Honorable Mayor and Members of the
Hermosa Beach City Council


Recommendation: Introduce and waive first reading of the “Water Efficient Landscaping Ordinance.”

Background: The proposed ordinance is intended to implement the State “Model Water Efficient Landscape Ordinance” (revised effective January 1, 2010) which generally requires projects with at least 2,500 square feet of landscaping involving a building permit or planning approval to submit a ‘Landscape Documentation Package’ documenting water demand prepared by a qualified professional.¹

Analysis: The State “Model Water Efficient Landscape Ordinance” is highly technical in nature and descriptive of the water demand and audit documentation process. For this reason, the proposed ordinance references and relies heavily upon the state law.

Due to the small lot sizes, general lack of landscaping requirements and high renter population found in Hermosa Beach, the state law has limited applicability to development within the City. To increase water conservation, the Green Task Force on January 11, 2010 recommended broadening the scope of the proposed ordinance. As proposed, projects with at least 2,500 square feet of landscaping, including residential properties, undertaken in conjunction with a building or planning permit would fully comply with the state requirements.

In addition, small landscaping projects undertaken in conjunction with a building or planning permit would comply with basic landscaping standards in Section 8.60.070, but not be required to submit the rigorous water demand and audit analyses applicable to larger projects. The Task Force avoided proposing an arbitrary threshold at which the small lot landscaping requirements would apply (such as 500 or 1,000 square feet of landscaping)— which may deter people from installing landscaping in favor of impervious surfaces—in favor of the basic landscaping requirements in Section 8.60.070. State law is compared with the proposed ordinance as follows.

<table>
<thead>
<tr>
<th>Project Type</th>
<th>State law</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large projects-</td>
<td>Applies to ≥2,500 sf of new or rehhabilitated landscaping in</td>
<td>Applies to ≥2,500 sf of new or rehabilitated landscaping in conjunction with building or planning permit</td>
</tr>
<tr>
<td>Sections 8.60.050 &amp; 060</td>
<td>conjunction with building or planning permit</td>
<td>Applies to owner and non-owner occupied dwellings with new or rehabilitated landscaping in conjunction with building or planning permit</td>
</tr>
<tr>
<td></td>
<td>Applies to ≥5,000 sf of homeowner-provided/hired landscaping in</td>
<td>Submit ‘landscape documentation package’</td>
</tr>
<tr>
<td></td>
<td>conjunction with building or planning permit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Submit ‘landscape documentation package’</td>
<td></td>
</tr>
<tr>
<td>Small projects-</td>
<td>Not required under state law</td>
<td>Applies to all landscaping &lt; 2,500 sq ft excluding moveable planters or pots, in conjunction with building or planning permit</td>
</tr>
<tr>
<td>Section 8.60.070</td>
<td></td>
<td>Comply with basic standards</td>
</tr>
</tbody>
</table>

¹ ≥5,000 sf of homeowner-provided/hired landscaping in conjunction with building or planning permit
<table>
<thead>
<tr>
<th>Project Type</th>
<th>State law</th>
<th>Proposed</th>
</tr>
</thead>
</table>
| Existing landscape Section 8.60.080 | - Applies to ≥ 1 acre of landscaping  
- No water wasting  
- City may administer programs and audits | Same as state law       |

The proposed ordinance has been coordinated with the proposed water conservation ordinance in Section 8.56. Staff also anticipates proposing an amendment to the City’s building code later this year addressing permits for irrigation systems. The proposed ordinance is administered by the Community Development Department and enforcement is via the administrative citation process.

Ken Robertson  
Community Development Director

CONCUR:

Stephen R. Burrell  
City Manager

Attachments:
1. Proposed ordinance
2. State ‘Model Efficient Landscape Ordinance’
Attachment 1

AN ORDINANCE OF THE CITY OF HERMOSA BEACH ADDING TITLE 8, CHAPTER 8.60 WATER EFFICIENT LANDSCAPING TO THE HERMOSA BEACH MUNICIPAL CODE

THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1: Title 8, Chapter 8.60 of the Hermosa Beach Municipal Code, commencing with Section 8.60.010 is hereby added to read as follows:

Chapter 8.60

WATER EFFICIENT LANDSCAPING

Sections:

8.60.010 Title.
8.60.020 Purpose.
8.60.030 Applicability.
8.60.040 Definitions.
8.60.050 Procedures.
8.60.060 Standards for New Landscape.
8.60.070 Standards for Small Landscape Areas.
8.60.080 Existing Landscapes—Exceeding One Acre in Size.
8.60.090 Penalties and Remedies.

8.60.010 Title.

This Chapter shall be known as the “City of Hermosa Beach Water Efficient Landscaping Ordinance.”

8.60.020 Purpose.

It is the policy of the State of California and City of Hermosa Beach to promote water conservation. The standards detailed in this Chapter are intended to promote the selection, planting and maintenance of landscaping that is water efficient and water conserving, while allowing flexibility in designing healthy, attractive and cost-effective landscapes.

8.60.030 Applicability.

A. This Chapter is intended to implement, and shall be construed in a manner that is consistent with the Model Water Efficient Landscape Ordinance in Chapter 2.7 of Division 2 of Title 23 (Waters) of the California Code of Regulations, and any amendment thereto. "Consistent with" may also include more restrictive water conservation or water use efficiency measures.

B. This Chapter shall apply to all of the following within the City of Hermosa Beach:

1. "New construction" and "rehabilitated landscapes" for public and private development projects with a landscape area equal to or greater than 2,500 square feet, requiring a building permit, plan check, design review, or precise development plan.
2. "Small landscape areas" less than 2,500 square feet, excluding plantings in pots or moveable planters, in connection with a building permit, plan check, design review, or precise development plan, subject to Section 8.60.070.

