot treat with non-toxic insecticide.

GIVE YOUR LANDSCAPE A MAKEOVER

Simple design changes can save water and give your landscape a fresh, new look.

APPENDIX L

WATER CONSERVATION PROGRAM FOR ESTABLISHED LANDSCAPES

Design

- Attend classes on water smart landscaping.
- Visit the Water Conservation Garden at Cuyamaca College or the Quail Botanical Gardens in Encinitas.
- Choose plants that require the same amount of water and sunlight for each irrigation zone (or hydrozone).
- Use permeable landscaping materials to create pathways and borders.

Plants

- Replace high water use lawns with water smart groundcovers, trees and shrubs.
- Plant drought-tolerant plants. After 1 to 3 years of regular watering, the plants will be able to survive with little or no irrigation.
- Plant high water use plants in shady areas that are protected from the wind.
- Consider plants native to the region. They require less maintenance and less water.
- Do not plant invasive species or plants that can easily burn or spread fire. (See Appendices G, H, and I)
- Look for low water use plants at local nurseries.

Irrigation System

- Install a water smart controller.
- Switch to drip irrigation for trees and shrubs.
- Replace old sprinkler heads with newer, more efficient heads.
- Replace sprinkler heads with mini rotors to reduce runoff. Mini rotors have a reduced precipitation rate which allows time for water to penetrate the soil.
- Use rotors to water large areas of 25 feet by 25 feet or larger.

- Check with your water agency or equipment retailer for rebates on water smart irrigation equipment.

WATERING WITHOUT AN AUTOMATED IRRIGATION SYSTEM

When watering with a garden hose:

- Always attach a trigger nozzle or a watering wand with a ball valve to a garden hose. The trigger nozzle should be the type that must be depressed continuously by hand in order to allow water to flow.
- Shut off the water when moving from plant to plant during garden watering.
- Check your hose and fittings to make sure they are in good condition, and replace with quality fittings if required. Worn hoses and fittings are more likely to leak.
- Remember to shut off the water at the faucet after use.

When watering with portable lawn sprinklers:

- Do not leave the water running unattended. Set an alarm to remind you to turn it off.
- Adjust the water pressure to avoid overspray and runoff
- Use a hose timer between the faucet and the hose to automatically shut off the water.
- Remember to shut off the water at the faucet when you are done.

HOW TO READ A WATER METER

A water meter records the amount of water used in the same way the odometer in a car records the number of miles traveled. A water meter measures water use by the cubic foot. One cubic foot equals 7.48 gallons.

To check your daily water use:

1. Record the reading on your meter.
2. Twenty-four hours later, record the reading on the meter again.
3. Subtract the reading in Step 1 from the reading in Step 2.

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

Meeting Date: 04/27/16 (6)

ORDINANCE NO.: 10427 (N.S.)

AN ORDINANCE AMENDING TITLE 8, DIVISION 6, CHAPTER 7, OF THE SAN DIEGO COUNTY CODE OF REGULATORY ORDINANCES RELATING TO WATER CONSERVATION IN LANDSCAPING

The Board of Supervisors of the County of San Diego ordains as follows:

Section 1. The Board of Supervisors finds and determines as follows:

The State of California has set standards for water efficiency in landscaping since 1990. These requirements are currently set forth in the Water Conservation in Landscaping Act, Government Code sections 65591 et seq., ("Act"). In accordance with the Act and its predecessor statute, the Department of Water Resources adopted and periodically amended a Model Water Efficient Landscape Ordinance ("MWELO"). The MWELO is currently codified at 23 California Code of Regulations sections 490 et seq. The County was at all times required to adopt an ordinance as effective as the MWELO at conserving water or apply the MWELO. The County adopted and has enforced its own water efficient landscape regulations since the first MWELO became effective on January 1, 1993.

In response to prolonged drought conditions in the State, Governor Edmund G. Brown, Jr. by Executive Order B-29-15 issued April 1, 2015 directed the Department of Water Resources to amend the MWELO to increase water efficiency standards for new and existing landscapes and to limit the use of turf. The Department of Water Resources revised the MWELO in accordance with the Executive Order and the California Water Commission approved the revised MWELO on July 15, 2015. Consistent with the requirements of the Act, the County is amending its water efficient landscape requirements set forth at sections 86.701 et seq. of the San Diego County Code of Regulatory Ordinances to ensure that the County's requirements are as effective as the current MWELO at conserving water.

This ordinance is consistent with the findings and declarations the State Legislature made when adopting the Act and is as effective as the State's current MWELO at conserving water. Upon the effective date of this ordinance, the County's water efficient landscape requirements shall apply to all covered new and existing landscapes in place of the State's MWELO.

Section 2. Title 8, Division 6, Chapter 7 of the San Diego County Code of Regulatory Ordinances is hereby amended to read as follows:

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

CHAPTER 7. WATER CONSERVATION IN LANDSCAPING

SEC. 86.701. PURPOSE.

The State Legislature determined in the Water Conservation in Landscaping Act (the "Act"), Government Code sections 65591 et seq., that the State's water resources are in limited supply. The Legislature also recognized that while landscaping is essential to the quality of life in California, landscape design, installation, maintenance and management must be water efficient. Consistent with the Legislature's findings the purpose of this chapter is to:

(a) Promote the values and benefits of landscaping practices that promote the conservation and efficient use of water in a manner at least as effective as the Act and implementing Regulations.

(b) Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and projects with modified landscapes.

(c) Promote the use, when available, of tertiary treated recycled water and graywater for irrigating landscaping.

(d) 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.

(e) Encourage proper planning, design, installation, management, and maintenance of landscapes that will achieve the conservation and efficient use of water in landscapes by:

(1) Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and aesthetic benefits.

(2) Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas.

(3) Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment.

2

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

(4) Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion.

(5) Protecting existing habitat and promoting the creation of new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants, utilizing integrated pest management with least toxic methods as the first course of action.

SEC. 86.702. DEFINITIONS.

The following definitions shall apply to this chapter:

(a) "Aggregate" means the sum total of landscaped areas on a given parcel.

(b) "Applied water" means the portion of water supplied by the irrigation system to the landscape.

(c) "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 sensor data.

(d) "Building permit" means a permit issued by the County Building Department authorizing the permit holder to among other things, erect, construct, enlarge, alter, repair or improve a building or structure.

(e) "Certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other accredited certification program.

(f) "Common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 4100.

(g) "Cool season grass" means a type of grass that remains green in the winter months.

(h) "Developer" includes the owner of a project and the owner's partners, associates, employees, consultants, trustees or agents or any other persons who have any other business or financial relationship with the owner.

(i) "Director of PDS" means the Director of Planning & Development Services or anyone whom the Director has appointed or hired to administer or enforce this chapter.

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

(j) "Discretionary permit" means any permit requiring a decision making body to exercise judgment prior to its approval, conditional approval or denial. Projects with conceptual landscape plans approved during discretionary review shall be conditioned to submit a final Landscape Documentation Package.

