



THE CITY OF SAN DIEGO

## REPORT TO THE PLANNING COMMISSION

**DATE ISSUED:** May 8, 2009 **REPORT NO. PC-09-039**

**ATTENTION:** Planning Commission, Agenda of May 14, 2009

**SUBJECT:** LANDSCAPE AND WATER CONSERVATION - AN AMENDMENT TO THE LAND DEVELOPMENT CODE (PROCESS 5)

### SUMMARY

**Issue:** Should the Planning Commission recommend to the City Council approval of amendments to the Land Development Code Chapter 14, Article 2, Division 4 (Landscape Regulations) to incorporate additional water conserving requirements and standards in compliance with the State of California Water Conservation in Landscaping Act?

**Staff Recommendation:** That the Planning Commission recommend to the City Council approval of the amendments Chapter 14, Article 2, Division 4 of the Land Development Code.

**Community Planners Committee (CPC):** The Community Planners Committee will make a recommendation on this item on April 28, 2009. Their recommendation will be reported out at the May 14 Planning Commission hearing.

**Code Monitoring Team (CMT):** The Code Monitoring team will meet to make a recommendation on this item on May 13, 2009. Their recommendation will be reported out at the May 14 Planning Commission hearing.

**Additional Public Outreach:** The draft amendments to Land Development Code, Chapter 14, Article 2, Division 4 were made available for a 30- day review and comment period beginning on April 9, 2009. The draft regulations were posted to the Development Services Department's website and were also e-mailed to the City Planning and Community Investment Department's interested persons list (approximately 2,000 individuals including members of all community planning groups) and to members of the Regional Model Ordinance Working Group.

**Environmental Review:** This activity is not a "project" and is therefore not subject to CEQA pursuant to State CEQA Guidelines Section 15060(c)(3).

**Fiscal Impact Statement:** Amendments to the Land Development Code are funded as an overhead expense in the Development Services Department's budget as a part of the Land Development Code Update Program.

**Code Enforcement Impact:** As proposed, the amended regulations would not result in an impact on Neighborhood Code Enforcement.

**Housing Impact Statement:** The proposed amendment would not affect provision of housing units.

## **BACKGROUND**

The California State Water Conservation in Landscaping Act was amended in September 2006 by AB1881. The amended Act requires the State Department of Water Resources (DWR) to prepare and submit to the Legislature a report and a Model Water Efficient Landscape Ordinance (Model Ordinance) no later than January 1, 2009. The Act requires local agencies, not later than January 1, 2010, to adopt the State Model Ordinance or other water efficient landscape ordinance that is at least as effective in conserving water as the updated model ordinance. The Act would require the City, no later than January 31, 2010, to submit to DWR a copy of the water efficient landscape ordinance adopted by the City if it chose not to adopt the State's Model Ordinance.

The "final" draft of the State Model Ordinance, dated February 9, 2009 was pending approval by the State Office of Administrative Law (OAL). On April 1, 2009 the OAL disapproved the "final" draft Model Ordinance based on issues related to the "clarity" standard, incorrect incorporation of reference materials, that the DWR rejection of some comments do not explain reasons for rejection, and for miscellaneous errors. The DWR has responded to the OAL comments, will provide an additional 15-day public review, and must resubmit the regulations to the OAL for review for approval by July 21, 2009.

Since the fall of 2006 the City of San Diego has participated in a Regional Model Ordinance Working Group. The Group is comprised of representatives from numerous stakeholder groups including, the County of San Diego, cities within San Diego County, the San Diego County Water District, water agencies, landscape professionals, the Building Industry Association, and the San Diego County Apartment Association. The group has undertaken two functions; to review and comment on the draft versions of the State Model Ordinance and to draft a regional ordinance that was at least as effective as the State Model Water Efficient Landscape Ordinance that could be adopted by local jurisdictions. The format and organization of the regional model was generally based on the San Diego County Landscape Regulations. The Regional Model Ordinance Working Group issued its last draft regional model ordinance in December 2007, realizing that the State Model Ordinance was still evolving.

The City of San Diego first adopted a Landscape Ordinance in 1986. The purpose of that ordinance was to:

...improve the appearance, quality and quantity of landscaping visible from public rights-of-way and adjacent properties".

In 1997 as part of the Land Development Code process the Landscape Regulations were expanded and a manual of Landscape Standards was created. The purpose was of the Landscape Regulations was expanded to:

...minimize the erosion of slopes and disturbed lands through revegetation; to conserve energy by the provision of shade trees over *streets*, sidewalks, parking areas, and other paving; **to conserve water through low-water-using planting and irrigation design**; to reduce the risk of fire through site design and the management of flammable vegetation ; and to improve the appearance of the built environment by increasing the quality and quantity of landscaping visible from *public rights-of-way*, private streets, and adjacent properties, with the emphasis on landscaping as viewed from *public rights-of-way*. [emphasis added]

The 1997 expanded Landscape Regulations (Chapter 14, Article 2, Division 4) and the new Landscape Standards included many water conserving requirements, mostly within the technical requirements of the Landscape Standards. Those existing standards are primarily located within sections devoted to Plant Material Guidelines and Irrigation Systems and to a lesser extent within sections devoted to Revegetation and Erosion Control and Street Rights-of-Way and Open Spaces. The Landscape Standards have recently been updated, after a noticed 30 day public review and comment period, to address the water conservation requirements of the latest draft of the Model Ordinance. Attachment 1, Comparison Matrix, identifies the State directives in AB 1881, the State's draft Model Water Efficient Landscape Ordinance response to the directive, and the City's response to the AB 1881 with proposed amendments in ~~strikeout~~/underline.

## **DISCUSSION**

The State's draft Model Ordinance is designed so that a local jurisdiction could adopt the ordinance and have within it everything needed to implement the State's Water Conservation in Landscaping Act. It includes definitions; submittal requirements; a water budget; irrigation audits; requirements for dedicated landscape irrigation meters; and requirements for irrigation plans, landscape plans, grading plans, and soil reports. The City of San Diego, currently addresses most of these issues within its Landscape Regulations, Landscape Standards, and project submittal requirements. The central components of the State's draft Model Ordinance are the water budget, landscape irrigation audits, and dedicated water meters. A ~~strikeout~~/underline of the proposed amendment to the Landscape Regulations is provided in Attachment 2.

### Water Budget

The central component of the State's draft Model Ordinance is the requirement for new and rehabilitated landscapes to comply with a maximum applied water allowance (MAWA) or a water budget. The concept is that each landscape be analyzed according to site conditions to determine the maximum amount of water that can be used yearly for landscape irrigation. A calculation using the area of landscape, the region's reference evapotranspiration rate (ET<sub>o</sub>), and an evapotranspiration rate of 0.7 or 1.0 (depending on the type of landscape area) is used to establish the water budget. The result is the maximum number of gallons per year that may be used for landscape irrigation. The state ordinance also includes calculations for determining the estimated total water use (ETWU) to assist in designing a landscape that can successfully meet the water budget. This calculation takes into account the same factors as the water budget, and also includes plant factors and hydrozones (areas planted with similar water needs that are

designated as low, medium, or high water use areas). The gallons per year identified in the ETWU cannot exceed the gallons per year in the water budget.

The State Model Ordinance establishes a two tiered system for compliance with the water budget. The water budget applies to the types of development listed in Table 1 provided that a building permit, landscape permit, a plan check, or design review is required.

**Table 1  
State Model Ordinance  
Water Budget**

Type of Development <sup>1</sup>	Landscape Area <sup>2</sup> Threshold /Requirements
Landscape in new development and rehabilitated landscapes that are part of public projects, and private development projects	<ul style="list-style-type: none"> <li>• 2,500 square feet</li> <li>• Comply with Water Budget for new construction</li> </ul>
Landscape in new development and rehabilitated landscapes that are developer-installed in single- and multi-family projects	<ul style="list-style-type: none"> <li>• 2,500 square feet</li> <li>• Comply with Water Budget for new construction</li> </ul>
Landscape in new development that are homeowner installed or homeowner-hired landscaping in single- and multi-family projects	<ul style="list-style-type: none"> <li>• 5,000 square feet</li> <li>• Comply with Water Budget for new construction</li> </ul>
Existing landscapes with dedicated landscape irrigation or mixed use water meter	<ul style="list-style-type: none"> <li>• ≥ 1 acre</li> <li>• Administer programs to meet the maximum water budget for existing landscapes</li> </ul>
Existing with landscapes without dedicated landscape irrigation meter	<ul style="list-style-type: none"> <li>• ≥ 1 acre</li> <li>• Administer programs to meet the maximum water budget for existing landscapes</li> </ul>

The City’s proposed regulations for compliance with the water budget differ from those of the draft State Model Ordinance in that the City proposal:

- Increases the number of new industrial, commercial, and multi-family projects that are subject to the water budget by reducing the landscape area threshold from 2,500 to 1,000 square feet.
- Increases the amount of common landscape area within single-family developments that are subject to the water budget by reducing the common landscape area threshold from 2,500 to 1,000 square feet, (calculated cumulatively).
- Increases the number of multi-family homeowner-installed and homeowner-hired landscaping that are subject to the water budget by reducing the landscape area threshold from 5,000 square feet to 1,000 square feet.
- Removes the water budget requirement from new single-family dwelling units.

<sup>1</sup> The water budget applies to these development types only when a building permit, landscape permit, a plan check, or design review is required.

<sup>2</sup> Landscape Area. For purposes of these regulations the landscape area means the entire premises less the area of building footprints, non-irrigated portions of parking lots, driveways, hardscapes (as defined in §113.0103 of the Land development Code), and areas designated for habitat preservation or brush management zone 2.

- Removes requirements for existing development with landscape areas greater than or equal to 1 acre.
- Removes the requirement for rehabilitated landscapes in that the City not subject to the requirement based on the State Model Ordinance definition of rehabilitated landscapes.

The proposal to increase the applicability of the water budget by reducing the landscape area thresholds achieves greater conservation. The City's proposed threshold of 1,000 square feet of landscape area will capture a greater number of common landscape areas in residential developments; and multi-family, commercial, and industrial projects than the State Model Ordinance threshold of 2,500 square feet of landscape area. The City proposal does require a water budget for all model homes as does the State Model Ordinance. Model home landscapes will be used as educational tools to demonstrate how homes can be landscaped to meet the water budget; to provide information regarding use of irrigation submeters; and to show how water efficient landscapes are designed, installed, and maintained.

The decision to remove the requirement for a water budget from new single-family residential units (except model home) is based on the amount of land remaining for new development within the City, typical single-family development types, and how new single-family homes are developed/planned.