3. Existing landscapes exceeding one (1) acre in size, subject to Section 8.60.080.

C. This Chapter shall not apply to registered local, state or federal historical sites, botanical gardens open to the public, or any other special types of landscape projects that are exempt under the state Model Efficient Landscape Ordinance.

D. The City shall provide information to all owners of new single family residential homes regarding the design, installation, management and maintenance of water efficient landscapes.

E. The City may collaborate with or designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance.

F. This Chapter shall be applied in conjunction with the water conservation requirements of Chapter 8.56. Where conflicts in language may exist between this Chapter and Chapter 8.56 or any other provision of the Municipal Code, the language that requires the greater water conservation shall prevail.

8.60.040 Definitions.

The terms in this Chapter shall be broadly construed to achieve the purposes of this Chapter and may be supplemented by definitions and information in the Model Efficient Landscape Ordinance.

"Certificate of Completion" means the information and certifications that the landscape project has been installed and will operate in compliance with the approved Landscape Documentation Package as detailed in Section 492.2 of the Model Water Efficient Landscape Ordinance, and as more specifically provided in this Chapter.

Discretionary planning entitlement" means a land use permit or approval granted by the Planning Commission necessary to proceed with development pursuant to Title 17 (Zoning).

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

"ETo" or "reference evapotranspiration" means a standard measurement of environmental parameters that affect the water use of plants expressed in inches per day, month or year. Calculation of the 'Maximum Applied Water Allowance' and 'Estimated Total Water Use' shall use the ETo values for Redondo Beach in Appendix A of the Model Efficient Landscape Ordinance as follows:

<table>
<thead>
<tr>
<th>City</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redondo Beach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42.6</td>
</tr>
</tbody>
</table>

"ET adjustment factor" (ETAF) means a factor of 0.7 (0.7 or more but less than 0.8) that, when applied to ETo, adjusts for plant factors and irrigation efficiency.

"Homeowner-provided or homeowner-hired landscaping" means that landscaping installed for a single-family dwelling by a private individual or a licensed contractor, regardless whether for the owner or the
occupant. Such landscape shall be regulated in the same manner as new construction or rehabilitated landscape, as applicable to the situation.

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

"Landscape area" means the total area of the landscape project (planting areas, turf areas, and water features) in a landscape design plan that is subject to the "Maximum Applied Water Allowance" calculation. Landscape area includes "new construction landscape" and "rehabilitated landscape." Landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or impervious landscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

"Landscape irrigation system" means an irrigation system with pipes, hoses, spray heads, or sprinkling devices that is operated by through an automated system.

"Landscape Documentation Package" means the project information, water efficient landscape worksheet, soil management report, landscape plan, irrigation plan and grading plan, prepared by the professionals and containing the information and certifications set forth in Sections 492.3 through 492.8 of the Model Water Efficient Landscape Ordinance, and as more specifically provided in this Chapter.

"Maximum applied water allowance" (MAWA) is the formula set forth below used to arrive at the annual water budget calculation and as further described in the Model Water Efficient Landscape Ordinance:

\[
MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
\]

| MAWA | Maximum Applied Water Allowance (gallons per year) |
| ETo  | Reference Evapotranspiration (42.6 inches per year) |
| 0.7  | ET Adjustment Factor (ETAF) |
| LA   | Landscape Area including Special Landscape Area (square feet) |
| 0.62 | Conversion factor (to gallons per square foot) |
| SLA  | Special Landscape Area (square feet) |
| 0.3  | ET Adjustment Factor for Special Landscape Area |

"Model Water Efficient Landscape Ordinance" means the regulations adopted by the State of California in Chapter 2.7 of Division 2 of Title 23 (Waters) of the California Code of Regulations.

"New landscape" means "new construction" and "rehabilitated landscape".

"New construction" means, subject to the exclusions in Section 8.60.030, a new building with a new landscape area or other new landscape area such as a park, playground or greenbelt without an associated building, equal to or greater than 2,500 square feet.

"Plant factor" means a factor that, when multiplied by the ETo, estimates the quantity of irrigation water thought to be necessary to maintain plant health within the City. The plant factor range is 0 to 0.3 for low water use plants, 0.4 to 0.6 for moderate water use plant, and 0.7 to 1.0 for high water use plants. Plant factors are defined and listed in the "Water Use Classifications of Landscape Species" ("WUCOLS") or equivalent documentation for plants not listed therein.

"Rehabilitated landscape" means, subject to the exclusions in Section 8.60.030, any re-landscaping project when the modified landscape area is equal to or greater than 2,500 square feet, and is fifty (50)
percent or more of the total landscape area, and the modifications are completed within one (1) year. Includes developer, owner, occupant, or homeowner hired or installed landscaping.

"Reference evapotranspiration." See "ETo."

"Turf" means a groundcover surface of grass with an irrigation water need of greater than thirty (30) percent of the ETo.

"Small landscape areas" means the new construction or rehabilitated landscape of less than 2,500 square feet, excluding plantings in pots or moveable planters, subject to the exclusions in Section 8.60.070.

"Special landscape area" (SLA) means an area of the landscape dedicated permanently and solely to edible plants (such as orchards or gardens), areas irrigated with recycled water, water features using recycled water, and areas dedicated to active play (such as parks, sports fields, golf courses) where turf provides a playing surface.

"Water budget calculation." See "maximum applied water allowance."