(k) "Established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

(l) "Establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas may need three to five years for establishment, and trees, irrigated with a separately valved system, may require a minimum of five years.

(m) "Estimated total water use" (ETWU) means the estimated total water use in annual gallons per year for a landscaped area.

(n) "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 water requirements and irrigation efficiency, which are two major influences on the amount of water that is required for a healthy landscape. The ETAF for new and existing non-Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-modified landscapes is 0.8.

(o) "Evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period.

(p) "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.

(q) "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.

(r) "Graywater" means untreated wastewater that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs.

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

(s) "Grading" means any importation, excavation, movement, loosening or compaction of soil or rock.

(t) "Hardscape" means any durable surface material, pervious or non-pervious.

(u) "Hydrozone" means a portion of the landscape area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

(v) "Initial Outdoor Water Use Authorization" is achieved at time of Landscape Documentation Package approval, and prior to installation and submittal of the Certificate of Completion. This allows a property owner to proceed with installation of the landscape prior to final Outdoor Water Use Authorization being granted. This also allows those applicants utilizing the Outdoor Water Use Application Using Prescriptive Compliance Option form to install landscaping prior to submittal of the Certificate of Completion (Prescriptive Compliance Option). Single-family tract homes will be issued Initial Outdoor Water Use Authorization to the developer after approval of either a Landscape Documentation Package or Outdoor Water Use Application Using Prescriptive Compliance Option.

(w) "Invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and may damage environmental or economic resources.

(x) "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, soil moisture test/observation for drip and subsurface irrigation, 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.

(y) "Irrigation efficiency" means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.90 for point source drip , 0.85 for in-line emitter tubing or subsurface, 0.085 for bubblers, 0.75 for overhead rotator or precision nozzle spray devices, 0.70 for rotor, and 0.60 for all other spray nozzles.

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

(z) "Landscaped area" means all the planting areas, turf areas, and water features in a landscape design 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). A landscape area may include design features adjacent to an area with vegetation when allowed under section 86.714.

(aa) "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. Flow sensors connected to an automatic irrigation controller may also function as a landscape water meter.

(bb) "Licensed landscape contractor" means a person licensed by the State of California as a specialty contractor in the C-27 or other category, to construct, maintain, repair, install or subcontract the development of a landscape system.

(cc) "Landscape design manual" means the manual, approved by the Director of Planning & Development Services that establishes specific design criteria and guidance to implement the requirements of this chapter.

(dd) "Low head drainage" means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

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

(ff) "Major grading permit" means all grading activities requiring a grading permit from the County that are considered to be "major grading" within the scope of section 87.208 of the San Diego County Code of Regulatory Ordinances.

(gg) "Mass grading" means the movement of more than 5,000 cubic yards of soil by mechanical means to alter the topographic features of a site.

(hh) "Median" means an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

(ii) "Minor grading permit" means all grading activities requiring a grading permit from the County that are considered to be "minor grading" within the scope of section 87.206 of the San Diego County Code of Regulatory Ordinances.

APPENDIX M

WATER CONSERVATION IN LANDSCAPING ORDINANCE

(jj) "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.

(kk) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water measured in annual gallons for the established landscaped area as specified in Section 86.712. 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 = (ETo) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)].

(ll) "Modified landscape" means a deviation from an approved landscape plan, that results in a cumulative increase or decrease from the original approved plan in excess of 10 percent of the landscaped area; or, whether a landscape plan was previously approved or not, the re-landscaping of any property where the modified landscape area is 2,500 square feet or greater, requiring discretionary review or issuance of a building permit.

(mm) "Mulch" means an organic material such as leaves, bark, straw, compost or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

(nn) "New construction" means a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

(oo) "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.

(pp) "Outdoor water use authorization" is granted by the County after a Landscape Documentation Package, as per 86.707 has been approved, landscape and irrigation has been installed, and a Certificate of Completion, per Section 86. 725 has been accepted and approved. Outdoor water use authorization is granted to tract homes upon acceptance of the signed Water Use Application Using Prescriptive Compliance Option form.

(qq) "Overspray" means the water from irrigation that is delivered outside a targeted area.

(rr) "Parkway" as defined by the County's Public Road Standards, means the distance measured from the curb face, or edge of pavement where no curb is provided, to the property line of a road right-of-way. It may be planted or unplanted, and with or without pedestrian facilities.

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

(tt) "Plant factor" means a factor that when multiplied by the ETo, estimates the amount of water a plant needs. The plant factor range for very low water use plants is 0.0 to 0.1, the plant factor range for low water use plants is 0.2 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 used shall be from the publication "Water Use Classification of Landscape Species" (WUCOLS). 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).

(uu) "Point to source drip" means the application type of irrigation water with a matched precipitation rate at low pressure through a system of tubing or lateral lines with a dedicated field-installed low volume emitter or emitters at each specific plant. The distribution uniformity of this type of irrigation generally does not exceed 90 percent.

(vv) "Public water purveyor" means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

(ww) "Recreational area" 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.

(xx) "Recycled water" means waste water as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur and is regulated per Title 22 of the California Code of Regulations for various outdoor irrigation uses by either secondary or tertiary treatments.

(yy) "Reference evapotranspiration" (ETo) means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year and is an estimate of the evapotranspiration of a large field of four-inches to seven-inches tall, cool season grass that is well

watered. Reference evapotranspiration is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

(zz) "Residential landscape" means landscapes surrounding single or multifamily homes, and also includes residential structures within a mixed-use development.

(aaa) "Runoff" means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

(bbb) "Special landscaped area" means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

(ccc) "Structural BMP" means a subset of best management practices (BMP's) which detains, retains, filters, removes, or prevents the release of pollutants and control runoff discharge rates to surface waters from development projects in perpetuity, after construction of a project is completed. These BMP's can satisfy the requirements for Pollutant Control BMP's and Hydromodification BMP requirements for Priority Development Projects.

(ddd) "Submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter. Flow sensors connected to an automatic irrigation controller may also function as a landscape water meter, provided they accurately measure and record water applied to the landscape.

(eee) "Subsurface irrigation" means an irrigation device with a delivery line and water emitters installed below the soil surface that emit small amounts of water into the soil to irrigate plant roots.

(fff) "Tertiary treated recycled water" means water that has been through three levels of treatment including filtration and disinfection and meets California Code of Regulations, Title 22 standards for use as outdoor irrigation.

(ggg) "Transitional area" means a portion of a landscaped area that is adjacent to a natural or undisturbed area and is designated to insure that the natural area remains unaffected by plantings and irrigation installed on the property.

(hhh) "Turf" means a groundcover surface of cool season or warm season mowed grass. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue and tall fescue are cool season grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysias grass and buffalo grass are warm season grasses.

(iii) "Water conserving plant species" means a plant species identified as having a very low or low plant factor.

(jjj) "Water feature" means a design element where open water performs an aesthetic or recreational function. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool where a public water purveyor provides water for the feature. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are used solely for water treatment or stormwater retention are not water features.