- The City of San Diego has developed nearly all of its land that has been designated for future development. These regulations would apply to development within those remaining areas that have yet to submit for building permits. Those remaining areas designated for future development are Otay Mesa, and portions of Pacific Highlands Ranch and Black Mountain Ranch.
- The most common single-family development type in the City will be on lots of 5,000 square feet and less. These lots would not have a landscape area meeting the State Model Ordinance landscape area threshold of 2,500 square feet unless the homes were built at less than 75% of the maximum size permitted.
- Single family homes are typically planned/developed within planned developments. Developers of planned developments limit their landscape installation to common landscape areas, model homes, and in very limited instances the front yards of Single-family homes. Additionally, the City does not currently regulate landscape in single-dwelling unit development other than issues related to common landscape, street trees, and brush management. To require compliance with the water budget would require one or a combination of the following:
  - Developer installation of all landscape and irrigation (common areas and individual front and rear yards) and submittal of irrigation audits prior to occupancy by the new homeowner.
  - Developer posting a bond for each single-family unit to be released only as each homeowner submits their individual landscape plans, irrigations plans and certified irrigation audit, all within a predetermined time frame.

The State Model Ordinance requires rehabilitated landscapes comply with the water budget when 50% or more of the landscape area is re-landscaped within a one year period. The City of San Diego does not have "rehabilitated landscapes." The State Model Ordinance defines rehabilitated landscape as "any re-landscaping project that requires a permit, plan check, or design review and meets the requirements of Section 490.1" (section 490.1 is the applicability of

the water budget). The City requires no permit, plan check, or design review for re-landscaping. To do so would require the City to establish a new project submittal, review, processing, and fee schedule to cover the cost of reviewing plans for property owners that elect to re-landscape. To require this new process would add time and cost to property owners and could serve as a disincentive to re-landscaping to conserve water.

#### Landscape Irrigation Audits

The State Model Ordinance requires all projects subject to the water budget (see Table 1) to submit to the local agency an irrigation audit with a certificate of occupancy. The irrigation audit is to be prepared by a “certified landscape irrigation auditor.” The State Model Ordinance also requires that the local agency administer programs that may include, but not be limited to, water use analysis, irrigation audits, and irrigation surveys for compliance with the water budget for existing projects with landscape areas that are greater than or equal to 1 acre.

The City of San Diego accepts landscape and irrigation plans from non-professionals. Staff reviews the plans against the City’s Landscape Regulations and Landscape Standards and requires corrections as necessary for compliance. The costs associated with these reviews are covered by the applicant. Generally, plans provided by the more experienced landscape professionals require less review and corrections and result in lower review costs. The City is not proposing to review landscape and irrigation plans for compliance with the water budget and then go to the sites to conduct an audit. The City is proposing that the audits be conducted and certified by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform the work. This self-certification by State licensed professionals would reduce the need for additional staff and shifts the responsibility to the professional and their license.

The City’s proposal for audits is similar to the State Model in that projects that are subject to the water budget must submit to the City a certified irrigation audit prior to occupancy. The City however, is more restrictive in that it requires that the audit be conducted and certified by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform this work. The City is not proposing to conduct irrigation audits on development after it has accepted a certified irrigation audit. Regarding existing projects with more than 1 acre of landscaped area, the City Water Department in conjunction with the County Water Authority provides large landscape audits (> 1 acre). The “audit” is conducted to assess the efficiency of the irrigations system, identify potential leaks, and determine the proper watering schedule for the landscape based on existing plant materials. The City Water Department is also working with existing homeowners associations to provide direction on how to reduce landscape irrigation.

#### Dedicated Landscape Irrigation Meters

The Water Conservation in Landscaping Act and more specifically Section 535 of the State Water Code requires a dedicated irrigation water meter be provided for new industrial, commercial, and multi-family residential development with a landscape area equal to or greater than 5,000 square feet. The requirement does not apply to single dwelling unit development, development used for commercial production of livestock or crops, or existing development.

The City’s proposed regulations mirror those of the State Water Code. However, in addition to the requirement for a dedicated irrigation meter, the city is adding requirements for installation of irrigation submeters in projects that meet specified criteria. Table 2 identifies developments that will be required to install dedicated irrigation meters and irrigation submeters.

**TABLE 2**  
**City Proposal for Water Metering**

<b>Type of Water Meter</b>	<b>Type of Development Proposal</b>	<b>Landscape Area Threshold</b>
Dedicated Landscape Irrigation Meter	New Industrial	5,000 s.f.
	New Commercial	5,000 s.f.
	New Residential Multiple-dwelling units	5,000 s.f.
Landscape Irrigation Submeter	New Single-dwelling unit development	All
	Improvements to the following existing development that does not have a dedicated landscape irrigation meter and requires a building permit and landscape review consistent with Section 142.0402: <sup>3</sup> <ul style="list-style-type: none"> <li>• Multiple-dwelling units - common landscape area only</li> <li>• Commercial</li> <li>• Industrial</li> </ul>	$\geq 1,000$ s.f. And $\leq 5,000$ s.f.

As identified in Table 2, all new industrial, commercial and multi-family development with 5,000 square feet or more of landscape area require a dedicated irrigation water meter. These same project types with over 1,000 square feet of landscape area are required to comply with a water budget. The cost of a dedicated irrigation water meter is approximately \$16,000 to cover the cost of City water capacity, County Water Authority capacity, and installation. The City proposes that projects with less expansive landscape, between 1,000 and 5,000 square feet, install an irrigation submeter, which is installed behind the water meter that serves the development. The irrigation submeters are not proposed to be read nor billed separately by the Water Department. Instead, submeters are proposed to be used by the property owner as a tool for monitoring water use in the landscape. The cost of a submeter varies depending on the whether the construction is new (approximately \$300) or whether the development is existing (the cost varies based on the site and existing irrigation system). No capacity costs are associated with irrigation submeters.

Public Responses

Other than clarifications, and minor corrections or modifications the responses can be categorized into the issues of audits, landscape irrigation submeters, the water budget, and plant materials. A summary of the comments and staff responses can be found in Attachment 4.

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<sup>3</sup> See Attachment 3 for the projects that require a building permit and a landscape review.

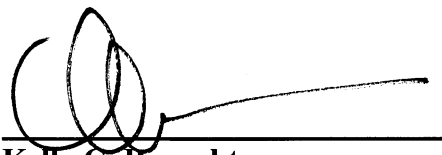
**Conclusion:**

The State Water Conservation in Landscaping Act requires the City to adopt an ordinance that is at least as effective as the State Model Ordinance. The City's existing Landscape Regulations, Landscape Standards, and landscape submittal requirements do a great deal to conserve water but need to be enhanced. In developing the proposed amendments, the City reviewed the draft State Model Water Efficiency Landscape Ordinance, the draft ordinance and design guidelines developed by the Regional Model Ordinance Working Group, and the directives of the State Water Conservation in Landscaping Act and incorporated those elements that will increase water conservation and work within the City's regulatory framework.

**Respectfully submitted,**



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**Kelly G. Broughton**  
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BROUGHTON/DJ

Attachments:

1. Comparison Matrix
2. Draft Amended Landscape Regulations
3. Projects Subject to a Building Permit and Landscape Review
4. Summary of Comments and Staff Response



**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
<p>65596(a) Include provisions for water conservation and the appropriate use and groupings of plants that are well-adapted to particular sites and to particular climatic, soil, or topographic conditions.</p>	<p><b>§492.6. Landscape Design Plan.</b> (a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package. (1) Plant Material (B) Each hydrozone shall have plant materials with similar water use. For hydrozones with plants of mixed water use, refer to Section 492.7 (a)(2)(D) for more information. (C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, and the geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended: (i) Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate. ; (ii) Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, power lines); and (iii) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.</p>	<p><b><u>Landscape Ordinance</u></b> 142.0401 - The purpose of these regulations is to... to conserve water through low-water-using planting and irrigation design; ... 142.0403 (b) Plant Materials <u>(15) Plant materials are to be grouped into hydrozones with plant species having similar water demand and by their, soil, sun, and shade requirements.</u> <u>(16) Plant material is to be selected to meet a maximum applied water allowance (MAWA) as determined by the water budget formula and specifications in Section 142.0413(d).</u> See Table 142-04F - Permanent Revegetation and Irrigation Requirements (native, naturalized, and drought tolerant planting requirements) <b><u>Landscape Standards</u></b> Introduction The Landscape Standards establish the minimum plant material, irrigation, brush management, and landscape related standards for work done in accordance with requirements of Land Development Code. They provide guidelines and alternative methods to meet regulations based on various site conditions. Additionally, the Landscape Standards provide the technical standards to create and maintain landscapes that conserve and efficiently use water. Applicants proposing landscape work should also obtain copies of the Submittal Requirements in the Land Development Manual. These establish the materials and information that must be submitted with an application for review by the City and establish applicable drafting standards for landscape drawings. 1.1 Locational Criteria 1.1-3 - Plant materials are to be grouped into hydrozones with plant species having similar water demand and by their, soil, sun, and shade requirements. 1.3 Plant Selection Criteria 1.3-1 - General Guidelines 1.3-1.01 - Preferred plants are essentially those most suited to the actual site conditions. However, there are innumerable combinations of factors affecting the selection of appropriate plants. The water needs of a plant are, however, a critical factor. For the purposes of this document, preferred plants are water conserving plants which are easily maintained and have no known history of problems. <b>Appendix 'A'</b> is a list of reference materials which discuss and identify water conserving plants. 1.3-1.02 - Acceptable plants are those which satisfy minimum</p>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
		<p>performance standards for the special site area in question and are easily maintained.</p> <p>1.3-1.06 - Plant material used adjacent to coastal bluffs shall be native or naturalized to minimize the need for irrigation beyond initial plant establishment.</p> <p>2.3 Design Standards</p> <p>2.3-13- Water Conservation Performance Standards and Requirements</p> <p>2.3-13.03 - The irrigation system shall deliver water efficiently and uniformly and shall be appropriate to the needs of the plant materials. Recommended reference materials for irrigation systems design are listed in <b>Appendix "A"</b>.</p> <p>4.1 Permanent Revegetation</p> <p>4.1-1 - Revegetation Adjacent to Native Vegetation</p> <p>4.1-1.01 - The plant palettes for transitional landscapes shall typically consist of a combination of appropriate and compatible native and nonnative species.</p> <p>4.2 Slope Revegetation Guidelines</p> <p>4.2-2 - A minimum of 50 percent of the total slope area shall be planted with deep rooting groundcovers, (i.e. those with a typical root depth of 5 feet or greater). For seeded plantings, at least 50 percent of the viable seed count shall be deep rooting species.</p> <p>4.2-3 - All the plant materials shall be appropriate to the site conditions, water conserving and appropriately spaced to control soil erosion.</p>
<p>65596(a)</p> <p>The model ordinance shall not prohibit or require specific plant species, but it may include conditions for the use of plant species or encourage water conserving plants.</p>	<p><b>§492.6. Landscape Design Plan.</b></p> <p>(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(1) Plant Material</p> <p>(A) Any plant may be selected for the landscape, providing the landscape does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:</p> <p>(i) protection and preservation of native species and natural vegetation;</p> <p>(ii) selection of water conserving plant species and turf species;</p> <p>(iii) selection of trees based on applicable local</p>	<p><b>Landscape Standards</b></p> <p>1.3 - Plant Selection Criteria</p> <p>1.3-1 - General Guidelines</p> <p>1.3-1.01 - Preferred plants are essentially those most suited to the actual site conditions. However, there are innumerable combinations of factors affecting the selection of appropriate plants. The water needs of a plant are, however, a critical factor. For the purposes of this document, preferred plants are water conserving plants which are easily maintained and have no known history of problems. <b>Appendix 'A'</b> is a list of reference materials which discuss and identify water conserving plants.</p> <p>1.3-1.02 - Acceptable plants are those which satisfy minimum performance standards for the special site area in question and are easily maintained.</p> <p>1.3-2 – Lawns</p> <p>1.3-2.01- Areas of lawn shall be minimized and concentrated where used.</p>