"Water conserving plants" means species with a low plant factor. May also be referred to as water efficient or water wise plants.

"Weather based irrigation controller" means a device that automatically adjusts the irrigation schedule based on changes in the weather.

"Water Efficient Landscape Worksheet" means the worksheets required by Section 492.4 of the Model Efficient Landscape Ordinance.

"Water Use Classification of Landscape Species" ("WUCOLS"), University of California, Cooperative Extension, current edition, applicable to the City of Hermosa Beach.

8.60.050 Procedures.

This Chapter shall be implemented through the Landscape Documentation Package application process. The Planning Commission may impose additional measures or conditions on the approval of applications for discretionary planning entitlements to further the purposes of this Chapter.

A. Application submittal. Prior to issuance of a building or related construction permit, the applicant shall submit a Landscape Documentation Package on forms supplied by the Community Development Department accompanied by a fee set by resolution of the City Council. The Package shall include:

1. A landscape design plan prepared by a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape in accordance with the provisions of the California Business and Professions Code Section 5641 et seq. relating to the practice of landscape architecture, and shall comply with all of the requirements of and contain the certification of compliance set forth in Section 492.6 of the Model Efficient Landscape Ordinance.

2. An irrigation design plan prepared by a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system in accordance with the provisions of the California Business and
Professions Code Section 5641 et seq. relating to design of irrigation systems, and shall comply with all of the requirements of and contain the certification of compliance set forth in Section 492.7 of the Model Efficient Landscape Ordinance.

3. A grading design plan prepared by a licensed civil engineer or other qualified professional as authorized by law, and shall comply with all of the requirements of and contain the certification of compliance set forth in Section 492.8 of the Model Efficient Landscape Ordinance.

4. A soils management plan completed by the applicant or his/her designee shall comply with all of the requirements of Section 492.5 of the Model Efficient Landscape Ordinance.

5. A Water Efficient Landscape Worksheet prepared by the applicant or his/her designee that complies with all of the requirements of Section 492.4 of the Model Efficient Landscape Ordinance.

B. Application review. The Community Development Director or his or her designee shall review the Landscape Documentation Package for compliance with this Chapter and approve, approve with conditions, or deny the application if the Director determines that the submittal does not comply with the requirements of this Chapter. Plans, worksheets, and related documents required by this Chapter and the construction permit process shall be modified consistent with approval of the Landscape Documentation Package.

C. Compliance verification.

1. Prior to a request for final landscape or final occupancy inspection, the preparer of the landscape design plan or irrigation design plan or the licensed landscape contractor shall inspect the installation and submit a Certificate of Completion certifying that the installation substantially conforms to the approved Landscape Documentation Package or modifications thereto approved by the City and documented on As-Built plans.

2. No building or other equivalent construction permit shall be issued unless and until the Certificate of Completion required by Subsection (C)(1) of this Section has been included on the final landscape plan submitted for plan check approval.

3. No building or other equivalent construction permit shall be given a final landscape inspection or issued a permanent Certificate of Occupancy until the Community Development Department approves the Certificate of Completion. Upon a decision to deny the Certificate of Completion, the applicant may modify and resubmit the application, apply for an exception from standards, or appeal the decision.

D. Exceptions from standards.

1. Requests for exceptions shall be in writing and shall be submitted to the Community Development Director at the time the application is submitted to the City for review, or within a reasonable amount of time after the applicant determines or is informed that compliance with a requirement in this Chapter is infeasible. Requests for exceptions must be accompanied by documentary evidence supporting the finding of equivalent or greater water conservation accompanied by a fee set by resolution of the City Council.
2. Exceptions to the standards set forth in Section 8.60.060 may be approved or conditionally approved by the Community Development Director or by the Planning Commission as part of the approval of a discretionary planning entitlement, upon making a finding based on substantial evidence that the exception will provide equivalent or greater water conservation than would be otherwise achieved by applying the standard.

E. **Appeals.** The decision of the Community Development Director may be appealed to the Planning Commission, and a decision of the Planning Commission may be appealed to the City Council, within ten (10) days of the decision. A written request shall be submitted to the City Clerk stating the grounds for the appeal accompanied by a fee adopted by resolution of the City Council. The City Council shall review the appeal at the next meeting that the item may be heard.

**8.60.060 Standards for New Landscape.**

"New landscape" as defined in Section 8.60.040 shall be designed and managed to use the minimum amount of water required to maintain plant health. New landscape shall comply with all of the requirements in Sections 492.6 through 492.15 of the Model Efficient Ordinance and the following, whichever is more restrictive, unless an exception is granted pursuant to Section 8.60.050(D).

A. **Plant material.**

1. Plant species and landscape design shall be adapted to the climate, soils, topographical conditions, and shall be able to withstand exposure to localized urban conditions such as pavement heat radiation, vehicle emissions and dust, and urban runoff. Water conserving plant and turf species shall be used.

2. Plant species or specifications shall comply with any official list of species, guidelines or regulations adopted by the City to the extent that such lists, guidelines or regulations do not conflict with this Chapter.

3. Plants listed in the current Invasive Plant Inventory for the southwest region by the California Invasive Plant Council or similar source acceptable the Community Development Director are prohibited, except for known non-fruiting, non-invasive, sterile varieties or cultivars. Plants known to be susceptible to disease or pests in this Climate Zone six (6) shall not be used.