(kkk) "WUCOLS" means Water Use Classification of Landscape Species and refers to the most recent version of the Department of Water Resources publication authored by the University of California Cooperative Extension and the Department of Water Resources 2014.

SEC. 86.703. APPLICABILITY.

(a) The following projects in the unincorporated area of the County for which the County issues a building permit or a discretionary permit after the chapter's effective date shall be required to obtain an outdoor water use authorization as part of the permitting process:

(1) Any new construction where the aggregate landscaped area is 500 square feet or more.

(2) Any modified landscape that in the aggregate totals 2,500 square feet or more.

(3) A new single family residence served by a public water purveyor within the San Diego County Water Authority or the Borrego Water District. A new single family residence served by an on-site well shall require landscape review to be compliant with the landscape regulations but does not need to provide water budget calculations to a water purveyor per Section 86.711. As used in this subsection, a new single family residence does not include a single family residence that is being rebuilt after it was destroyed due to a declared natural disaster, such as a fire, earthquake, hurricane or tornado.

(4) A model home that includes a landscaped area, where the home is served by a public water purveyor within the San Diego County Water Authority or by the Borrego Water District.

(5) A project not included in categories (a)(1) through (a)(4) that requires a new minor or major grading permit and contains an area served by temporary or permanent irrigation.

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(6) A cemetery.

(b) The following projects for which the County issues a building permit or a discretionary permit may comply with the performance requirements of this ordinance, or conform to the Prescriptive Compliance Option set forth in this chapter, unless otherwise required through discretionary review to submit a Landscape Documentation Package:

(1) Any project with an aggregate landscaped area from 500 square feet to below 2,500 square feet.

(2) Any lot or parcel within a project with less than 2,500 square feet of an aggregate landscaped area that meets the Estimated Total Water Use (ETWU) requirements, found in Section 86.713 entirely with treated or untreated graywater, or through stored rainwater captured on site. These projects need only comply with the requirements of Section 86.722(a)(5) & (6).

(c) The following projects shall be exempt from the requirements of this chapter:

(1) A registered local, State or federal historical site, based on a determination by the Director of Planning & Development Services (Director of PDS) in consultation with the County Archeologist.

(2) An ecological restoration project that does not require a permanent irrigation system.

(3) A mined land reclamation project that does not require a permanent irrigation system.

(4) Existing plant collections included in a botanical garden or arboretum that is open to the public.

(d) Sections 86.728(a) and 86.729 shall apply to the owners and occupants of all property in the unincorporated area of the County, whether or not the property is subject to a water use allocation. Existing landscape projects that were installed before the effective date of this chapter where the landscape area is greater than one acre shall also be subject to section 86.730(b).

SEC. 86.704. OUTDOOR WATER USE AUTHORIZATION.

(a) No person who constructs a project subject to sections 86.703(a) and (b) shall use water for irrigation or a water feature without the authorization required by this chapter.

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(b) A person constructing a project subject to sections 86.703(a) and (b) shall obtain a water use authorization to provide water to a landscaped area as follows:

(1) A person applying for a building permit shall obtain a water use authorization from the County as part of the permitting process.

(2) A person applying for a discretionary permit shall submit a landscape concept plan with the discretionary permit application. As used in this chapter, a landscape concept plan means a drawing of the site where the project will be located that includes a representation of the site features, proposed plantings areas and the proposed method and type of irrigation.

(3) A person issued a discretionary permit shall obtain a water use authorization as part of the permitting process for each building permit or for each project segment that requires installation of a water meter or connection to an existing water meter.

(c) A water use authorization issued by the County shall establish the allowed MAWA for property on which a project that is subject to this chapter is located.

(d) Once the County establishes the MAWA for a property, no person shall exceed the MAWA on that property, unless the County agrees to modify the MAWA, as provided in section 86.724.

(e) Any person may examine the water use authorization establishing the MAWA for a property at the Department of Planning & Development Services during normal business hours.

SEC. 86.705. ADMINISTRATION, ENFORCEMENT AND LANDSCAPE MANUAL.

(a) The Director of PDS shall administer and enforce this chapter, except that the Director of PDS may refer an application for a water use authorization to the Director of Public Works, Director of Parks and Recreation or the Director of General Services for processing.

(b) The Director of PDS shall prepare a landscape design manual that provides guidance to applicants on how to comply with the requirements of this chapter. The manual shall also provide guidance for a person with an existing landscaped area on how to increase water use efficiency and avoid wasting water.

SEC. 86.706. NEW DEVELOPMENT PROJECTS WITH LIMITED LANDSCAPING.

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An applicant for a building permit for a new single family residence or non-residential project subject to this chapter where the aggregate landscaped area of the project is greater than 500 square feet but less than 2,500 square feet shall, as a condition of obtaining a building permit, submit a Landscape Documentation Package or a landscape plan compliant with the Prescriptive Compliance Option in this chapter. The application process shall include establishing a MAWA for the project.

SEC. 86.707. LANDSCAPE DOCUMENTATION PACKAGE.

(a) Except as otherwise provided, an applicant for a building permit for a project described in section 86.703(a) shall submit a Landscape Documentation Package with the permit application.

(b) An applicant for a building permit for a project described in section 86.703(b) is eligible to conform to the Prescriptive Compliance Option specified in this chapter in lieu of submitting a Landscape Documentation Package.

(c) The Landscape Documentation Package required by subsection (a) shall contain the following:

(1) A project description that includes the date, project applicant, project location identified by address or parcel/lot number, total landscaped area in square feet, project type (e.g., new, modified, public, private, cemetery), water supply type (e.g., potable, recycled, well, graywater), checklist of all documents included in the Landscape Documentation Package, and project contacts for the applicant and property owner if different.

(2) A soil management report that complies with section 86.708 that analyzes soil composition within each landscaped area of the project.

(3) A landscaping and irrigation plan that complies with section 86.709 that describes the landscaping and irrigation for the project.

(4) A water efficient landscape worksheet that complies with section 86.711 that calculates the MAWA and the ETWU for the project.

(5) A grading design plan that complies with section 86.710 that describes the grading of the project.

SEC. 86.708. SOIL MANAGEMENT REPORT.

(a) The soil management report shall contain the following information:

(1) An analysis completed by a properly certified or accredited laboratory using accepted industry protocol. The analysis shall be of the soil for the proposed landscaped areas of the project that includes information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent organic matter.

(2) Recommendations about soil amendments that may be necessary to foster plant growth and plant survival in the landscaped area using efficient irrigation techniques.

(b) When a project involves mass grading of a site the applicant shall submit a soil management report that complies with subsection (a) above with the Certificate of Completion required by section 86.725.

(c) In projects with multiple landscape installations (i.e., production home developments) a soil sampling rate of 1 in 7 lots or approximately 15 percent will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots. Mass grading projects shall provide a soil sampling test for every 25,000 square feet of area graded.