**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	<p>tree ordinances or tree shading guidelines; (iv)selection of plants from local and regional landscape program plant lists</p> <p>(B) Each hydrozone shall have plant materials with similar water use. For hydrozones with plants of mixed water use, refer to Section 492.7 (a)(2)(D) for more information.</p> <p>(C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, and the geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:</p> <p>(i) Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;</p> <p>(ii) Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, power lines); and</p> <p>(iii) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.</p> <p>(D) Installation of turf on slopes greater than 25% shall not be permitted where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).</p>	<p>1.3-2.02 - Lawn areas shall not exceed 10 percent of the planting area on a premises, excluding required common areas, active recreation areas, and areas located within the public right-of-way between the curb and public sidewalk. This restriction does not apply to single dwelling unit residential uses in residential zones.</p> <p>1.3-2.03 - The minimum dimension of a lawn bounded by impervious surfaces on two or more sides is 8 feet in all directions.</p> <p>1.3-2.04 - Lawn areas located on slopes, where the toe of slope is adjacent to hardscape (as defined in Section 113.0103 of the Land Development Code), shall not exceed a gradient of 25 percent (4:1).</p> <p>1.6 – Maintenance Criteria</p> <p>1.6-8 - Trees shall be selected based upon the site characteristics including soil type, soil area, drainage, and adjacent improvements. Trees selected should grow to maturity without impacts to sidewalks, curbs, and other public improvements.</p> <p>5.2 Center Island Landscaping</p> <p>5.2-4 - Turf shall not be used in medians.</p>
<p>65596(a) However, the model ordinance shall not include conditions that have the effect of prohibiting or requiring specific plant species.</p>	<p><b>§492.6. Landscape Design Plan.</b></p> <p>(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(1) Plant Material</p> <p>(F) Invasive species of plants shall be avoided especially near parks, buffers, greenbelts, water bodies, and open spaces because of their potential</p>	<p><b><u>Landscape Standards</u></b></p> <p>1.3 - Plant Selection Criteria</p> <p>1.3-1.03 - Prohibited plants are those which do not satisfy the minimum performance standards for the site area in question. In addition, there are a number of invasive species that are not allowed in any required landscape area. The use of these materials elsewhere on a site is strongly discouraged.</p> <p>4.1-1 Revegetation Adjacent to Native Vegetation Revegetation of manufactured slopes and other disturbed areas adjacent to areas of native vegetation shall be accomplished in a manner so as to</p>

**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	to cause harm to environmentally sensitive areas.	provide visual and horticultural compatibility with the indigenous native plant materials. 4.1-1.03 Invasive (i.e., those readily capable of reproducing and spreading into native, non-irrigated areas) non-native plant species including but not limited to those listed on <b>Table 1</b> are prohibited in all transitional landscapes. 4.1-1.04 Noxious weeds and invasive plants (e.g., Pampas Grass) that sprout in transition areas shall be promptly removed.
65596(b) Include a landscape water budget component that establishes the maximum amount of water to be applied through the irrigation system, based on climate, landscape size, irrigation efficiency, and plant needs.	<p><b>§ 490.1. Applicability.</b></p> <p>(a) After January 1, 2010, this ordinance shall apply to all of the following landscape projects:</p> <p>(1) new construction and rehabilitated landscapes for public agency projects and private development projects with a total project landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;</p> <p>(2) new construction and rehabilitated landscapes which are developer-installed in single-family and multi-family residential projects with a total project landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;</p> <p>(3) new construction which are homeowner-provided and/or homeowner-hired landscaping in single-family and multi-family residential projects with a total project landscape area equal to or greater than 5,000 square feet requiring a building or landscape permit, plan check or design review;</p> <p>(4) existing landscapes are limited to Section 493.1; and</p> <p><b>§492.4. Water Efficient Landscape Worksheet.</b></p> <p>(a) A project applicant shall complete the Water Efficient Landscape Worksheet which contains two sections. See sample worksheet in Appendix B.</p> <p>(1) A hydrozone information table (Section A of worksheet) for the landscape project.</p> <p>(2) A water budget calculation (Section B of worksheet) for the landscape project. For the calculation of the Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU), a project applicant shall use the ETo values</p>	<p><b>Landscape Ordinance</b></p> <p>(a) <u>Landscape Area.</u> For purpose of Section 142.0413 landscape area means the entire premises less the area of building footprints, non-irrigated portions of parking lots, driveways, <i>hardscapes</i>, and areas designated for habitat preservation or brush management zone 2.</p> <p>(d) <u>Water Conservation</u></p> <p>(1) <i>Developments</i> listed in Table 142-041 shall be subject to a water budget (maximum applied water allowance). <b>Table 142-041 Water budget Applicability (see Draft)</b></p> <p>(2) The water budget is calculated using the following formula (see Section 2.6 and Appendix E of the Landscape Standards for additional information):</p> $\text{Water Budget} = (\text{ETo})(0.62) [(0.7)(\text{LA}) + (0.3)(\text{SLA})]$ <p>Where:</p> <p><u>ETo</u> = Evapotranspiration (inches per year)</p> <p><u>0.62</u> = Conversion factor (to gallons)</p> <p><u>0.7</u> = Evapotranspiration Adjustment Factor</p> <p><u>LA</u> = Landscaped Area (square feet)</p> <p><u>SLA</u> = Special Landscape Area</p> <p>(3) <u>The irrigation system is required to be operated within the approved water budget.</u></p> <p>(4) <u>The estimated total water use, as calculated in Section 2.6 of the Landscape Standards shall not exceed the water budget as calculated in Section 142.0413(d)(2).</u></p>

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	<p>from the Reference Evapotranspiration Table in Section 495 Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same Reference Evapotranspiration Zone Map.</p> <p>(b) Water Budget Calculations shall follow the following requirements:</p> <p>(1) The plant factor used shall be from WUCOLS. The plant factor for low water use plants range from 0 to 0.3, for moderate water use plants range from 0.4 to 0.6, and for high water use plants range from 0.7 to 1.0.</p> <p>(2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in low water use hydrozone,</p> <p>(3) Special Landscape Area (SLA) shall be identified and its water use calculated as described below.</p> <p>(4) ETAF for Special Landscape Area shall not exceed 1.0 .</p> <p>(c) Maximum Applied Water Allowance (MAWA). The landscape project's Maximum Applied Water Allowance shall be calculated using this equation:  <math>MAWA = (ET_o)(0.62)[0.7 \times LA + 0.3 \times SLA]</math>                      where:                      MAWA = Maximum Applied Water Allowance (gal/yr)                      ET<sub>o</sub> = Reference Evapotranspiration Appendix A (in/yr)                      0.7 = ET Adjustment Factor                      LA = Landscaped Area includes Special Landscape Area (s.f.)                      0.62 = Conversion factor (to gallons per square foot)                      SLA = Portion of the landscape area identified as Special Landscape Area (square feet)                      0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)</p> <p>(d) Estimated Total Water Use. The Estimated Total Water Use shall be calculated using the equation below.</p>	<p><b><u>Landscape Standards</u></b></p> <p>1.3 - Plant Selection Criteria</p> <p>1.3-1 - General Guidelines</p> <p>1.3-1.07 - Plant material is to be selected to meet a maximum applied water allowance (MAWA) as determined by the water budget formula and specifications in Section 2.6.</p> <p>2.1 - General Requirements</p> <p>Irrigation systems shall be designed, constructed, and managed to maximize overall irrigation efficiency within the limits established by the maximum applied water allowance. The following standards establish the minimum requirements for irrigation systems.</p> <p>2.1-5 - Irrigation systems (valve systems, piping and pressure regulators) shall be designed to deliver water to hydrozones based on the moisture requirements of the plant grouping.</p> <p>2.3 – Design Standards</p> <p>2.3-13 - Water Conservation Performance Standards and Requirements</p> <p>2.6 - Water Budget</p> <p>2.6-1 – Development listed in table 5 shall be subject to a Water Budget – Maximum Applied Water Allowance (MAWA):</p> <p>[Note: Table 5 contains the following:                      New industrial, commercial, or residential multiple-dwelling unit development with a landscape area<sup>1</sup> of 1,000 square feet and greater;                      Common landscape areas within a new residential single-dwelling unit development with a landscape are of 1,00 square feet; and                      Model homes.]</p> <p>2.6-2 - The following development are exempt from the requirements of Section 2.6-1</p> <p>2.6-2.01 - Cemeteries;</p> <p>2.6-2.02 - Landscape that is part of a registered historic site (local, state or federal);</p> <p>2.6-2.03 - Ecological restoration projects without permanent irrigation;</p> <p>2.6-2.04 - Botanical gardens and arboretums open to the public;</p> <p>2.6-2.05 - Mined-land reclamation projects without permanent irrigation; and</p> <p>2.6-2.06 - Any development the uses reclaimed water only for all of its landscape area.</p>

<sup>1</sup> For purposes of this calculation the landscape area means the entire premises less the area of building footprints, non-irrigated portions of parking lots, impervious hardscapes (including patios, walkways, driveways, and decks), other non-porous surfaces, water features (pools and ponds), areas designated for preservation of habitat and areas irrigated with reclaimed water.