4. The landscape area of projects proposing exclusively commercial or industrial uses shall be designed using exclusively water conserving plants. Single family residential, multifamily residential, mixed use and institutional use projects shall be designed with not more than twenty (20) percent of the total landscaped area in turf or high water use plants in the Water Use Classification for Landscape Species (WUCOLS). Turf may be used as a bio-swale or bio-filter or for functional purposes such as active recreational areas as determined by the Community Development Director. Public agencies shall be exempt from this requirement.

5. Turf shall not be allowed on slopes greater than twenty (20) percent. Where the toe of the slope is adjacent to an impermeable surface, alternatives to turf should be considered on slopes exceeding twenty (20) percent, meaning one (1) foot of vertical elevation change for every five (5) feet of horizontal length. Approved turf areas may be watered at 1.0 of the reference evapotranspiration (ETo).
6. Planted areas shall be covered with a minimum of two (2) inches of organic mulch, except in areas covered by groundcovers or within twenty-four (24) inches of the base of a tree, or where a reduced application is indicated. Additional mulch material shall be added from time to time as necessary to maintain the required depth of mulch.

7. Species and landscape design shall complement and to the extent feasible in compliance with this Chapter be proportional to the surroundings and streetscape and incorporate deciduous trees to shade west and south exposures. Landscaping shall not interfere with safe sight distances for vehicular traffic, the vision clearance in Section 17.46.060, height restrictions for hedges in 17.46.130, pedestrian or bicycle ways, or overhead utility lines or lighting.

B. Water features, pools and spas.

1. Recirculating water systems shall be used for water features. Where available, recycled water shall be used as a source for decorative water features.

2. Pools and spas shall be equipped with a cover and covered overnight and daily when use is concluded.

C. Grading and runoff. Landscape design shall minimize soil erosion and runoff.

1. Grading plans shall avoid disruption of natural drainage patterns to the extent feasible.

2. Grading plans shall demonstrate that normal rainfall and irrigation will remain within the property lines and not drain onto impermeable surfaces, walkways, sidewalks, streets, alleys, gutters, or storm drains.

3. Plans and construction shall protect against soil compaction within landscape areas.

4. Stormwater best management practices to minimize runoff, to increase on-site retention and infiltration, and control pollutants shall be incorporated into project plans. Rain gardens, cisterns, swales, structural soil, permeable pavement, connected landscape areas, and other landscape features and practices that increase onsite rainwater capture, storage and infiltration, emphasizing natural approaches over technology-based approaches that require ongoing maintenance, shall be considered during project design. Plans and practices shall comply with Chapter 8.44.

D. Irrigation systems.

1. An automatic irrigation system using either evapotranspiration or soil moisture sensor data, with a rain shut-off sensor, shall be installed. Drip irrigation emitters shall emit no more than two (2) gallons per hour.

2. An average landscape irrigation efficiency of 0.71 shall be used for the purpose of determining Maximum Applied Water Allowance. Irrigation systems shall be designed, maintained, and managed to meet or exceed this efficiency. Landscapes using recycled water are considered Special Landscape Areas, where the ET Adjustment Factor shall not exceed 1.0.
3. The irrigation system shall be designed to prevent water waste resulting in runoff, overspray, or similar conditions where irrigation water ponds or flows onto non-irrigated areas, walkways, sidewalks, streets, alleys, gutters, storm drains, adjacent property, or similar untargeted areas. Runoff to other permeable or impermeable surfaces shall not be allowed.

4. Narrow or irregularly shaped areas, including turf less than eight (8) feet in width in any direction, shall be irrigated with subsurface irrigation or low volume above-ground irrigation system.

5. Overhead irrigation shall not be permitted within two (2) feet of any impermeable surface. Drip, drip line, or other low flow non-spray technology shall be used.

6. All sprinklers shall have matched precipitation rates within each valve and circuit. All irrigation systems shall be designed to include optimum distribution uniformity, head to head spacing, and setbacks from sidewalks, pavement and impermeable surfaces.

7. All irrigation systems shall provide backflow prevention devices in accordance with the current edition of the California Building/Plumbing Code and check valves at the low end of irrigation lines to prevent unwanted draining of irrigation lines. Pressure regulators may be required if the pressure at the sprinkler head exceeds the manufacturer’s recommended optimal operating pressure.

8. Reclaimed water and graywater irrigation systems shall be used when reasonably feasible and shall conform to the current edition of the California Building/Plumbing Code, and all other applicable local, state and federal laws.

E. Irrigation system hydrozones.

1. The irrigation system shall conform to the hydrozones of the landscape design plan.

2. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use where the plant factor of the higher water using plant is used for calculations. No hydrozone shall mix high and low water use plants.

3. Sprinkler heads and other emission devices shall be appropriate for the plant type within that hydrozone. Where feasible, trees shall be placed on separate valves from turf, shrubs and groundcovers.

4. No landscape plan or restriction of any type, including those applicable to common interest developments such as condominiums, shall prohibit or include conditions that have the effect of prohibiting native or water conserving plants.

F. Landscape and irrigation maintenance.

1. All landscape and related elements shall be designed and properly maintained to insure long-term health and shall maintain conformance with the requirements of this Chapter.

2. Irrigation scheduling shall be regulated by automatic irrigation controllers.
3. Watering hours and duration shall be scheduled compliant with the requirements of Chapter 8.56.

4. A regular maintenance schedule shall include, but not be limited to, routine inspection, adjustment and repair of the irrigation system, aerating and dethatching turf areas, replenishing mulch, fertilizing, pruning, weeding and removing any obstruction to emission devices.

5. Repair of all irrigation equipment shall be promptly undertaken, using the originally installed components, or equivalent or enhanced components compatible with the irrigation system.