SEC. 86.709. LANDSCAPING AND IRRIGATION PLAN.

(a) The landscaping and irrigation plan shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a landscape and irrigation plan may prepare their own plans, or have a licensed landscape contractor prepare the landscaping and irrigation plan if the homeowner has contracted with that contractor to install the landscaping and irrigation pursuant to the plan. Property owners may also prepare plans and specifications for any property owned by that person.

(b) The landscaping and irrigation plan shall contain the following information in addition to any other information required to be shown by 23 California Code of Regulations sections 492.6 and 492.7:

(1) A list of all vegetation by common and botanical plant name which exists in the proposed landscaped area. The plan shall state what vegetation will be retained and what will be removed.

(2) A list of all vegetation by common and botanical plant name which will be added to each landscaped area. The plan shall include the total quantities by container size and species. Provide the plant factor for each species on the list as per WUCOLS. If the applicant intends to plant seeds, the plan shall describe the seed mixes and applicable germination specifications.

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(3) A detailed description of each water feature that will be included in the landscaped area.

(4) The plan shall be accompanied by a drawing showing on a page or pages, delineating each hydrozone and specifying each as very low, low, moderate, high water or mixed water use; the specific location of all vegetation, retained or planted; the plant spacing and plant size; natural features that were created by natural processes; water features and hardscape areas. The drawing shall include a legend listing the common and botanical plant name of each plant shown on the drawing, including the species' plant factor.

(5) The location, type and size of all components of the irrigation system that will provide water to the landscaped area, including the controller, water lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, landscape water meters, and backflow prevention devices.

(6) The static water pressure at the point of connection to the public water supply and the flow rate in gallons, the application rate in inches per hour and the design operating pressure in pressure per square inch for each station. If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required.

(7) The MAWA for the plan, including the calculations used to determine the MAWA. The calculations shall be based on the formula in section 86.712 and the Water Efficient Landscape Worksheet.

(8) The ETWU for the plan, including the calculations used to determine the ETWU. The calculations shall be based on the formula in section 86.713 and the Water Efficient Landscape Worksheet.

(9) A statement signed under penalty of perjury by the person who prepared the plan that provides, "I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation Regulations, in Title 8, Division 6, Chapter 7 of the San Diego County Code of Regulatory Ordinances. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water."

(c) The landscape and irrigation plan shall be designed to include all mandatory elements specified by 23 Code of California Regulations sections 492.6 and 492.7 and such additional or alternative requirements as follows:

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(1) All plants shall be grouped in hydrozones and the irrigation system shall be designed to deliver water to hydrozones based on the moisture requirements of the plant grouping. A hydrozone may mix plants of moderate and low water use, and mix plants of high water use with plants of moderate water use, but no high water use plants shall be allowed in a low water use hydrozone. A high water use hydrozone may, however, provide for some low water use plants if the low water use plants are of a type that are likely to thrive and flourish with the additional water. The plan shall also demonstrate how the plant groupings, based on site location, slope, sun exposure, soil conditions, and plant types, accomplish the most efficient use of water.

(2) The irrigation system shall be designed to prevent standing water and any condition such as runoff, overspray and low-head drainage where irrigation water flows or sprays onto areas not intended for irrigation. The plan shall also demonstrate how grading and drainage techniques, such as avoidance of soil compaction in landscape areas, avoidance of disrupting natural drainage patterns and undisturbed soil, and grading to allow all irrigation and normal rainfall to remain within the property lines will promote healthy plant growth and prevent standing water, erosion and runoff.

(3) The plan shall provide for use of mulch as follows:

(A) A minimum three inch layer of mulch shall be applied on all exposed soil surfaces in each landscaped area except in turf areas, creeping or rooting ground covers or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5 percent of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

(B) Stabilizing mulch shall be applied on slopes that meet current engineering standards.

(C) The mulching portion of a seed/mulch slurry in hydro-seeded applications shall comply with subsection (B) above.

(D) Highly flammable mulch material, such as straw or small or mini size wood chips, shall not be used in a "Hazardous Fire Area," as that term is defined in the County Fire Code. Inorganic mulches such as decomposed granite, gravel, or rocks may be used instead.

(E) Organic mulch materials made from recycled or post-consumer products/materials shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally

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available. Organic mulches are not required where prohibited by County Fire Code.

(4) The plan shall identify the type and amount of mulch for each area where mulch is applied.

(5) On a project other than a single family residence, the plan shall identify recreational areas.

(6) The plan shall identify areas permanently and solely dedicated to edible plants.

(7) The plan shall identify each area irrigated with recycled water, gray water and other non-potable water.

(8) The plan shall identify soil amendments and their type and quantity.

(A) Prior to the planting of any materials (unless contraindicated by the soils report or in the case of native vegetation, as approved by the Director of PDS) compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

(B) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.

(C) To meet the requirements of (A) above, all landscaped areas, except those described in (B) above, shall install-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 percent organic matter in the top 6 inches of soil are exempt from adding compost and tilling.

(9) The plan shall demonstrate that landscaping when installed and at maturity will be positioned to avoid obstructing roadway users' (e.g., motorists', bicyclists', pedestrians', and equestrians') views of pedestrian crossings, driveways, roadways and other vehicular travel ways, traffic signs, and traffic signals. Sight distance lines, as provided by a California registered Civil Engineer using the sight distance requirements defined in the County Public Road Standards, shall be shown on the plans. If the landscaping will require maintenance to avoid obstructing roadway users' views, the plan shall describe the maintenance and the frequency of the proposed maintenance. The plan shall demonstrate that landscaping when planted and at full maturity shall not obscure sight distance for all roadway users. The plan shall also be compliant with requirements defined in the Landscape Architecture chapter of the most current Caltrans Highway Design Manual.

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(10) The plan shall avoid the use of landscaping with known surface root problems adjacent to a sidewalk and paved area, unless the plan provides for installation of root control barriers or other appropriate devices to control surface roots. Trees shall be planted a minimum of 24 inches from sidewalk. Root barriers are required when used in parkways with landscaped areas less than 3 feet in width and where specified.

(11) The plan shall provide that any slope greater than 25 percent will be irrigated with an irrigation system with an application rate of 0.75 inches per hour or less to prevent runoff and erosion. As used in this chapter, 25 percent grade means one foot of vertical elevation change for every four feet of horizontal length. An applicant may employ an alternative design if the plan demonstrates that no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(12) Installation of irrigation mainlines under paved areas within the public right-of-way shall be avoided. When approved, the plan shall provide that all wiring and piping under a paved area that a vehicle may use, such as a parking area, driveway or roadway, will be installed inside a PVC sleeve pipe.

(13) The plan shall provide that irrigation piping and irrigation devices that deliver water, such as sprinkler heads, shall be installed below grade using swing joints or other riser-protection components if they are within 24 inches of a vehicle or pedestrian use area. The Director of PDS may allow on-grade piping where landform constraints make below grade piping infeasible.