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	<p>Estimated Total Water Use shall not exceed MAWA.  <math>ETWU = (ETo)(0.62) (PF \times HAPF / IE + SLA)</math>                      Where:                      ETWU = Estimated total water use per year (gallons)                      ETo = Reference Evapotranspiration (inches)                      PF = Plan Factor from WUCOLS (see Section 491)                      HA = Hydrozone Area [high, medium, and low water use areas] (square feet)                      SLA = Special Landscape Area (square feet)                      0.62 = Conversion Factor                      IE = Irrigation Efficiency (minimum 0.71)</p>	<p>2.6-3 - The maximum applied water allowance is calculated as follows:  <math>MAWA = (ETo)(0.62) [(0.7)(LA) + (0.3)(SLA)]</math>                      Where:                      ETo = Evapotranspiration (inches/year)(see Table 6 and the ETo Map in Appendix E)                      0.62 = Conversion factor (to gallons)                      0.7 = Evapotranspiration Adjustment Factor                      LA = Landscaped Area (square feet)(see footnote 4)                      SLA = Special Landscape Area</p> <p><b>Note:</b>                      Appendix E for calculating MAWA using hydrozones</p>
<p>65596(c)                      Promote the benefits of consistent local ordinances in neighboring areas.</p>	<p><b>Note:</b>                      Preparation of this State Model Ordinance accomplishes this.</p>	<p><b>Note:</b>                      This speaks to the requirement of the State Model Landscape Ordinance and is not a requirement of a local landscape ordinance.</p>
<p>65596(d)                      Encourage the capture and retention of storm water onsite to improve water use efficiency or water quality.</p>	<p><b>§492.6. Landscape Design Plan.</b>                      (b) The landscape design plan shall follow standard industry practices and applicable local agency requirements. Plans, at a minimum, shall:                      (10) location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Examples include, but are not limited to:                      (A) Infiltration beds, swales, and basins that allow water to collect and soak into the ground ;                      (B) Constructed wetlands and retention ponds that retain water, handle excess flows, and filter pollutants;                      (C) Pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete etc.) that minimize.                      (11) Rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.).</p> <p><b>§492.8. Grading Design Plan.</b>                      (a) For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading design plan shall be submitted as part of the Landscape Documentation Package.</p>	<p><b>Municipal Code</b>                      See <b>Grading Regulations</b> Chapter 14, Article 2 Division 1                      §142.0101 Purpose of Grading Regulations                      The purpose of these regulations is to address slope stability, protection of property, erosion control, water quality, and landform preservation and to protect the public health, safety, and welfare of persons, property, and the environment.</p> <p>See <b>Storm Water Runoff and Drainage Regulations</b> Chapter 14, Article 2, Division 2                      §142.0201 Purpose of Drainage Regulations                      The purpose of this division is to regulate the <i>development</i> of, and impacts to, drainage facilities, to limit water quality impacts from <i>development</i>, to minimize hazards due to <i>flooding</i> while minimizing the need for construction of <i>flood</i> control facilities, to minimize impacts to <i>environmentally sensitive lands</i>, to implement the provisions of federal and state regulations, and to protect the public health, safety, and welfare.</p> <p>See <b>Stormwater Management and Discharge Control</b> Chapter 4, Article 3, Division 3                      §43.0301 Purpose and Intent                      The purposes of this Division are to further ensure the health, safety and general welfare of the citizens of the City of San Diego by controlling Non-Storm Water Discharges to the Storm Water Conveyance System; by eliminating discharges to the Storm Water Conveyance System from</p>

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	<p>(1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:</p> <ul style="list-style-type: none"> <li>(A) height of graded slopes;</li> <li>(B) drainage patterns;</li> <li>(C) pad elevations;</li> <li>(D) finish grade; and</li> <li>(E) stormwater retention improvements.</li> </ul> <p><b>§492.15. Stormwater Management</b></p> <p>(a) Stormwater management practices will minimize runoff and increase infiltration which recharges groundwater, and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff, and to increase on-site retention and infiltration are highly recommended.</p>	<p>spills, dumping, or disposal of materials other than Storm Water; and by reducing Pollutants in urban Storm Water discharges to the maximum extent practicable.</p> <p>The intent of this Division is to protect and enhance the water quality of our watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act [Clean Water Act, 33 U.S.C. section 1251 et seq.] and National Pollutant Discharge Elimination System [NPDES] Permit No. CA0108758, as amended</p> <p><b><u>Landscape Standards</u></b></p> <p>2.3-13.12 - Alternative irrigation systems s that may be used to augment water for landscape purposes include:</p> <ul style="list-style-type: none"> <li>• Rain water harvesting may be used to augment irrigation systems provided that the systems used to harvest and store the water are designed to prevent intrusion of trash, insects, and animals.</li> </ul>
<p>65596(e)</p> <p>Include provisions for the use of automatic irrigation systems and irrigation schedules based on climatic conditions, specific terrains and soil types, and other environmental conditions.</p>	<p><b>§492.7. Irrigation Design Plan.</b></p> <p>(a) For the efficient use of water, an irrigation system shall meet all requirements listed in this section and manufacturers' specifications. The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance. An irrigation design plan meeting the following conditions design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(1) System</p> <ul style="list-style-type: none"> <li>(A) Dedicated (separate) landscape water meters shall be installed for all projects greater than 5,000 square feet, except for single family residences. Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.</li> <li>(B) Weather-based irrigation controllers or soil moisture based controllers or other self adjusting irrigation controllers, shall be required for irrigation scheduling in all irrigation systems.</li> <li>(D) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions such as rain or a freeze shall be required on all</li> </ul>	<p><b><u>Landscape Ordinance</u></b></p> <p>§142.0403 -General Planting and Irrigation Requirements</p> <p>(c) Irrigation Requirements</p> <ul style="list-style-type: none"> <li>(1) All required plant material shall be irrigated with a permanent, below-grade irrigation system unless specified otherwise in this division.</li> <li>(3) Irrigation systems shall meet the following design requirements: <ul style="list-style-type: none"> <li>(D) An approved rain sensor shutoff device is required for all systems and a moisture-sensing device that regulates the irrigation system for all lawn areas is required.</li> </ul> </li> </ul> <p>§142.0413 Water Conservation</p> <p>(d) Water Meters.</p> <ul style="list-style-type: none"> <li>(1) <u>Dedicated landscape irrigation meters shall be required in all new industrial, commercial and multiple dwelling unit development with a landscape area greater than or equal to 5,000 square feet. Except that this requirement shall not apply to commercial production of agricultural crops or livestock.</u></li> <li>(2) <u>Landscape irrigation submeters shall be required in the following developments:</u> <ul style="list-style-type: none"> <li>(A) <u>New single dwelling unit development;</u></li> <li>(B) <u>Improvements to the following existing industrial, commercial and multiple dwelling unit development when:</u> <ul style="list-style-type: none"> <li>(i) <u>The improvement requires a building permit and a landscape review as identified in Table 142-04A; and</u></li> </ul> </li> </ul> </li> </ul>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	<p>irrigation systems, as appropriate for local climatic conditions.</p> <p>(2) Hydrozone                      (A) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions and plant materials with similar water use.</p> <p><b>§492.10. Irrigation Scheduling Schedule</b></p> <p>(a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules meeting the following criteria shall be submitted with the Certificate of Completion.</p> <p>(1) Irrigation scheduling shall use automatic irrigation systems and evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations or soil moisture monitoring systems to apply the appropriate levels of water for different climates.</p> <p>(2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it</p> <p>(3) For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current ETo, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to MAWA. Actual irrigation schedules should be based on current time ETo data (e.g., CIMIS or soil moisture sensor).</p> <p>(4) Using an appropriate controller, an annual irrigation program with monthly irrigation schedules shall be developed and submitted for each of the following:                      (A) the plant establishment period;                      (B) the established landscape; and                      (C) temporarily irrigated areas.</p> <p>(5) Each Irrigation Schedule shall consider for each station all of the following that apply:                      (A) Irrigation interval (days between irrigation);                      (B) Irrigation run times (hours or minutes per</p>	<p align="center">(ii) The landscape area is between 1,000 and 5,000 square feet.</p> <p><b><u>Landscape Standards</u></b></p> <p>2.1 - General Requirements                      Irrigation systems shall be designed, constructed, and managed to maximize overall irrigation efficiency within the limits established by the maximum applied water allowance (MAWA). The following standards establish the minimum requirements for irrigation systems.</p> <p>2.1-5 - Water meters. Dedicated (separate) landscape water meters shall be installed for all new development as listed in Table 2.                      [Note: Table 2 requires dedicated water meters for New industrial, commercial, &amp; Multi-family with landscape area ≥ 5,000sf]</p> <p>2.1-6 - Submeters. A landscape irrigation submeter shall be installed development as listed in Table 2 prior to a certificate of occupancy or final inspection approval.                      [Note: Table 2 requires landscape submeters for New single-dwelling unit development; and Improvements to existing industrial, commercial and multiple dwelling units (without a dedicated landscape irrigation meter) with a landscape area between 1,000 and 5,000 s.f. that require a building permit and landscape review consistent with Section 142.0402 of the Municipal Code.]</p> <p>2.3 Design Standards</p> <p>2.3-4 - Scheduling and Circuiting</p> <p>2.3-4.01 - Each circuit shall be capable of meeting the minimum needs of the mature plant material during peak demands within a weekly irrigation schedule.</p> <ul style="list-style-type: none"> <li>• All irrigation systems shall be adjusted seasonally and as weather and plant conditions warrant.</li> <li>• Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent.</li> </ul> <p>2.3-4.02 -Lateral systems shall be divided by exposure (sun vs. shade, etc.), elevation, and by type of irrigation application equipment (drip, spray, etc.).</p> <p>2.3-4.03 -Where the plant material has differing watering needs, such as tropical vs. low water-using materials, separate systems shall be designed to give each plant-type area adequate minimum amounts of water. Where feasible trees shall be placed on separate valves from shrubs, groundcovers, and lawns.</p>