6. Landscape areas shall be permanently maintained and kept free of weeds, debris and litter; plant materials shall be maintained in a healthy growing condition and diseased or dead plant materials shall be replaced, in kind, pursuant to the approved plans within thirty (30) days. Alternatively, diseased or dead plant materials may be replaced with plant materials that have low water needs, as rated in the current edition of the Water Use Classification of Landscape Species.

7. The use, storage and disposal of all landscape and lawn care products shall comply with all manufacturer’s specifications and applicable laws, and minimize the discharge of pollutants to the environment.

G. Notwithstanding the requirements of this Section, landscape design and maintenance shall additionally comply with the requirements of Chapters 8.44 and 8.56, Title 17 (Zoning), any other applicable provisions of this code, and the requirements of a development permit, whichever is more restrictive.

8.60.070 Standards for Small Landscape Areas.

"Small landscape areas" as defined in Section 8.60.040 are subject to the provisions in this Section and are otherwise exempt from this Chapter

A. Procedures. Prior to issuance of a permit for construction, the applicant shall provide information substantiating compliance with this section to the satisfaction of the Community Development Director. The Planning Commission may impose additional measures or conditions on discretionary planning entitlements to further the purposes of this Chapter. No building or other equivalent construction permit shall be issued a permanent Certificate of Occupancy until the Community Development Director determines the project complies with the standards in this section. In the case of any decision to deny a permit issuance or certificate of occupancy, the applicant may modify and resubmit the application, apply for an exception from standards, or appeal the decision in accordance with Subsections D or E of Section 8.60.050.

B. Standards. Small landscape areas shall comply with the following standards. Provisions that are encouraged but not required are indicated with words such as 'should.'

1. Plant species and landscape design shall be adapted to the climate, soils, topographical conditions, and shall be able to withstand exposure to localized urban conditions such as pavement heat radiation, vehicle emissions and dust, and urban runoff. Water conserving plant and turf species shall be used. Where practical, such as in areas exceeding four
hundred (400) square feet of contiguous landscape, plantings should be arranged by hydrozones.

2. Plant species or specifications shall comply with any official list of species, guidelines or regulations adopted by the City to the extent that such lists, guidelines or regulations do not conflict with this Chapter.

3. Plants listed in the current Invasive Plant Inventory for the southwest region by the California Invasive Plant Council or similar recognized authority acceptable to the Community Development Director are prohibited, except for known non-fruiting, non-invasive, sterile varieties or cultivars. Plants known to be susceptible to disease or pests in this Climate Zone six (6) should not be planted.

4. The landscape area of projects proposing exclusively commercial, industrial or institutional uses shall be designed using exclusively water conserving plants. Turf may be used as a bio-swale or bio-filter or for functional purposes such as active recreational areas as determined by the Community Development Director. Turf shall not be allowed on slopes greater than twenty (20) percent. Deciduous trees should be used to shade west and south exposures.

5. Planted areas shall be covered with a minimum of two (2) inches of organic mulch, except in areas covered by groundcovers or within twenty-four (24) inches of the base of a tree, or where a reduced application is indicated. Additional mulch material shall be added from time to time as necessary to maintain the required depth of mulch.

6. Landscaping shall not interfere with safe sight distances for vehicular traffic, the vision clearance in Section 17.46.060, height restrictions for hedges in 17.46.130, pedestrian or bicycle ways, or overhead utility lines or lighting.

7. Plans and construction shall protect against soil compaction within landscape areas. Stormwater best management practices to minimize runoff, to increase on-site retention and infiltration, and control pollutants shall be incorporated into project plans. Rain gardens, cisterns, swales, structural soil, permeable pavement, connected landscape areas, and other landscape features and practices that increase onsite rainwater capture, storage and infiltration, emphasizing natural approaches over technology-based approaches, should be considered during project design. No plan or practice shall conflict with Chapter 8.44.

8. No landscape plan or restriction of any type, including those applicable to common interest developments such as condominiums, shall prohibit or include conditions that have the effect of prohibiting native or water conserving plants.

9. When irrigation systems are installed, an automatic irrigation system using either evapotranspiration or soil moisture sensor data, with a rain shut-off sensor, shall be installed. Drip irrigation emitters shall emit no more than two (2) gallons per hour. Watering hours and duration shall be compliant with the requirements of Chapter 8.56.

10. All irrigation systems shall be designed to prevent water waste resulting in runoff, overspray, or similar conditions where irrigation water ponds or flows onto non-irrigated areas, sidewalks, walkways, streets, alleys, storm drains, adjacent property, or similar
untargeted areas. Runoff to other permeable or impermeable surfaces shall not be allowed.

11. All landscape and related elements shall be properly maintained to insure long-term health and shall additionally comply with the requirements of Chapters 8.44 and 8.56, Title 17, any other applicable provisions of this code, and the requirements of a development permit, whichever is more restrictive. The use, storage and disposal of all lawn and landscape care products shall comply with all manufacturer specifications and applicable laws, and minimize the discharge of pollutants to the environment.

8.60.080 Existing Landscapes—Exceeding One Acre in Size.

Existing landscapes installed before January 1, 2010 exceeding one (1) acre in size per site shall comply only with the provisions in this Section and are otherwise exempt from this Chapter. “Site” means all contiguous property under one ownership, regardless whether separated by public rights-of-way.

A. No irrigation system shall result in water waste due to leaks or runoff, overspray, or similar conditions where irrigation water flows onto walkways, sidewalks, streets, alleys, storm drains, adjacent property, or similar untargeted areas.