(14) The plan shall provide that only drip, drip line, or other low flow non-spray technology shall be use to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area. The setback may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material.

(15) The plan shall provide that plants in a transitional area consist of a combination of site adaptive and compatible native and non-native species. The plan shall also provide that no invasive plant species shall be introduced or tolerated in a transitional area. The irrigation in a transitional area shall be designed so that no overspray or runoff shall enter an adjacent area that is not irrigated.

(16) The plan shall demonstrate compliance with best management practices required by sections 67.801 et seq. (Watershed Protection, Stormwater Management and Discharge Control regulations), and the County's Best Management Practice's Design Manual.

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(17) The plan shall address fire safety issues and demonstrate compliance with State and County requirements for defensible space around buildings and structures and shall avoid the use of fire prone vegetation.

(18) The irrigation system shall provide for the installation of an easily accessible manual shutoff valve as close as possible to the water supply. Additional manual shutoff valves shall be installed between each zone of the irrigation system and the water supply.

(19) The irrigation system shall provide that irrigation for any landscaped area will be regulated by an automatic irrigation controller, along with sensors (rain, freeze, wind, etc.), appropriate to local climatic conditions, either integral or auxiliary, that will suspend or alter irrigation operation during unfavorable weather conditions.

(20) For the purpose of determining Estimated Total Water Use, average irrigation efficiency is assumed to be 0.90 for point source drip, 0.85 for in-line emitter tubing or subsurface, 0.85 for bubblers, 0.75 for overhead rotator or precision nozzle spray devices, 0.75 for rotor and 0.60 for all other spray nozzles.

(d) The landscaping and irrigation plan shall describe each automatic irrigation controller the system uses to regulate the irrigation schedule and whether it is an evapotranspiration (weather based) system or moisture detection system, utilizing non-volatile memory. The plan shall depict the location of electrical service for the automatic irrigation controller or describe the use of batteries or solar power that will power valves or an automatic irrigation controller.

(e) Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 square feet or more and all residential irrigated landscapes of 5,000 square feet or greater. A landscape water meter may be either:

(1) a customer service meter dedicated to landscape use provided by the local water purveyor; or

(2) a privately owned meter or submeter.

(f) Flow sensors that detect high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes of 5,000 square feet 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) 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.

(i) Soil moisture probes shall be located in the bottom and the toe of side slopes of all vegetated storm water detention basins to ensure that the irrigation controller does not activate those valves irrigating these areas during periods of inundation.

(j) Areas less than 10 feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

SEC. 86.710. GRADING DESIGN PLAN.

(a) The grading design plan shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a grading design plan may prepare their own plans, or have a licensed landscape contractor prepare the grading design plan if the homeowner has contracted with that contractor to do the work covered by the plan. Property owners may prepare Grading Design Plans and specifications for any property owned by that person. Grading Plans required per the County's Grading Ordinance will satisfy these requirements, but shall be prepared by a California licensed civil engineer. The grading design plan shall comply with following requirements:

(1) The grading on the project site shall be designed for the efficient use of water by minimizing soil erosion, runoff and water waste, resulting from precipitation and irrigation.

(2) The plan shall show the finished configurations and elevations of each landscaped area including the height of graded slopes, the drainage pattern, pad elevations, finish grade and any stormwater retention improvements. All Structural BMP's shall be labeled.

(3) The Grading Design Plan shall demonstrate grading has been designed to avoid obstructing roadway users' (e.g., motorists', bicyclists', pedestrians', and equestrians') views of pedestrian crossings, driveways, roadways, other vehicular travel ways, traffic signs, and traffic signals. Sight distance lines, as provided by a California registered Civil Engineer using the sight distance requirements defined in the County Public Road Standards, shall be shown on the plans as applicable.

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(b) If the project applicant has submitted a grading plan with the application for the project the Director of PDS may accept that grading plan in lieu of the grading design plan required by this section, if the grading plan complies with subsection (a) above.

SEC. 86.711. WATER EFFICIENT LANDSCAPE WORKSHEET.

The Water Efficient Landscape Worksheet in Appendix B to Title 23 California Code of Regulations section 429.4 shall be submitted with the Landscape Documentation Package. The worksheet shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a water efficient landscape worksheet may prepare their own worksheet, or have a licensed landscape contractor prepare the water efficient worksheet if the homeowner has contracted with that landscape contractor to install the landscaping and irrigation covered by the plan for which the worksheet was prepared. Property owners may also prepare worksheets for any property owned by that person. The water efficient worksheet shall contain all of the following:

(a) Information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas.

(1) The ETAF for a landscape project is based on the plant factors and irrigation methods selected, and when applied to reference evapotranspiration, a factor adjusts for plant water requirements and irrigation efficiencies.

(2) The MAWA is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and shall be expressed in annual gallons.

(3) The Estimated Total Water Use is calculated based on the plants used and irrigation method selected for the landscape design. ETWU shall be expressed in annual gallons and must be below the MAWA.

(b) Water budget calculations shall adhere to the following requirements:

(1) The plant factor used shall be from WUCOLS, or may be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources. The

plant factor ranges from 0 to 0.1 for very low water use plants, 0.2 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants and from 0.7 to 1.0 for high water use plants. If plants within a hydrozone have different water use requirements the hydrozone category shall be determined using the highest water using plant. Any plant may be selected for the landscape providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance.

(2) Temporarily irrigated areas shall be included in the low water use hydrozone. Temporarily irrigated as used in this chapter means the period of time when plantings only receive water until they become established.

(3) The surface area of a water feature shall be included in a high water use hydrozone unless the water feature is a pool or a spa with a durable cover. In that case, the water feature may be included in a moderate water use hydrozone. Pool and spa covers are not required but highly recommended in conserving water due to evaporation.

(4) All Special Landscape Areas shall be identified and their water use calculated as shown on the Water Efficient Landscape Worksheet. The ETAF for new and existing Special Landscape Areas shall not exceed 1.0.

(c) Budget calculations for the MAWA and the ETWU shall use the formulas in section 86.712 and section 86.713.

SEC. 86.712. MAXIMUM APPLIED WATER ALLOWANCE.

(a) A landscape project subject to this chapter shall not exceed the MAWA. The MAWA for a new landscape project shall be determined by the following calculation:

$$\text{MAWA (Annual Gallons Allowed)} = (\text{ETo})(0.62)\left[(\text{ETAF} \times \text{LA}) + ((1-\text{ETAF}) \times \text{SLA})\right]$$

(b) The abbreviations used in the equation have the following meanings:

(1) MAWA = Maximum Applied Water Allowance in gallons per year.

(2) ETo = Evapotranspiration in inches per year.

(3) 0.62 = Conversion factor to gallons per square foot.

(4) ETAF (0.55 for residential areas and 0.45 for non-residential areas).

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(5) LA = Landscaped area, exclusive of the special landscaped area in square feet.

(6) 1-ETAF = the additional ET adjustment factor for a special landscaped area

(7) SLA = Portion of the landscaped area identified as a special landscaped area in square feet.