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	irrigation event to avoid runoff); (C) Number of cycle starts required for each irrigation event to avoid runoff; (D) Amount of applied water scheduled to be applied on a monthly basis; (E) Application rate setting; (F) Root depth setting; (G) Plant type setting; (H) Soil type; (I) Slope factor setting; (J) Shade factor setting; and (K) Irrigation uniformity or efficiency setting	2.3-5 - Control Systems 2.3-5.01 - Automatic control systems shall accommodate all aspects of the design, including multiple schedules, repeat cycles, and moisture sensing and rain sensing override devices as required. 2.3-5.02 - Control mechanisms for moisture-sensing systems shall be accommodated within the controller enclosure. 2.3-13 - Water Conservation Performance Standards and Requirements The following standards apply to all projects for which landscaping is required and to special landscape situations such as slopes, fire hazard areas, and transitional landscapes: 2.3-13.01 - For all areas, the water delivery rate of the irrigation system shall be matched to the slope gradient and the percolation rate of soil. 2.3-13.02 - Slopes with a gradient of 3:1 or steeper and greater than 6 feet in height that are irrigated with an overhead spray system must have a precipitation rate no greater than 0.65 inches per hour. 2.3-13.03 - The irrigation system shall deliver water efficiently and uniformly and shall be appropriate to the needs of the plant materials. Recommended reference materials for irrigation systems design are listed in <b>Appendix "A"</b> . 2.3-13.04 - Over watering as evidenced by soggy soils, continually wet pavement, standing water, runoff in street gutters and other similar conditions shall be prevented. 2.3-13.07 - All automatic irrigation controllers and moisture sensing systems shall be adjusted seasonally and as weather and plant conditions warrant.
65596(e) The model ordinance shall include references to local, state, and federal laws and regulations regarding standards for water-conserving irrigation equipment.		<u><b>Landscape Standards</b></u> Note: Additional references from Regional Manual added to Landscape Standards References Appendix
65596(e) The model ordinance may include climate information for irrigation scheduling based on the California Irrigation Management Information	<u><b>§492.10. Irrigation Scheduling</b></u> (a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules meeting the following criteria shall be submitted with the Certificate of	<u><b>Landscape Standards</b></u> 2.3-13 - Water Conservation Performance Standards and Requirements The following standards apply to all projects for which landscaping is required and to special landscape situations such as slopes, fire hazard areas, and transitional landscapes: 2.3-13.06 - Moisture sensors shall be installed per manufacturer's

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System.	<p>Completion.</p> <p>(1) Irrigation scheduling shall use automatic irrigation systems and evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations or soil moisture monitoring systems to apply the appropriate levels of water for different climates.</p>	<p>recommendations.</p> <p>2.3-13.07 - All automatic irrigation controllers and moisture sensing systems shall be adjusted seasonally and as weather and plant conditions warrant.</p>
<p>65596(f)</p> <p>Include provisions for onsite soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and to prevent excessive erosion and runoff, and</p>	<p><b>§492.5. Soil Management Plan.</b></p> <p>(a) In order to reduce runoff and encourage healthy plant growth, a soil management plan shall be submitted as part of the Landscape Documentation Package. The soil management plan may include the following elements:</p> <p>(1) soil type;</p> <p>(2) estimated date of soil analysis report (to be conducted after mass grading is complete);</p> <p>(3) identification of limiting soil characteristics; and</p> <p>(4) identification of planned soil management actions to remediate limiting soil characteristics.</p> <p>(b) After mass grading, the project applicant or his/her designee shall:</p> <p>(1) perform a preliminary site inspection;</p> <p>(2) determine the appropriate level of soil sampling and sampling method needed to obtain representative soil sample(s);</p> <p>(3) conduct a soil probe test to determine if the soil in the landscape area has sufficient depth to support the intended plants; and</p> <p>(4) obtain appropriate soil sample(s).</p> <p>(c) The project applicant or his/her designee shall submit soil sample(s) to laboratory for analysis and recommendation. The soil analysis may include:</p> <p>(A) soil texture;</p> <p>(B) infiltration rate determined by laboratory test or soil texture infiltration rate tables;</p> <p>(C) pH;</p> <p>(D) total soluble salts;</p> <p>(E) sodium; and</p> <p>(F) recommendations.</p> <p>(G) Submit the soil analysis report and documentation</p>	<p><b><u>Landscape Regulations</u></b></p> <p>§142.0401 - Purpose of Landscape Regulations The purpose of these regulations is to minimize the erosion of slopes and disturbed lands through revegetation;</p> <p>§142.0411 - Revegetation and Erosion Control</p> <p>(a) Permanent Revegetation. All graded, disturbed, or eroded areas that will not be permanently paved or covered by structures shall be permanently revegetated and irrigated as shown in Table 142-04F and in accordance with the standards in the Land Development Manual.</p> <p>(b) Temporary Revegetation. Graded, disturbed, or eroded areas that will not be permanently paved, covered by <i>structure</i>, or planted for a period over 90 calendar days shall be temporarily revegetated with a non-irrigated hydroseed mix, ground cover, or equivalent material. Temporary irrigation systems may be used to establish the vegetation.</p> <p>(c) All required revegetation and erosion control shall be completed within 90 calendar days of the completion of <i>grading</i> or disturbance.</p> <p>§142.0413 Water Conservation</p> <p>(b) <u>Landscape Area</u>. For purpose of Section 142.0413 <u>landscape area means the entire premises less the area of building footprints, non-irrigated portions of parking lots, driveways, hardscapes, and areas designated for habitat preservation or brush management zone 2.</u></p> <p>(b) <u>Lawn Area Requirements.</u></p> <p>(1) Lawn areas shall not exceed 10 percent of the planting <u>landscape area on a premises</u>, excluding required common areas, active recreation areas, and areas located within the <i>public right-of-way</i> between the curb and public sidewalk. This restriction does not apply to <i>single dwelling unit</i> residential uses in residential zones.</p> <p>(2) <u>The minimum dimension of a lawn bounded by impervious surfaces on two or more sides is 8 feet in all directions unless subsurface or low volume irrigation is used.</u></p> <p>(3) <u>Lawn areas located on slopes, where the toe of slope is adjacent to hardscape, shall not exceed a gradient of 25 percent (4:1).</u></p> <p>See Table 142-04F - Permanent Revegetation and Irrigation Requirements</p>

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	<p>verifying implementation of soil analysis report recommendations to the local agency per the requirements of Section 492.9 Certificate of Completion.</p>	<p>(native, naturalized, and drought tolerant planting requirements) Chapter 14, Article 2, Division 1: Grading Regulations <b>Landscape Standards</b> 1.3 - Plant Selection Criteria 1.3-1 - General Guidelines 1.3-1.04 - Plant material used for erosion control on disturbed soil areas and slopes should achieve 100 percent soil coverage within two years of being installed. 1.3-2 – Lawns 1.3-2.04 - Lawn areas located on slopes, where the toe of slope is adjacent to hardscape (as defined in Section 113.0103 of the Land Development Code), shall not exceed a gradient of 25 percent (4:1). 1.4 - Site Preparation Criteria 1.4-1 - When so indicated on the approved landscape plans, soils testing by a certified agronomic soil testing laboratory and/or 24 hour percolation tests (see Sec. 2.3-13.09) shall be conducted prior to the installation of plants and irrigation systems. 1.4-2 - Certified soil test and percolation test results and any proposed construction document revisions shall be submitted to the City. Written approval of revised construction documents is required prior to the installation of plantings and irrigation systems. 1.4-3 - Soil amendments are to be used when needed to improve water retention in the soil, to improve the functional structure of the soil for greater water infiltration and percolation, to balance pH, and to optimize plant growth. 2.2 - Types of Systems 2.2-1 - Temporary Systems Temporary systems shall operate for a period sufficient to establish plant material and to provide vegetative cover that prevents soil erosion. The amount of irrigation must be adjusted when warranted by site conditions. 2.3 - Design Standards 2.3-4 - Scheduling and Circuiting 2.3-4.02 - Lateral systems shall be divided by exposure (sun vs. shade, etc.), elevation, and by type of irrigation application equipment (drip, spray, etc.). 2.3-13 - Water Conservation Performance Standards and Requirements 2.3-13.02 - Slopes with a gradient of 3:1 or steeper and greater than 6 feet in height that are irrigated with an overhead spray system must have a precipitation rate no greater than 0.65 inches per hour.</p>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
		<p>4.2 - Slope Revegetation Guidelines These guidelines establish the acceptable standards for the design and installation of slope revegetation.</p> <p>4.2-2 - A minimum of 50 percent of the total slope area shall be planted with deep rooting groundcovers, (i.e. those with a typical root depth of 5 feet or greater). For seeded plantings, at least 50 percent of the viable seed count shall be deep rooting species.</p> <p>4.2-3 - All the plant materials shall be appropriate to the site conditions, water conserving and appropriately spaced to control soil erosion.</p> <p><u>Note:</u> See also Chapter 14, Article 2, Division 1: Grading Regulations</p>
<p>65596(f) the use of mulches in shrub areas, garden beds, and landscaped areas where appropriate.</p>	<p><b>§492.6. Landscape Design Plan.</b></p> <p>(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(3) Mulch and Amendments</p> <p>(A) A minimum two inch (2”) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers or other special planting situations where mulch is not recommended.</p> <p>(B) Stabilizing mulching products shall be used on slopes.</p> <p>(C) The mulching portion of the seed/mulch slurry in hydro-seeded applications meets the mulching requirement.</p>	<p><b><u>Landscape Ordinance</u></b></p> <p>§142.0413 - Water Conservation</p> <p>(b) Mulch Requirements. All required planting areas shall be covered with mulch to a minimum depth of 2 inches, excluding slopes requiring revegetation and areas planted with ground cover. All exposed soil areas without vegetation shall also be mulched to this minimum depth.</p> <p><b><u>Landscape Standards</u></b></p> <p>1.4 Site Preparation Criteria</p> <p>1.4-4 - All required planting areas shall be covered with mulch (organic or inorganic) to a minimum depth of 2 inches, excluding slopes requiring revegetation and areas planted with ground cover. All exposed soil areas without vegetation shall also be mulched to this minimum depth.</p> <p>4.3 Mulching Procedures</p> <p>The following procedures will be followed when mulching is required by the landscape regulations or when proposed by the applicant.</p> <p>4.3-1- Jute netting and other approved geotextile materials shall be installed and secured per manufacturer's specifications and in a manner precluding sheet flows and drilling below the material surface.</p> <p>4.3-2 - Straw Stabilization:</p> <ul style="list-style-type: none"> <li>• Straw mulch shall be uniformly spread at the rate of two tons per acre.</li> <li>• Straw on all cut slopes shall be "tacked" with binder at a minimum rate of 160 pounds per acre. The binder shall be an organic derivative or processed organic adhesive.</li> <li>• Straw on all fill slopes shall be incorporated into the soil with a bladed roller so that the straw will not support combustion or blow away and will leave a uniform surface.</li> </ul> <p>4.3-3 - Wood Products:</p>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
		<ul style="list-style-type: none"> <li>• Shredded wood products shall be uniformly spread to a minimum depth of two inches.</li> <li>• When used in conjunction with indigenous native container stock, the mulch shall be applied at the conclusion of the initial 90-day maintenance period</li> </ul>
<p>65596(g) <u>Promote</u> the use of recycled water consistent with Article 4 (commencing with Section 13520) of Chapter 7 of Division 7 of the Water Code.</p>	<p><b>§492.14. Recycled Water.</b></p> <p>(a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water, unless a written exemption has been granted as described Section 492.14 (b).</p> <p>(b) Irrigation systems and decorative water features shall use recycled water unless a written exemption has been granted by the local water agency, stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.</p> <p>(c) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.</p>	<p><b><u>Landscape Regulations</u></b> §142.0413 Water Conservation <b>(g) Reclaimed water.</b> <i>New development</i> in areas where reclaimed water is available and suitable for irrigation are to provide for a dual water distribution system for all landscaped areas so that only reclaimed water is used for irrigation purposes.</p> <p><b><u>Landscape Standards</u></b> 2.3-13 - Water Conservation Performance Standards and Requirements 2.3-13.11 - New development, in areas where reclaimed water is available, are to provide for a dual water distribution system for all landscaped areas so that only reclaimed water is used for irrigation purposes. 2.3-13.12 - Alternative irrigation systems that may be used to augment water for landscape purposes include:</p> <ul style="list-style-type: none"> <li>• Graywater systems may be used in the State of California when installed consistent with the Department of Water Resources Graywater Guide and upon permit approval and inspection by San Diego County Department of Environmental Health.</li> </ul> <p><b><u>Municipal Code</u></b> §64.0807 Water Reclamation Master Plan (a) General. No person or public agency, as used in California Water Code section 13551, shall use water from any source or of quality suitable for potable domestic use for the irrigation of greenbelt areas, or other uses where the use of reclaimed water is suitable, when reclaimed water is available.</p>
<p>65596(h) <u>Seek</u> to educate water users on the efficient use of water and the benefits of doing so.</p>	<p><b>§492.16. Public Education.</b></p> <p>(a) Publications. Education is a critical component to promoting the efficient use of water in landscapes. The use of appropriate principles of design, installation, management, and maintenance that save water is encouraged in the community.</p> <p>(1) A local agency shall provide information to owners of new, single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes.</p> <p>(b) Model Homes. All model homes that are landscaped</p>	<p><b><u>Landscape Standards</u></b> 2.6 - Water Budget Footnote to Table 5 for Model homes.</p> <ul style="list-style-type: none"> <li>• Model homes shall be landscaped consistent with the principles of a water-efficient landscape.</li> <li>• Signs shall be used to identify the model as an example of a water efficient landscape, featuring elements such as hydrozones, irrigation equipment, plant materials and other elements that contribute to the water-efficiency.</li> <li>• Information shall be provided within the model about designing, installing, managing, and maintaining water efficient landscapes.</li> </ul>