B. Landscape design and maintenance shall additionally comply with the requirements of Chapters 8.44 and 8.56, Title 17 (Zoning), any other applicable provisions of this code, and the requirements of a development permit, whichever is more restrictive.

C. The City shall administer programs that may include, but are not limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use, and provision of recommendations as necessary to reduce landscape water use to a level that does not exceed a Maximum Applied Water Allowance calculated as: MAWA = (0.8) (ETo)(LA)(0.62). Programs for landscapes without a water meter may include, but are not limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

8.60.090 Penalties and Remedies.

Violations of the provisions of this Chapter are subject to the administrative penalty provisions of Chapter 1.10.

SECTION 2: The City Council finds that the water efficient landscape ordinance is at least as effective in conserving water as the California Department of Water Resource’s updated Model Water Efficient Landscape Ordinance as follows:

A. The ordinance is applicable to all new or altered development, including lower thresholds for development applicable to homeowner hired or installed landscaping, and a basic set of standards applicable to all landscaping regardless of landscape area.

B. Under the ordinance, landscaping shall be designed and irrigated so not to exceed 70% of the local evapotranspiration rate (ETo) established by the State for the City of Redondo Beach and surrounding areas of Los Angeles County.
C. Under the ordinance, landscape areas for commercial and industrial projects must use fully water conserving plants without turf, with only minor exceptions.

D. Under the ordinance, landscape areas for residential, mixed use, and institutional type projects shall be designed with less than 20% turf and non-water conserving plant materials.

E. Under the ordinance, automatic irrigation systems shall be designed to avoid overspray and runoff with optimum distribution uniformity and setbacks from hardscape, and shall employ a weather-based irrigation controller with a rain shut off sensor and check values at the end of each line to hold water in the system and prevent unwanted drainage from sprinkler heads.

F. Exceptions to the ordinance standards are allowed only upon a finding that alternative design will promote equivalent or greater water conservation.

G. Under the ordinance, installation and compliance verifications are required of the landscape designer.

H. Under the ordinance, the maximum annual applied water allowance calculation matches the California Department of Water Resource’s formula in its Model Water Efficient Landscape Ordinance.

I. Under the ordinance, the identification of water conserving plants matches that used by the California Department of Water Resource’s in its Model Water Efficient Landscape Ordinance; namely the “Water Use Classification of Landscape Species” prepared by the University of California Cooperative Extension.

**SECTION 3.** Section 15061(b)(3) of Title 14 of the California Code of Regulations exempts the project from the requirements of the California Environmental Quality Act because it enacts water efficient regulations that are applicable to new or altered landscape projects subject to project specific discretionary review. Therefore, it can be seen with certainty that there is no possibility that this ordinance will cause a direct physical change in the environment in that reducing water waste and requiring water conservation and healthy landscapes that emphasize climate appropriate plants and disallow invasive plants will have beneficial effects. In addition, this ordinance is an action being taken for enhanced protection of the environment that does not have the potential to cause significant effects on the environment. Also, it is categorically exempt in accordance with CEQA Guidelines §§ 15305 as a minor alteration in land use limitations which does not result in any changes in land use or density; 15308 as an action taken by a regulatory agency as authorized by California law to assure maintenance or protection of the environment; and 15307 as an action taken by a regulator agency to assure the maintenance, restoration and enhancement of water, a natural resource, through water efficient landscape regulations.

**SECTION 4.** This Ordinance shall become effective and be in full force and in effect from and after thirty (30) days of its final passage and adoption.

**SECTION 5.** Prior to the expiration of fifteen (15) days after the date of its adoption, the City Clerk shall cause this Ordinance to be published in the Easy Reader, a weekly newspaper of general circulation published and circulated in the City of Hermosa Beach, in the manner provided by law.

**SECTION 6.** The City Clerk shall certify to the passage and adoption of this Ordinance, shall enter the same in the book of original Ordinances of said City, and shall make minutes of the passage and adoption thereof in the records of the proceedings of the City Council at which the same is passed and adopted.
PASSED, APPROVED and ADOPTED this ____ of _______________ 2010 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

PRESIDENT of the City Council and MAYOR of the City of Hermosa Beach, California

ATTEST:

__________________________
City Clerk
§ 490. Purpose.
(a) The State Legislature has found:
(1) that the waters of the state are of limited supply and are subject to ever increasing demands;
(2) that the continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses;
(3) that it is the policy of the State to promote the conservation and efficient use of water and to prevent the waste of this valuable resource;
(4) that landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; and
(5) that landscape design, installation, maintenance and management can and should be water efficient; and
(6) that Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.
(b) Consistent with these legislative findings, the purpose of this model ordinance is to:
(1) promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
(2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects;
(3) establish provisions for water management practices and water waste prevention for existing landscapes;
(4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount;
(5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;
(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; and
(7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

§ 490.1 Applicability
(a) After January 1, 2010, this ordinance shall apply to all of the following landscape projects:
(1) new construction and rehabilitated landscapes for public agency projects and private development projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review;
(2) new construction and rehabilitated landscapes which are developer-installed in single-family and multi-family projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;
(3) new construction landscapes which are homeowner-provided and/or homeowner-hired 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;
(4) existing landscapes limited to Sections 492.4, 492.11 and 492.12; and existing cemeteries are limited to Sections 493, 493.1 and 493.2.
(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) plant collections, as part of botanical gardens and arboretsms open to the public.

§ 491. Definitions.
The terms used in this ordinance have the meaning set forth below:
(a) "applied water" means the portion of water supplied by the irrigation system to the landscape.
(b) "automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
(c) "backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
(d) "Certificate of Completion" means the document required under Section 492.9.
(e) "certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.
(f) "certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.
(g) "check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.
(h) "common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

(i) "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.