(c) If a public water purveyor establishes a MAWA for a property that is different than the MAWA established pursuant to this chapter, the stricter MAWA shall prevail.

SEC. 86.713. ESTIMATED TOTAL WATER USE.

(a) An applicant for a project subject to this chapter shall calculate the estimated water use for each hydrozone using the following equation:

(1) ETWU (Annual Gallons Required) = ETo x 0.62 x ETAF x Area

(2) The sum of all landscaped areas shall be the ETWU for the project.

(b) The abbreviations used in the equation have the following meanings:

(1) ETWU = Estimated total water use in gallons per year.

(2) ETo = Evapotranspiration in inches per year.

(3) 0.62 = Conversion factor to gallons per square foot.

(4) ETAF = Evapotranspiration Adjustment Factor

(5) Area = Landscaped area in square feet.

(c) The ETWU for a proposed project shall not exceed the MAWA.

SEC.86.714. ADJUSTMENT TO LANDSCAPED AREA FOR NON-VEGETATED AREA.

Rock and stone or pervious design features such as decomposed granite ground cover that are adjacent to a vegetated area may be (but are not required to be) included in the calculation of the MAWA and ETWU provided the features are integrated into the design of the landscape area and the primary purpose of the feature is decorative.

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SEC. 86.715. LIMITATIONS ON USE OF WATER FEATURES.

The total of all water features for a project, except for a swimming pool or spa, shall be limited to 15 percent of the total landscaped area of the project, or as determined by the Water Efficient Landscape Worksheet. Recirculating water systems must be used for all water features. Where available, recycled water shall be used as a source of water for decorative water features.

SEC.86.716. LIMITATIONS ON USE OF TURF IN LANDSCAPED AREAS.

The following regulations shall apply to the use of turf on a project subject to this chapter:

(a) Turf shall not exceed 25 percent of the total aggregate landscaped area for single family residences and multi-family residential projects.

(b) No turf is allowed in non-residential areas unless included in a special landscape area. In multi-family residential areas turf is only allowed where it is readily useable by residents and serves more than just an ornamental function.

(c) Only subsurface irrigation or other means that produces no runoff or overspray shall be used for turf in a landscaped area where any dimension of the turf area is less than ten feet wide.

(d) Turf and all other high water use plants, characterized by a plant factor of 0.7 to 1.0 are prohibited in street medians.

(e) Turf shall not be allowed on slopes greater than 25 percent grade where the toe of the slope is adjacent to an impermeable hardscape.

(f) A ball field, park, golf course, cemetery and other similar use shall be designed to limit turf in any portion of a landscaped area not essential for the operation of the facility.

(g) No turf shall be allowed in a landscaped area if the turf cannot be irrigated without causing runoff, overspray or other wasteful water uses.

SEC. 86.717. CEMETERIES.

A person submitting an application for a Major Use Permit for a cemetery shall also submit the following:

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(a) A concept plan, as described in section 86.704(b)(2).

(b) A water efficient irrigation worksheet that calculates the MAWA for the project with the application that complies with section 86.711.

(c) A landscape and irrigation maintenance schedule that complies with section 86. 727.

SEC. 86.718. PROJECTS WITH MODEL HOMES.

A person who obtains a permit to construct a single family residential development that contains one or more landscaped model homes shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.

(a) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme.

(b) Signs shall include information about the site water use as designed per this 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.

(c) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

(d) Plans shall show the locations of all signs and provide construction details of each sign along with a copy of the specific text included on each sign.

SEC.86.719. RECYCLED WATER.

(a) A person who obtains a permit for a project that is subject to this chapter shall use recycled water for irrigation when tertiary treated recycled water is available from the water purveyor who supplies water to the property for which the County issues a permit.

(b) A person using recycled water from a public water purveyor shall install a distribution system that separates recycled water from potable water. Pipes carrying recycled water shall be purple and areas accessible to the public shall be posted with signs per the requirements of Title 22 California Code of Regulations.

(c) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-modified) Special Landscape Areas shall not exceed 1.0.

(d) This section does not excuse a person using recycled water from complying with all State and local laws and regulations related to recycled water use.

SEC. 86.720. GRAYWATER SYSTEMS.

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

(b) Graywater shall only be used for subsurface although, graywater can be discharged to the ground surface in a mulch basin as long as it remains covered with at least two inches of mulch, rock, or soil. Graywater systems may include tanks, filters, pumps, and piping for subsurface landscape irrigation through mulch basins, disposal trenches, or subsurface drip irrigation fields.

(c) Graywater can be used to irrigate fruit trees, ornamental trees, shrubs, groundcovers, and lawns. Graywater shall not be used in vegetable gardens where the food is a root crop or touches the ground surface.

(d) Graywater does not include captured rainwater.

SEC. 86. 721. STORMWATER-MANAGEMENT AND RAINWATER RETENTION.

(a) Stormwater management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementation is encouraged for stormwater best management practices in the design of landscape and grading plans in order to minimize wet weather runoff, to increase harvest and use through on-site rainwater retention and to increase infiltration.

(b) Project applicants shall refer to the local agency or Regional Water Quality Control Board for information on any applicable stormwater technical requirements. Projects shall be compliant with all applicable Fact Sheets within the County's Best Management Practice's Design Manual.

(c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration and to otherwise meet the requirements set forth in section 86.709. All Structural BMP's shall be labeled.

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(d) All landscape areas shall be designed for capture and infiltration of stormwater and non-stormwater in accordance with the Watershed Protection, Stormwater Management and Discharge Control Ordinance, San Diego County Code of Regulatory Ordinances section 67.801 et seq.

SEC. 86. 722. PRESCRIPTIVE COMPLIANCE OPTION

(a) For those projects eligible to utilize and electing to use the Prescriptive Compliance Option to comply with this chapter, the following items are mandatory and must be submitted to the Director of PDS:

(1) A Prescriptive Compliance Option Plan which includes the following elements:

(A) date

(B) project applicant

(C) project address (if available, parcel and/or lot number(s))

(D) total landscape area (square feet), including a breakdown of turf and plant material

(E) project type (e.g., new, modified, public, private, cemetery, homeowner-installed)

(F) water supply type (e.g., potable, recycled, well, graywater) and identify the local retail water purveyor if the applicant is not served by a private well

(G) contact information for the project applicant and property owner

(H) applicant signature and date with statement, "I agree to comply with the requirements of the Prescriptive Compliance Option contained in Title 8, Division 6, Chapter 7, of the San Diego County Code of Regulatory Ordinances related to water conservation in landscaping.

(2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test in which prescribed volumes of compost can be modified as approved by the Director);

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

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(A) for residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75 percent of the plant area excluding edibles and areas using recycled water; for non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100 percent of the plant area excluding edibles and areas using recycled water;

(B) a minimum three inch (3inch) 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. Prescribed depths of mulch and location may be modified as approved by the Director.