**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	<p>shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.</p> <p>(1) Signs shall be used to identify the model as an example of a water efficient landscape, featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme.</p> <p>(2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.</p>	<p>Additional public information is found at</p> <ul style="list-style-type: none"> <li>• City Water Department website <a href="http://www.sandiego.gov/water/">http://www.sandiego.gov/water/</a></li> <li>• County Water Authority website <a href="http://sdcwa.org/">http://sdcwa.org/</a></li> </ul>
<p>65596(i) Address regional differences, including fire prevention needs.</p>	<p><b>§492.6. Landscape Design Plan.</b></p> <p>(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(1) Plant Material</p> <p>(A) Any plant may be selected for the landscape, providing the landscape does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:</p> <p>(i) protection and preservation of native species and natural vegetation;</p> <p>(ii) selection of water conserving plant species and turf species;</p> <p>(iii) selection of trees based on applicable local tree ordinances or tree shading guidelines;</p> <p>(iv) selection of plants from local and regional landscape program plant lists</p> <p>(E) A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.</p>	<p>The City’s Landscape Ordinance and Landscape Standards have been developed in the context of the region.</p> <p><b><u>Landscape Ordinance</u></b></p> <p>§142.0403 - General Planting and Irrigation Requirements</p> <p>All planting, irrigation, brush management, and landscape-related improvements required by this division must comply with the regulations in this section and with the Landscape Standards in the Land Development Manual.</p> <p>(b) Plant Material Requirements</p> <p>(13) Native plants shall be locally indigenous.</p> <p>(14) Naturalized plant material shall be plantings that can survive without irrigation after initial plant establishment.</p> <p><b><u>Landscape Standards</u></b></p> <p>1.3-1 - General Guidelines</p> <p>1.3-1.01 - Preferred plants are essentially those most suited to the actual site conditions. However, there are innumerable combinations of factors affecting the selection of appropriate plants. The water needs of a plant, however, a critical factor. For the purposes of this document, preferred plants are water conserving plants which are easily maintained and have no known history of problems. <b>Appendix 'A'</b> is a list of reference materials which discuss and identify water conserving plants.</p> <p>1.3-1.06 - Plant material used adjacent to coastal bluffs shall be native or naturalized to minimize the need for irrigation beyond initial plant establishment. Existing exotic and other plant material that require regular irrigation should be removed and replaced with native or naturalized plant material.</p> <p><b>Fire Prevention Needs</b></p> <p>See Landscape Ordinance §142.0412 Brush Management and Landscape Standards throughout. And within Section III – Brush Management.</p>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
<p>65596(j) Exempt landscaping that is part of a registered historical site.</p>	<p><b>§ 490.1. Applicability.</b>                      (a) After January 1, 2010, this ordinance shall apply to all of the following landscape projects:                      (b) This ordinance does not apply to:                      (1) registered local, state or federal historical sites;                      (2) ecological restoration projects that do not require a permanent irrigation system;                      (3) mined-land reclamation projects that do not require a permanent irrigation system; or                      (4) botanical gardens and arboretums open to the public.</p>	<p><b><u>Landscape Standards</u></b>                      2.6 - Water Budget                      2.6-2 - The following development are exempt from the requirements of Section 2.6-1                      2.6-2.01 - Cemeteries;                      2.6-2.02 - Landscape that is part of a registered historic site (local, state or federal);                      2.6-2.03 - Ecological restoration projects without permanent irrigation;                      2.6-2.04 - Botanical gardens and arboretums open to the public;                      2.6-2.05 - Mined-land reclamation projects without permanent irrigation; and                      2.6-2.06 - Any development the uses reclaimed water only for all of its landscape area.</p>
<p>65596(k) <u>Encourage</u> the use of economic incentives to promote the efficient use of water.</p>	<p><b>§490. Purpose.</b>                      (b) Consistent with the legislative findings, the purpose of this model ordinance is to:                      (6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered rate structure;</p>	<ul style="list-style-type: none"> <li>• The City Water Department tiered rate structure</li> <li>• CWA provides rebates for residential, businesses and public agencies see the link <a href="http://www.20gallonchallenge.com/programs.html">http://www.20gallonchallenge.com/programs.html</a></li> </ul>
<p>65596(l) Include provisions for landscape maintenance practices that foster long-term landscape water conservation. Landscape maintenance practices <u>may</u> include, but are not limited to,                      ○ performing routine irrigation system repair and adjustment,                      ○ conducting water audits, and                      prescribing the amount of water applied per landscaped acre.</p>	<p><b>§492.11. Landscape and Irrigation Maintenance Schedule.</b>                      (a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.                      (b) A regular maintenance schedule shall include, but not be limited to, routine inspection, adjustment, and repair of the irrigation system and its components, aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning, weeding in all landscape areas and removing any obstruction to emission devices.                      (c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.                      (d) A project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.  <b>§492.12. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.</b>                      (a) At a minimum, all landscape irrigation audits shall comply with the “Irrigation Association Certified Landscape Irrigation Auditor Training Manual (2004 or</p>	<p><b><u>Landscape Ordinance</u></b>                      §142.0403 General Planting and Irrigation Requirements                      (3) Irrigation systems shall meet the following design requirements:                      (C) Irrigation systems shall be designed to minimize system maintenance requirement after installation. Above-ground irrigation system equipment that is exposed to potential damage shall be designed to be damage-resistant;                      §142.0413 Water Conservation                      (f) Irrigation Audit. <u>Development</u> subject to the requirement for a water budget in Table 142-04I is required to conduct and submit to the City an irrigation audit consistent with Section 2.7 of the Landscape Standards.                      (1) All landscape irrigation audits shall be conducted by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform this work.                      (2) The landscape irrigation audit shall be certified as accurate by the licensed professional and submitted to the City prior to occupancy and use.  <b><u>Landscape Standards</u></b>                      Section II: Irrigation Systems                      2.1 - General Requirements</p>

**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	<p>most current edition),” which is hereby incorporated by reference.</p> <p>(b)All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.</p> <p>(c)For new construction and rehabilitated landscape projects installed after January 1, 2010, as described in Section 490.1:</p> <p>(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency containing the following: an inspection, a system tune up, a system test (including distribution uniformity and verification of minimal overspray or runoff that does not cause overland flow), an irrigation schedule and recommendations for improvements from the certified irrigation auditor; and</p> <p>(2) the local shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the MAWA.</p> <p><b>§493.1. Irrigation Audits, Irrigation Survey, and Irrigation Water Use Analysis.</b></p> <p>(a) For all existing landscapes installed before January 1, 2010 with a dedicated or mixed use water meter that are one acre or more, including golf courses, green belts, common areas, multifamily housing, schools, businesses, parks, cemeteries, and publicly owned landscapes, the local agency shall administer programs that may include, but not be limited to irrigation water use analyses, irrigation surveys and irrigation audits to meet the existing landscape MAWA.</p> <p>(1) For all existing landscapes installed before January 1, 2010 without a meter that are one acre or more, the local agency shall administer programs that may include, but not be limited to irrigation surveys and irrigation audits to meet the existing landscape MAWA.</p> <p>(b) Maximum Applied Water Use Allowance (MAWA) for existing landscapes shall be calculated as: MAWA = (0.8)(ETo)(LA)(0.62).</p>	<p>Irrigation systems shall be designed, constructed, and managed to maximize overall irrigation efficiency within the limits established by the maximum applied water allowance. The following standards establish the minimum requirements for irrigation systems.</p> <p>2.1-1 -The minimum design, installation and maintenance criteria herein shall not be considered as specifications.</p> <p>2.1-2 - Material or processes other than those indicated herein may be used if sufficient data is presented to show that the material or process is equivalent or better in performance and intent, and meets or exceeds all design and performance tests with all equivalent features.</p> <p>2.1-3 - All required irrigation systems and all irrigated shall be automatically controlled. Temporary systems may be an exception.</p> <p>2.1-4 - All required irrigation systems shall be maintained in working condition as approved. Any equipment or material needing replacement is to be replaced immediately with equipment or material of the same type and performance standard as the originally approved irrigation system.</p> <p>2.7 - Landscape Irrigation Audit</p> <p>2.7-1 - Landscape irrigation audits shall comply with the most current edition of the “Irrigation Association Certified Landscape Irrigation Auditor Training Manual” and shall also include a certified soil analysis.</p> <p>2.7-2 - All landscape irrigation audits shall be conducted by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform this work.</p> <p>2.7-3 - Irrigation audits shall be required for the types of development identified in 2.6-1.</p> <p>2.7-4 - The landscape irrigation audit shall be certified as accurate by the licensed professional and submitted to the City prior to occupancy and use.</p>