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

(k) "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

(l) "effective precipitation" or "usable rainfall" (Ept) means the portion of total precipitation which becomes available for plant growth.

(m) "emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.

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

(o) "establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth.

(p) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 492.4.

(q) "ET adjustment factor" (ETAF) means a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.

A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ETAF, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor is (0.7)=0.5/0.71. ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

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

(s) "flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

(t) "hardscapes" means any durable material (pervious and non-pervious).

(u) "homeowner-provided landscaping" means any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner. A homeowner, for purposes of this ordinance, is a person who occupies the dwelling he or she owns. This excludes speculative homes, which are not owner-occupied dwellings.

(v) "hydrozone" means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

(w) "infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

(x) "invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA Invasive and Noxious weeds database.

(y) "irrigation audit" means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overflow, and preparation of an irrigation schedule.

(z) "irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this ordinance is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.

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

(bb) "irrigation use analysis" means an analysis of water use data based on meter readings and billing data.

(cc) "landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

(dd) "landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Allowed Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

(ee) "landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

(ff) "landscape documentation package" means the documents required under Section 492.3.

(gg) "landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 490.1.

(hh) "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(ii) "local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.

(jj) "local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.

(kk) "low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
(II) "main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(mm) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscape area as specified in Section 492.4. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAIF not to exceed 1.0.

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

(o) "mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

(pp) "mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

(q) "new construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

(r) "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

(ss) "overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).

(tt) "overspray" means the irrigation water which is delivered beyond the target area.

(uu) "permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

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

(ww) "plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for low water use plants is 0 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species".

(xx) "precipitation rate" means the rate of application of water measured in inches per hour.

(yy) "project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 492.3, to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.

(zz) "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.

(aaa) "record drawing" or "as-built" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

(bbb) "recreational area" means areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.

(ccc) "recycled water", "reclaimed water", or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.

(ddd) "reference evapotranspiration" or "ETo" is expressed in inches per day, month, or year as represented in Section 495.1, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

(eee) "rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 490.1, and the modified landscape area is equal to or greater than 2,500 square feet, is 50% of the total landscape area, and the modifications are completed within one year.

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

(ggg) "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

(hhh) "soil texture" means the classification of soil based on its percentage of sand, silt, and clay.

(iii) "Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

(iii) "sprinkler head" means a device which delivers water through a nozzle.

(kkk) "static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.

(lll) "station" means an area served by one valve or by a set of valves that operate simultaneously.

(mmm) "swinging joint" means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

(nn) "turf" means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

(oo) "valve" means a device used to control the flow of water in the irrigation system.

(ppp) "water conserving plant species" means a plant species identified as having a low plant factor.

(qqq) "water feature" means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included
in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

(2) "watering window" means the hours of day irrigation is allowed.

(3) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

§ 492. Provisions for New Construction or Rehabilitated Landscapes.
(a) A local agency may designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

§ 492.1 Compliance with Landscape Documentation Package.
(a) Prior to construction, the local agency shall:
(1) provide the project applicant with the ordinance and procedures for permits, plan checks, or design reviews;
(2) review the Landscape Documentation Package submitted by the project applicant;
(3) approve or deny the Landscape Documentation Package;
(4) issue a permit or approve the plan check or design review for the project applicant; and
(5) upon approval of the Landscape Documentation Package, submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.
(b) Prior to construction, the project applicant shall:
(1) submit a Landscape Documentation Package to the local agency.
(c) Upon approval of the Landscape Documentation Package by the local agency, the project applicant shall:
(1) receive a permit or approval of the plan check or design review and record the date of the permit in the Certificate of Completion;
(2) submit a copy of the approved Landscape Documentation Package along with the record drawings, and any other information to the property owner or his/her designee; and
(3) submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.

§ 492.2 Penalties.
(a) A local agency may establish and administer penalties to the project applicant for non-compliance with the ordinance to the extent permitted by law.

§ 492.3 Elements of the Landscape Documentation Package.
(a) The Landscape Documentation Package shall include the following six (6) elements:
(1) project information;
(A) date
(B) project applicant
(C) project address (if available, parcel and/or lot number(s))
(D) total landscape area (square feet)
(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
(G) checklist of all documents in Landscape Documentation Package
(H) project contacts to include contact information for the project applicant and property owner
(I) applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package".
(2) Water Efficient Landscape Worksheet;
(A) hydrozone information table
(B) water budget calculations
1. Maximum Applied Water Allowance (MAWA)
2. Estimated Total Water Use (ETWU)
(3) soil management report;
(4) landscape design plan;
(5) irrigation design plan; and
(6) grading design plan.