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

(A) Turf shall not exceed 25 percent of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

(5) Irrigation systems shall comply with the following:

(A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

(B) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

(C) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

(D) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

(E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014, "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must

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document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(F) Areas less than 10 feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(6) For non-residential projects with landscape areas of 1,000 square feet or more, a private submeter(s) to measure landscape water use shall be installed. Flow sensor's connected to an automatic irrigation controller may also function as a landscape water meter, provided they accurately measure and record water applied to the landscape.

(b) 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.

SEC. 86.723. INSTALLATION BEFORE FINAL INSPECTION.

A person issued an outdoor water use authorization for a project, shall install the approved landscaping and irrigation system before final inspection of the project.

SEC. 86.724. MODIFICATION OF OUTDOOR WATER USE AUTHORIZATION.

(a) A person may submit an application to modify the outdoor water use authorization required by this chapter on a form provided by the Director of PDS.

(b) An applicant requesting modification of an authorization where the total landscaped area after modification is greater than 500 square feet but less than 2,500 square feet shall comply with section 86.706.

(c) An applicant requesting modification of an authorization other than the type of project in subsection (b) above, shall comply with sections 86.707 - 86.711.

SEC. 86.725. CERTIFICATE OF COMPLETION.

All projects requiring the issuance of a water use authorization that have installed approved landscaping and irrigation, shall submit to the Director of PDS a Certificate of Completion that contains the following elements:

(a) A Certificate of Completion on a form provided by the Director of PDS within 10 days after installation, verifying that the landscaping and irrigation were installed as allowed in the approved landscape and irrigation plan, that all approved soil amendments were implemented and the installed irrigation system is functioning as designed and approved. The certificate of completion shall be signed under penalty of perjury by the person to whom the water use authorization has been issued and by a California licensed, landscape architect, civil engineer or architect. Where the water use authorization has been issued to a single family homeowner who either hired a licensed landscape contractor to install the landscaping and irrigation, or installed it themselves, the certificate shall be signed under penalty of perjury by the homeowner and the contractor, or by the homeowner if installed by them. Property owners who designed and installed landscape on their own property shall also be required to sign certificates.

(b) An irrigation schedule that complies with section 86.726 that describes the irrigation times and water usage for the project

(c) A landscape and irrigation system maintenance schedule that complies with section 86.727.

(d) A soil management report that complies with section 86.708 if the applicant did not submit the report with the landscape documentation package.

(e) For new construction and modified landscape projects installed after the effective date of this ordinance, as described in Section 86.703:

(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion that shall include, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, soil moisture test/observation for drip and subsurface irrigation, 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.

SEC. 86.726. IRRIGATION SCHEDULE.

The irrigation schedule required by section 86.725 shall be prepared by a California licensed, landscape architect, civil engineer, architect, landscape contractor, or property owner and provide the following information:

(a) A description of the automatic irrigation system that will be used for the project.

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(1) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes. A copy shall be provided with the submittal of the Certificate of Completion to verify compliance.

(b) The time period when overhead irrigation will be scheduled and confirm that overhead irrigation shall only be used during the shorter of the following two intervals; 1) between 8:00 p.m. and 10:00 a.m., or 2) any more restrictive period mandated by a public water purveyor.

(c) 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.

(d) The parameters used for setting the irrigation system controller for watering times for:

(1) The plant establishment period.

(2) Established landscaping.

(3) Temporarily irrigated areas.

(4) Different seasons during the year.

(e) The parameters used for each station for the following factors:

(1) The days between irrigation.

(2) Station run time in minutes for each irrigation event, designed to avoid runoff.

(3) Number of cycle starts required for each irrigation event, designed to avoid runoff.

(4) Amount of water to be applied on a monthly basis.

(5) The root depth setting.

(6) The plant type setting.

(7) The soil type.

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(8) The slope factor.

(9) The shade factor.

(10) Application rate setting.

(11) Irrigation uniformity or efficiency setting.

SEC. 86.727. LANDSCAPING AND IRRIGATION MAINTENANCE.

(a) A person using water under a water use authorization that the County issued pursuant to this chapter shall maintain the landscaping and irrigation on the property to ensure compliance with the MAWA.

(b) A property owner using water on property subject to a water use authorization shall prepare a regular maintenance schedule for the landscaping and irrigation on the project. The schedule shall provide for, but not be limited to: (1) routine inspections to guard against runoff and erosion and detect plant or irrigation system failure (2) replacement of dead, dying and diseased vegetation, (3) eradication of invasive plant species in transitional areas, (4) auditing, repairing and adjusting the irrigation system and its components when necessary, (5) replenishing mulch, topdressing with compost (6) soil amendment when necessary to support and maintain healthy plant growth, (7) fertilizing, pruning, weeding and mowing and, (8) aerating and dethatching turf areas, (9) maintenance to avoid obstruction of motorists' view. The schedule shall also identify who will be responsible for maintenance and include emergency contact information.

(c) A person who uses water pursuant to a water use authorization shall maintain the irrigation system to meet or exceed an average irrigation efficiency of 0.75.

(d) A person who replaces broken or malfunctioning irrigation system components shall replace the components with the same materials or their equivalent, or with components with greater efficiency, however, the precipitation/application rates shall remain matched on any given valve.

(e) A person who replaces vegetation shall replace it with plantings that are representative of the hydrozone in which the plants were removed and shall be typical of the water use requirements of the plants removed provided that the replaced vegetation does not result in mixing plants contrary to the requirements of this chapter.

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(f) A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

SEC. 86.728. PROHIBITION ON WASTING WATER AND EXCEEDING THE MAXIMUM ALLOWED WATER ALLOWANCE

(a) No person who owns or occupies property in the unincorporated area of the County shall use water for irrigation that due to runoff, low head drainage, overspray or other similar condition, results in water flowing onto adjacent property, non-irrigated areas, structures, walkways, roadways or other paved areas. This section is not intended to apply to circumstances beyond the control of the property owner or other person in possession of the property.

(b) No person whose property is subject to an outdoor water use authorization pursuant to this chapter shall exceed the MAWA for the property.

(c) A person who violates subsections (a) or (b) above shall be subject to the Administrative Citation Procedures in sections 18.101 et seq. of this code.

(d) The County may also obtain an injunction against a person who continues to violate subsections (a) or (b) after receiving a warning of an Administrative Citation pursuant to section 18.103.

SEC. 86.729. COUNTY'S RIGHT TO INSPECT.

Whenever the County has reasonable grounds to believe that a person is violating section 86.728 the County may inspect the property and any irrigation system or water feature on the property. If a person refuses to consent to an inspection the County may obtain an inspection warrant pursuant to Code of Civil Procedure sections 1822.50 et seq. No person shall interfere with a County inspector conducting an inspection authorized by this chapter.

SEC. 86.730. OUTDOOR WATER USE AUDIT.