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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
	<p>(c) The audit shall be comply with the Irrigation Association Certified Landscape Irrigation Auditor Training Manual (2004) or the most current edition.</p> <p>(d) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.</p>	
<p>65596(m) Include provisions to minimize landscape irrigation overspray and runoff.</p>	<p><b>§492.7. Irrigation Design Plan.</b></p> <p>(a) For the efficient use of water, an irrigation system shall meet all requirements listed in this section and manufacturers' specifications. The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance. An irrigation design plan meeting the following conditions design criteria shall be submitted as part of the Landscape Documentation Package.</p> <p>(1) System</p> <p>(H) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways or structures.</p> <p><b>§492.8. Grading Design Plan.</b></p> <p>(a) For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste.</p> <p><b>§492.15. Stormwater Management</b></p> <p>(a) Stormwater management practices will minimize runoff and increase infiltration which recharges groundwater, and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff, and to increase on-site retention and infiltration are highly recommended.</p> <p><b>§493.2. Water Waste Prevention</b></p> <p>Cities and counties shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Penalties for violation of these prohibitions shall be established locally.</p>	<p><b><u>Landscape Ordinance</u></b></p> <p>§142.0403 General Planting and Irrigation Requirements</p> <p>(c) Irrigation Requirements</p> <p>(3) Irrigation systems shall meet the following design requirements:</p> <p>(A) No irrigation runoff or overspray shall cross <i>property lines</i> or paved areas;</p> <p>§142.0412 Brush Management</p> <p>(g) Zone One Requirements</p> <p>(6) Zone One irrigation overspray and runoff shall not be allowed into adjacent areas of native or naturalized vegetation.</p> <p>(h) Zone Two Requirements</p> <p>(5) The following standards shall be used where Zone Two is in an area previously <i>graded</i> as part of legal <i>development</i> activity and is proposed to be planted with new plant material instead of <i>clearing</i> existing native or naturalized vegetation:</p> <p>(C) All new Zone Two plantings shall irrigated temporarily until established to the satisfaction of the City Manager. Only low-flow, low-gallonage spray heads may be used in Zone Two. Overspray and runoff from the irrigation shall not drift or flow into adjacent areas of native or naturalized vegetation. Temporary irrigation systems shall be removed upon approved establishment of the plantings. Permanent irrigation is not allowed in Zone Two.</p> <p><b><u>Landscape Standards</u></b></p> <p>2.2-3 Spray System</p> <p>2.2-3.03 - Specially designed, adjustable nozzles shall be used for odd shaped areas, while still maintaining even application rates.</p> <p>2.3 - Design Standards</p> <p>2.3-2 - Water Service</p> <p>2.3-2.01 - Individually assessed areas and lots that will be individually owned shall have separately metered and controlled irrigation systems. Irrigation shall be confined to the individual areas without overspray onto adjacent areas or across property lines.</p> <p>2.3-8 - Runoff and Overspray</p> <p>All irrigation systems shall be designed to avoid runoff, seepage, and</p>

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<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
		<p>overspray onto adjacent property, non-irrigated areas, walks, roadways, or structures. Systems requiring flushing shall accommodate flushing without erosion or disturbance to planting areas. Water shall be channeled into adjacent drainage structures (swale, gutter, etc.) where possible.</p> <p>2.3-11 - Coverage 2.3- Spray heads in turf areas are to be set-back 24 inches from adjacent hard surfaces that are at the perimeter of the project site in order to prevent run-off and overspray. This does not apply to recreation areas.</p> <p>2.3-12 - Equipment Protection 2.3-12.01 - Any irrigation equipment located within 12 inches of pedestrian and vehicular use areas shall be located entirely below grade or otherwise adequately protected from potential damage.</p> <p>2.3-13 - Water Conservation Performance Standards and Requirements 2.3-13.04 - Over watering as evidenced by soggy soils, continually wet pavement, standing water, runoff in street gutters and other similar conditions shall be prevented.</p>
<p>65598 Any model ordinance adopted pursuant to this article shall exempt cemeteries from all provisions of the ordinance except those set forth in subdivisions (h), (k), and (l) of Section 65596.</p>	<p>§ 490.1. Applicability. (a) After January 1, 2010, this ordinance shall apply to all of the following landscape projects: (5) cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 492.4, 492.11, and 492.12; and existing cemeteries are limited to Section 493.1.</p>	<p><b><u>Landscape Standards</u></b> 2.6 – Water Budget 2.6-2 - The following development are exempt from the requirements of Section 2.6-1 2.6-2.01 - Cemeteries; 2.6-2.02 - Landscape that is part of a registered historic site (local, state or federal); 2.6-2.03 - Ecological restoration projects without permanent irrigation; 2.6-2.04 - Botanical gardens and arboretums open to the public; 2.6-2.05 - Mined-land reclamation projects without permanent irrigation; and 2.6-2.06 - Any development the uses reclaimed water only for all of its landscape area.</p>
<p>65599 Article 4.5. Irrigated Landscape 535. (a) A water purveyor shall require as a condition of new retail water service on and after January 1, 2008, the installation of separate</p>	<p>§492.7. Irrigation Design Plan. (a) For the efficient use of water, an irrigation system shall meet all requirements listed in this section and manufacturers' specifications. The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance. An irrigation design plan meeting the following conditions design criteria shall be submitted as part of the Landscape Documentation Package.</p>	<p><b><u>Landscape Standards</u></b> 2.1 - General Requirements Irrigation systems shall be designed, constructed, and managed to maximize overall irrigation efficiency within the limits established by the maximum applied water allowance (MAWA). The following standards establish the minimum requirements for irrigation systems. 2.1-5 - Water meters. Dedicated (separate) landscape water meters shall be installed for all new development as listed in Table 2. [Note: Table 2 requires dedicated water meters for</p>

**ATTACHMENT 1 – COMPARISON MATRIX**

<b>AB 1881 Requirements</b>	<b>State Model Ordinance</b>	<b>City of San Diego Landscape Ordinance / Landscape Standards</b>
<p>water meters to measure the volume of water used exclusively for landscape purposes.</p> <p>(b) Subdivision (a) does not apply to either of the following:</p> <p>(1) Single-family residential connections.</p> <p>(2) Connections used to supply water for the commercial production of agricultural crops or livestock.</p> <p>(c) Subdivision (a) applies only to a service connection for which both of the following apply:</p> <p>(1) The connection serves property with more than 5,000 square feet of irrigated landscape.</p> <p>(2) The connection is supplied by a water purveyor that serves 15 or more service connections.</p> <p>(d) For the purposes of this section, “new retail water service” means the installation of a new water meter where water service has not been previously provided, and does not include applications for new water service submitted before January 1, 2007.</p>	<p>(1) System</p> <p>(A) Dedicated (separate) landscape water meters shall be installed for all projects greater than 5,000 square feet, except for single family residences. Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.</p>	<p>New industrial, commercial, &amp; Multi-family with landscape area <math>\geq 5,000\text{sft}</math></p> <p>2.1-6 - Submeters. A landscape irrigation submeter shall be installed development as listed in Table 2 prior to a certificate of occupancy or final inspection approval.</p> <p>[Note: Table 2 requires landscape submeters for New single-dwelling unit development; and Improvements to existing industrial, commercial and multiple dwelling units (without a dedicated landscape irrigation meter) with a landscape area between 1,000 and 5,000 s.f. that require a building permit and landscape review consistent with Section 142.0402 of the Municipal Code.]</p> <p>2.4 - Installation Standards</p> <p>2.4-6 - Landscape Irrigation Submeter</p> <p>2.4-6.01 - A landscape irrigation submeter shall be installed after the domestic water meter in single-dwelling unit development to track water used for irrigation purposes.</p> <p>2.4-6.02 - An irrigation mainline from the irrigation submeter shall be extended to the rear yard.</p>

**Article 2: General Development Regulations**

**Division 4: Landscape Regulations**

**§142.0401 through §142.0402** [No change]

**§142.0403 General Planting and Irrigation Requirements**

All planting, irrigation, brush management, and landscape-related improvements required by this division must comply with the regulations in this section and with the Landscape Standards in the Land Development Manual.

(a) [No change]

(b) Plant Material Requirements

(1) through (14) [No change]

(15) Plant materials shall be grouped into hydrozones with plant species having similar water demand and by their, soil, sun, and shade requirements.

(16) Plant material shall be selected to meet a maximum applied water allowance (MAWA) as determined by the water budget formula and specifications in Section 142.0413(d).

(c) through (d) [No change]

**§142.0404 through §142.0412** [No change]

**§142.0413 Water Conservation**

(a) Landscape Area. For purpose of Section 142.0413 landscape area means the entire premises less the area of building footprints, non-irrigated portions of parking lots, driveways, *hardscapes*, and areas designated for habitat preservation or brush management Zone 2.

(ab) Lawn Area-Requirements.

(1) Lawn areas shall not exceed 10 percent of the planting landscape area on a *premises*, excluding required common areas, active recreation areas, and areas located within the *public right-of-way* between the curb and public sidewalk. This restriction does not apply to *single dwelling unit* residential uses in residential zones.

(2) The minimum dimension of a lawn bounded by impervious surfaces on two or more sides is 8 feet in all directions unless subsurface or low volume irrigation is used.

(3) Lawn areas located on slopes, where the toe of slope is adjacent to *hardscape*, shall not exceed a gradient of 25 percent (4:1).

(bc) **Mulch Requirements.** All required planting areas shall be covered with mulch to a minimum depth of 2 inches, excluding slopes requiring revegetation and areas planted with ground cover. All exposed soil areas without vegetation shall also be mulched to this minimum depth.

(d) Water Budget.

(1) Developments listed in Table 142-04I shall be subject to a water budget (maximum applied water allowance).

**Table 142-04I**  
**Water Budget Applicability**

<b><u>Type of Development Proposal</u></b>	<b><u>Landscape Area Threshold</u></b>
<u>New industrial, commercial, and <i>multiple dwelling units development</i></u>	<u>≥ 1,000 square feet</u>
<u>Common landscape areas within new <i>single dwelling unit development</i></u>	<u>≥ 1,000 square feet<sup>1</sup></u>
<u>Model homes within <i>single dwelling unit development</i></u>	<u>Applies to All</u>

Footnote to Table 142-04I

<sup>1</sup> Total area of common landscape in the development.

(2) The water budget is calculated using the following formula (see Section 2.6 and Appendix E of the Landscape Standards for additional information):

$$\text{Water Budget} = (ET_o)(0.62) [(0.7)(LA) + (0.3)(SLA)]$$

Where:

ET<sub>o</sub> = Evapotranspiration (inches per year)

0.62 = Conversion factor (to gallons)

0.7 = Evapotranspiration Adjustment Factor

LA = Landscaped Area (square feet)

SLA = Special Landscape Area

(3) The irrigation system is required to be operated within the approved water budget.