§ 492.4 Water Efficient Landscape Worksheet.
(a) A project applicant shall complete the Water Efficient Landscape Worksheet which contains two sections (see sample worksheet in Appendix B):
(1) a hydrozone information table (see Appendix B, Section A) for the landscape project; and
(2) a water budget calculation (see Appendix B, Section B) for the landscape project. For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETWU values from the Reference Evapotranspiration Table in Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.
(b) Water budget calculations shall adhere to the following requirements:
(1) The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
(2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
(3) All Special Landscape Areas shall be identified and their water use calculated as described below.
(4) ETAF for Special Landscape Areas shall not exceed 1.0.
(c) Maximum Applied Water Allowance
The Maximum Applied Water Allowance shall be calculated using the equation:

\[ \text{MAWA} = (ETo)(0.62) \left[ (0.7 \times LA) + (0.3 \times SLA) \right] \]

The example calculations below are hypothetical to demonstrate proper use of the equations and do not represent an existing or planned landscape project. The ETo values used in these calculations are from the Reference Evapotranspiration Table in Appendix A, for planning purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and shall use current reference evapotranspiration data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

(1) Example MAWA calculation: a hypothetical landscape project in Fresno, CA with an irrigated landscape area of 50,000 square feet without any Special Landscape Area (SLA=0, no edible plants, recreational areas, or use of recycled water). To calculate MAWA, the annual reference evapotranspiration value for Fresno is 51.1 inches as listed in the Reference Evapotranspiration Table in Appendix A.

\[ \text{MAWA} = (ETo)(0.62) \left[ (0.7 \times 50,000 \text{ square feet}) + (0.3 \times 0) \right] \]
\[ = 1,108,870 \text{ gallons per year} \]

To convert from gallons per year to hundred-cubic-feet per year:
\[ = 1,108,870 / 748 = 1,482 \text{ hundred-cubic-feet per year} \]

(100 cubic feet = 748 gallons)

(2) In this next hypothetical example, the landscape project in Fresno, CA has the same ETo value of 51.1 inches and a total landscape area of 50,000 square feet. Within the 50,000 square foot project, there is now a 2,000 square foot area planted with edible plants. This 2,000 square foot area is considered to be a Special Landscape Area.

\[ \text{MAWA} = (ETo)(0.62) \left[ (0.7 \times LA) + (0.3 \times SLA) \right] \]
\[ = 31.68 \times [35,000 + 600] \text{ gallons per year} \]
\[ = 31.68 \times 35,600 \text{ gallons per year} \]
\[ = 1,127,808 \text{ gallons per year or } 1,508 \text{ hundred-cubic-feet per year} \]

(d) Estimated Total Water Use.
The Estimated Total Water Use shall be calculated using the equation below. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed MAWA.

\[ ETWU = (ETo)(0.62) \left( \frac{PF \times HA}{IE} + SLA \right) \]

Where:

\[ ETWU = \text{Estimated Total Water Use per year (gallons)} \]
\[ ETo = \text{Reference Evapotranspiration (inches)} \]
\[ PF = \text{Plant Factor from WUCOLS (see Section 491)} \]
\[ HA = \text{Hydrozone Area [high, medium, and low water use areas] (square feet)} \]
\[ SLA = \text{Special Landscape Area (square feet)} \]
\[ 0.62 = C \text{onversion Factor} \]
\[ IE = \text{Irrigation Efficiency (minimum 0.71)} \]
(1) Example ETWU calculation: landscape area is 50,000 square feet; plant water use type, plant factor, and hydrozone area are shown in the table below. The ETo value is 51.1 inches per year. There are no Special Landscape Areas (recreational area, area permanently and solely dedicated to edible plants, and area irrigated with recycled water) in this example.

<table>
<thead>
<tr>
<th>Hydrozone</th>
<th>Plant Water Use Type(s)</th>
<th>Plant Factor (PF)*</th>
<th>Hydrozone Area (HA) (square feet)</th>
<th>PF x HA (square feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High</td>
<td>0.8</td>
<td>7,000</td>
<td>5,600</td>
</tr>
<tr>
<td>2</td>
<td>High</td>
<td>0.7</td>
<td>10,000</td>
<td>7,000</td>
</tr>
<tr>
<td>3</td>
<td>Medium</td>
<td>0.5</td>
<td>16,000</td>
<td>8,000</td>
</tr>
<tr>
<td>4</td>
<td>Low</td>
<td>0.3</td>
<td>7,000</td>
<td>2,100</td>
</tr>
<tr>
<td>5</td>
<td>Low</td>
<td>0.2</td>
<td>10,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>

*Plant Factor from WUCOLS

\[
ETWU = (51.1)(0.62)\left(\frac{24,700}{0.71} + 0\right)
\]

= 1,102,116 gallons per year

Compare ETWU with MAWA: For this example MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 0)] = 1,108,870 gallons per year. The ETWU (1,102,116 gallons per year) is less than MAWA (1,108,870 gallons per year). In this example, the water budget complies with the MAWA.

(2) Example ETWU calculation: total landscape area is 50,000 square feet, 2,000 square feet of which is planted with edible plants. The edible plant area is considered a Special Landscape Area (SLA). The reference evapotranspiration value is 51.1 inches per year. The plant type, plant factor, and hydrozone area are shown in the table below.

<table>
<thead>
<tr>
<th>Hydrozone</th>
<th>Plant Water Use Type(s)</th>
<th>Plant Factor (PF)*</th>
<th>Hydrozone Area (HA) (square feet)</th>
<th>PF x HA (square feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High</td>
<td>0.8</td>
<td>7,000</td>
<td>5,600</td>
</tr>
<tr>
<td>2</td>
<td>High</td>
<td>0.7</td>
<td>9,000</td>
<td>6,300</td>
</tr>
<tr>
<td>3</td>
<td>Medium</td>
<td>0.5</td>
<td>15,000</td>
<td>7,500</td>
</tr>
<tr>
<td>4</td>
<td>Low</td>
<td>0.3</td>
<td>7,000</td>
<td>2,100</td>
</tr>
<tr>
<td>5</td>
<td>Low</td>
<td>0.2</td>
<td>10,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>

| Sum       |                         |                    |                                   | 23,500               |

| 6         | SLA                     | 1.0                | 2,000                             | 2,000                |