(a) The County may randomly audit outdoor water use on any property for which it issued a water use authorization pursuant to this chapter to determine compliance with the authorization. A person who owns or occupies property subject to a water use authorization, shall be deemed to consent to the audit of outdoor water use if the person engages in outdoor water use on the property.

(b) The County may also analyze, survey and audit outdoor water use using methods described in 23 California Code of Regulations sections 490 et seq., on an existing landscape project where the landscaped area exceeds one acre and the County has reasonable grounds to believe that due to irrigation runoff, low head

drainage, overspray or other similar condition, water is flowing onto adjacent property, non-irrigated areas, structures, walkways, roadways or other paved areas of the project.

SEC. 86.731. FEES.

An applicant for a project subject to this chapter shall include with the application, all fees established by the Board of Supervisors to cover the County's costs to review an application, any required landscape documentation package and any other documents the County reviews pursuant to the requirements of this chapter.

SEC. 86.732. APPEAL

A person whose application for a water use authorization, modification of a water use authorization, or Certificate of Completion is denied may appeal the denial to the Planning Commission by making a written request for the appeal to the Director of PDS within 10 days of the denial. The Planning Commission shall consider the matter within 45 days after the appeal is file. The 45 day period may be extended upon written consent of the appellant. The Planning Commission's decision shall be final.

Section 3. This ordinance shall take effect and be in force thirty days after its passage, and before the expiration of fifteen days after its passage, a summary hereof shall be published once with the names of the members of this Board voting for and against it in the Daily Transcript, a newspaper of general circulation published in the County of San Diego.

Approved as to form and legality
County Counsel

By: Thomas Bosworth, Senior Deputy

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PASSED, APPROVED, AND ADOPTED by the Board of Supervisors of the County of San Diego this 27th day of April, 2016.

RON ROBERTS
Chairman, Board of Supervisors
County of San Diego, State of California

The above Ordinance was adopted by the following vote:

AYES: Cox, Jacob, D. Roberts, R. Roberts, Horn

ATTEST my hand and the seal of the Board of Supervisors this 27th day of April, 2016.

DAVID HALL
Clerk of the Board of Supervisors

By _____
Elizabeth Miller, Deputy

Ordinance No. 10427 (N.S.)

04/27/16 (6)

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ADDITIONAL RESOURCES

Federal

U.S. Environmental Protection Agency "Watersense" Labeled Auditing Program: https://www3.epa.gov/watersense/outdoor/cert_programs.html

State

California Civil Code Section 4100: http://www.davis-stirling.com/MainIndex/Statutes/CivilCode4100/tabid/3685/Default.aspx

California Department of Water Resources: http://www.water.ca.gov/

California Irrigation Management Information System (CIMIS): http://www.cimis.water.ca.gov/

California Plumbing Code (Title 24, Part 5, Chapter 16A,Part 1): http://www.hcd.ca.gov/codes/state-housing-law/graywater_emergency.html

Executive Order B-29-15 issued April 1, 2015 by Governor Edmund G. Brown Jr: http://gov.ca.gov/docs/4.1.15_Executive_Order.pdf

Landscape Architecture Chapter of Caltrans Highway Design Manual: http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp0900.pdf

Regional Water Quality Control Board: http://www.waterboards.ca.gov/sandiego/

States' Model Water Efficient Landscape Ordinance codified at 23 California Code of Regulations sections 490 et. seq.: https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I55B69DB0D45A11DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=%28sc.Default%29

Water Conservation in Landscaping Act, Government Code sections 65591 et. seq.: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=65591-65599

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ADDITIONAL RESOURCES

County Regulations and Guidelines

County of San Diego's Best Management Practices' Design Manual: http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/DevelopmentandConstruction/BMP_Design_Manual.html

County of San Diego's Building Department: http://www.sandiegocounty.gov/content/sdc/pds/bldg.html.

County of San Diego's Department of Environmental Health: http://www.sandiegocounty.gov/content/sdc/deh.html

County of San Diego's Grading Ordinance: http://www.sandiegocounty.gov/dpw/land/landpdf/gradingordinance.pdf

County of San Diego's Landscape Ordinance: http://www.sandiegocounty.gov/pds/Landscape-Ordinance_Design_Review_Manual.html

County of San Diego's Low Impact Development Manual: http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html

County of San Diego's Public Road Standards: http://www.sandiegocounty.gov/content/dam/sdc/dpw/COUNTY_ROADS/roadspdf/pbrdstds.pdf

County of San Diego's Watershed Protection Ordinance: http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/ordinance.html

Fire Code: http://www.sdcounty.ca.gov/dplu/docs/2009_Consolidated_Fire_Code.pdf

Grading Ordinance: http://www.sandiegocounty.gov/dpw/land/landpdf/gradingordinance.pdf

Groundwater Ordinance: http://www.sdcounty.ca.gov/dplu/docs/GROUNDWATER-ORD.pdf

Low Impact Development Handbook: http://www.sandiegocounty.gov/content/dam/sdc/dpw/WATERSHED_PROTECTION_PROGRAM/susmppdf/lid_handbook_2014sm.pdf

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ADDITIONAL RESOURCES

Environmental

Gray Water: http://www.water.ca.gov/wateruseefficiency/docs/graywater_guide_book.pdf

Invasive Plants:

California Invasive Plants Council: http://www.cal-ipc.org/

Los Angeles Regional Guide to Invasive Plants: http://watershedhealth.org/weedwatch/home.html

Irrigation:

Drip Tutorial: http://www.irrigationtutorials.com/dripguide.htm

Irrigation Tutorial: http://www.irrigationtutorials.com/

Plants:

California Native Plant Society (San Diego): http://www.cnpssd.org/

California Plants Database: http://www.calflora.org/

USDA Plants Database: http://plants.usda.gov/

Water Conservation Garden at Cuyamaca College: http://www.thegarden.org/

Soil:

Building Soil: http://www.buildingsoil.org/

Sustainable Gardens:

http://www.plantsoup.com/

http://www.sunset.com/garden/climate-zones/sunset-climate-zones-california-nevada-00400000036331/

Water Conservation:

California Landscape Contractors Association (San Diego): http://www.clcasandiego.org/http://

www.bewaterwise.com/

Irrigation Essentials: http://irrigationessentials.com/

Landscape Watering Calculator: http://www.bewaterwise.com/calculator.html

Organizations

American Society of Landscape Architects (San Diego): http://www.asla-sandiego.org/

Offstreet Parking Manual: http://www.sdcounty.ca.gov/dplu/docs/Offstreet_Parking_Manual.pdf

Stormwater: http://www.co.san-diego.ca.us/dpw/watersheds/business/landscape.html

University

University of California Cooperative Extension: http://cesandiego.ucanr.edu/

Water Use Classification of Landscape Species (WUCOLS): http://www.water.ca.gov/pubs/planning/guide_to_estimating_irrigation_water_needs_of_landscape_plantings_in_ca/wucols.pdf

Water Districts

San Diego County Water Authority: http://www.sdcwa.org/

Borrego Water District: http://www.borregowd.org/

Additional Resources