- (4) The estimated total water use, as calculated in Section 2.6 of the Landscape Standards shall not exceed the water budget as calculated in Section 142.0413(d)(2).
- (e) Water Meters.
- (1) Dedicated landscape irrigation meters shall be required in all new industrial, commercial and *multiple dwelling unit development* with a landscape area greater than or equal to 5,000 square feet. Except that this requirement shall not apply to commercial production of agricultural crops or livestock.
- (2) Landscape irrigation submeters shall be required in the following developments:
- (A) New *single dwelling unit development*;
- (B) Improvements to the following existing industrial, commercial and *multiple dwelling unit development* when:
- (i) The improvement requires a building permit and a landscape review as identified in Table 142-04A; and
- (ii) The landscape area is between 1,000 and 5,000 square feet.
- (f) Irrigation Audit. *Development* subject to the requirement for a water budget in Table 142-04I is required to conduct and submit to the City an irrigation audit consistent with Section 2.7 of the Landscape Standards.
- (1) All landscape irrigation audits shall be conducted by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform this work.
- (2) The landscape irrigation audit shall be certified as accurate by the licensed professional and submitted to the City prior to occupancy and use.
- (g) Reclaimed water. New *development* in areas where reclaimed water is available and suitable for irrigation are to provide for a dual water distribution system for all landscaped areas so that only reclaimed water is used for irrigation purposes.

**Development Requiring A building Permit and Landscape Review**  
**Subject to Draft Section 142.0413 (e)(2)**  
(Irrigation Submeter)

Type of Development Proposal		
Column A	Column B (Gross floor Area)	Column C (Development Type)
1. New structures that equal or exceed the gross floor area shown in Column B, and are proposing the type of development in Column C	1,000 Square Feet	<ul style="list-style-type: none"> <li>• Multiple dwelling unit residential development</li> <li>• Commercial development</li> </ul>
	5,000 square feet	Industrial Development
2. Additions to structures or additional structures on developed properties that exceed the gross floor area in Column B or that increase the gross floor area by the percentage in Column B, and are proposing the type of development shown in Column C	<ul style="list-style-type: none"> <li>• 1,000 square feet or</li> <li>• A 20 percent increase in gross floor area</li> </ul>	Multiple dwelling unit residential development
	<ul style="list-style-type: none"> <li>• 1,000 square feet or</li> <li>• A 10 percent increase in gross floor area</li> </ul>	Commercial development
	<ul style="list-style-type: none"> <li>• 5,000 square feet or</li> <li>• A 20 percent increase in gross floor area</li> </ul>	Industrial development
3. New permanent parking and vehicular use area for four or more vehicles including access to the spaces		
4. New temporary parking and vehicular use area for four or more vehicles including access to the spaces		
5. Additions or modifications to existing permanent or temporary parking and vehicular use areas that increase the number of parking spaces by four or more		
6. Projects proposing slopes with gradients steeper than 4:1 (4 horizontal feet to 1 vertical foot) that are 5 feet or greater in height		
7. New structures, additions to structures, or subdivisions that create lots where new structures could be located on premises adjacent to native or naturalized vegetation		

### Public Comments and Staff Responses

Other than clarifications, minor corrections, and modifications the comments can be categorized into audits, landscape irrigation submeters, the water budget, and plant materials. The frequent comments are numbered within each category below with responses provided in italics.

**Audits.** Audits are a component of the State Model Ordinance. As stated in this report the proposed amendments require audits be conducted, certified, and submitted to the City prior to receiving occupancy. The comments received address the following:

1. Audits should not be required since the City currently reviews the conceptual landscape plan, approves the landscape construction plans, and inspects the built plans. That should be sufficient.

*Response: First, the audit is a major component of the State Model Ordinance. Second, although City staff do review conceptual landscape plans, approve landscape construction plans, and conduct inspections; staff is not trained to review, inspect, and certify that project landscapes comply with the water budget as identified in the State Model Ordinance. The goal is to be certain that when completed, the landscape has been installed to comply with the approved water budget. To require this of staff would result in additional costs to the City associated with staff training and certification and increase site visits by staff would result in a need for additional staffing.*

2. Requiring an audit will increase the cost of the projects.

*Response: The costs of projects will increase in that the applicants will need to hire a professional to conduct and certify the audit. However, if staff were to perform that function those costs too would be charged to the project.*

3. Audits should be required only for projects that do not comply with required water budgets.

*Response: This is something that could be considered at a future date after more experience with compliance has been obtained. However, it should be noted that to conduct an audit as part of a code compliance issue would require the property owner to grant access to private property.*

4. Requiring the audit to be conducted by a California registered landscape architect, a licensed landscape contractor, or other professional licensed by the State to perform this work is too restrictive.

*Response: The City is proposing self-certification (product certified by professional and not reviewed by City staff). When allowing for self-certification, the City can require the work be performed by a professional licensed by the State. This allows the City, if necessary, to file complaints with the State that could result in the professional's loss of license if the product is found to be fraudulent or of consistently poor quality. There is no such recourse with unlicensed professionals. This self-certification is required only for the audit; it is not required for the design of the landscape plans.*

5. Requiring audits increases the level of bureaucracy. It would be simpler to charge people who use water beyond a fixed amount.

*Response: As previously stated the audit is a major component of the State Model Ordinance. The requirement for the audit applies to new construction with a specified amount of landscape. Determining the budget at the time of construction is the ideal time to determine*



*exactly what the water use should be for the landscape as designed. Applying a fixed amount per household brings into account many factors unrelated to water conservation in the landscape including household size, lot size, changes in household size, and short term considerations.*

**Landscape Irrigation Submeters.** The proposed amendment would require landscape irrigation submeters be installed in all new single-dwelling units; and in existing industrial, commercial, and multiple-dwelling unit development when improvements are made that trigger a building permit and a landscape review on site with a landscape area of 1,000 square feet. The comments received address the following:

1. Property owners will not monitor the submeter or will not know how to use it effectively.  
*Response: Submeters are a tool proposed to assist property owners in conserving water in the landscape. Property owners would be provided information on how to use submeters when the submeter is installed. Additionally, as water costs increase based on tiered billing rates, property owners will realize financial savings by monitoring the submeter. Builditgreen.org, a green building organization whose membership includes over 40 California Cities, other public agencies, and building and landscape professionals recommends irrigation submeters. Their guidelines recommend property owners "Install a landscape sub-meter combined with irrigation controllers to understand water use. An irrigation meter can help with leak detection and will help maintain a water budget". A number of other cities and agencies also require/recommend installation of irrigation submeters. Although most of these are readable and billable, the goal is to educate property owners on water conservation and the landscape. It is conceivable that the proposed submeters would be replaced with readable and billable submeters at a future time when the advanced technology of automatic meter reading is adopted by the City of San Diego.*
2. The submeters should be smart readable submeters that can be read by the Water Department and billed separately.  
*Response: The City of San Diego has not yet incorporated this technology. However, it is something that would be considered when that technology is available in the City of San Diego.*

**Water Budget.** Comments on the water budget generally reflect both sides of the discussion.

1. The method of achieving a water budget is too complex, and an alternative approach to determining an appropriate amount of water should be developed.  
*Response: The water budget is the central component of the State Model Ordinance. Not adopting this approach could result in the State determining that our ordinance is not as efficient as the State Model Ordinance. Additionally, the State Water Conservation in Landscaping Act encourages consistency in regional ordinances. This same approach is proposed in the draft Regional Model Ordinance and is proposed in the San Diego County draft ordinance.*
2. The proposed water budget should be applied much more broadly and apply to existing landscapes including all existing single- and multi-family development.  
*Response: The City is proposing to apply the water budget similar to that of the State Model Ordinance. The City could choose to require that the water budget for existing development be applied to all existing development including multi- and single-family residential (the State Model Ordinance applies to existing with greater than or equal to 1 acre of landscape*

area). The issue then becomes one of landscape review and eventually enforcement. Should the City require all property owners with existing landscapes of 1,000 square feet or more to submit to the City landscape plans, a water budget, and a certified irrigation audit? This would be very costly for existing property owners and would put a strain on City services. Instead, the City, the County Water Authority, and other water purveyors and jurisdictions in the region are providing a number of services to assist property owners with existing landscapes. Property owners may request an irrigation "audit" which reviews the efficiency of the existing irrigation system, identifies potential leaks, and determines the proper watering schedule for the landscape based on existing plant materials. Local agencies provide information publications and website information on how to save water in the landscape. And ultimately, price controls and rationing, if necessary, will reduce outdoor water use and encourage property owners to make changes to their landscape that increase water conservation.

**Plant Materials.** The responses on plant materials addressed two different areas. A number of responses requested that the City's list of prohibited species (invasives) be expanded. That is not a part of this process but is something that will be looked at when the City looks to a larger revision of the Landscape Standards later this year. The comments related to water conservation relate to the following:

1. Drought tolerant and native species should be required.

*Response: The State Water Conservation in Landscaping Act does not allow an agency to prohibit plant species (other than invasives). It further does not allow conditions, such as the use of only drought tolerant plants, in that such a condition would be a de facto prohibition of other plant species.*

*Section 65595(a) states: The model ordinance shall not prohibit or require specific plant species, but it may include conditions for the use of plant species or encourage water conserving plants. However, the model ordinance shall not include conditions that have the effect of prohibiting or requiring specific plant species.*

*The City's Landscape Standards identify three classes of plants preferred, acceptable, and prohibited (invasive). As stated below water conserving plant are preferred.*

*Preferred plants are essentially those most suited to the actual site conditions. However, there are innumerable combinations of factors affecting the selection of appropriate plants. **The water needs of a plant are, however, a critical factor. For the purposes of this document, preferred plants are water conserving plants which are easily maintained and have no known history of problems.** Appendix 'A' is a list of reference materials which discuss and identify water conserving plants. [emphasis added]*

2. Further reduce the amount of lawn area and apply the reduction to single-family development.

*Response: The current landscape regulations limit lawn area in new industrial, commercial and multi-family development (single-family excluded) to no more than 10 % of the landscape area, excluding required for common areas, active recreation areas, and areas located within the public right-of-way between the curb and public sidewalk. The City proposal would require new development (excluding single-family) with 1,000 square feet or more of landscape area will be required to comply with the water budget. Whether the site*

*contains 10% of lawn area or less would not be an issue provided that the design of the landscape and irrigation system complied with the water budget. Regarding single-family as stated in the report the city does not regulate landscape in single-family homes with the exception of issues of brush management, street trees, and common landscape areas within subdivisions. The City proposes is installation of irrigation submeters in all new single-family homes to provide a tool for the homeowner to monitor and conserve water use in the landscape.*