Attachment D

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MONTEREY COUNTY LANDSCAPE MANUAL

Standards, Guidelines and Specified Performance Requirements for Landscape Water Use and Irrigation

Draft February 9, 2016

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SECTION 1 – INTRODUCTION

A. Purpose

The *Standards, Guidelines and Specified Performance Requirements for Landscape Water Use and Irrigation* ("Landscape Manual" or "this manual") was adopted by resolution of the Monterey County Board of Supervisors and may be amended from time to time to address new landscaping requirements or technology, and to clarify and provide guidance related the County's process and procedures for landscaping. The Landscape Manual is specifically authorized as an informational and implementing tool by Chapters 16.63 and 16.64 of the Monterey County Code, which were enacted by County of Monterey Ordinance Nos. ____, respectively. The information contained within this manual is applicable to both the coastal and inland areas of the County. Furthermore, any mention or reference to regulations set forth in the "Landscape Ordinance" within this manual means both ordinances for the coastal and inland areas, as codified at Chapters 16.63 and 16.64.

The purpose of this manual is to provide applicants with comprehensive guidance to comply with the County's landscape requirements for either Minor Landscape projects or Major Landscape projects, including a clear explanation of specific procedures and related technical information for landscape and irrigation projects subject to the Landscape Ordinance. In addition, the manual shall serve as a tool to provide property owners a greater understanding of the importance and benefits of efficient use of water and energy in landscaping. Best management practices are identified as well as other situations that a property owner should keep in mind when designing a landscape plan (i.e. natural areas, critical habitat, flood-prone areas, etc.), even if the landscape project is exempt from any permit requirement.

B. Appendices

Appendices have been incorporated to provide applicants with additional information and the landscape package submittal forms required for compliance with the requirements of the Landscape Ordinance. The appendices, which may be updated periodically include:

The Landscape Package Application and Submittal Form

This form will include important project information to be completed by the applicant and contains a checklist of the required submittal documents for the landscape package. This form will be submitted to the Director of Planning as part of the landscape package.

The Water Efficient Landscape Worksheet for Major Landscapes

This worksheet will be completed by the applicant for Major Landscape projects in order to demonstrate how they are consistent with the water efficient requirements of the Landscape Ordinance. This worksheet includes four components: 1) the Hydrozone Information Table; 2) the project's Maximum Applied Water Allowance ("MAWA") calculation; 3) the Hydrozone/Plant Factor Calculation worksheet; and 4) the project's Estimated Total Water Use ("ETWU") calculation. Further explanation of these components can be found in Section 4.2 of this manual.

Certificates of Completion for Minor and Major Landscapes

In order to ensure the landscape planting and irrigation installation has been completed per the approved plans, the applicant will be required to submit a Minor Certificate of Completion for Minor Landscape projects or a Certificate of Completion for Major Landscape projects. The certificate will include information such as certifying installation, and a regular planting and irrigation maintenance schedule.

Glossary

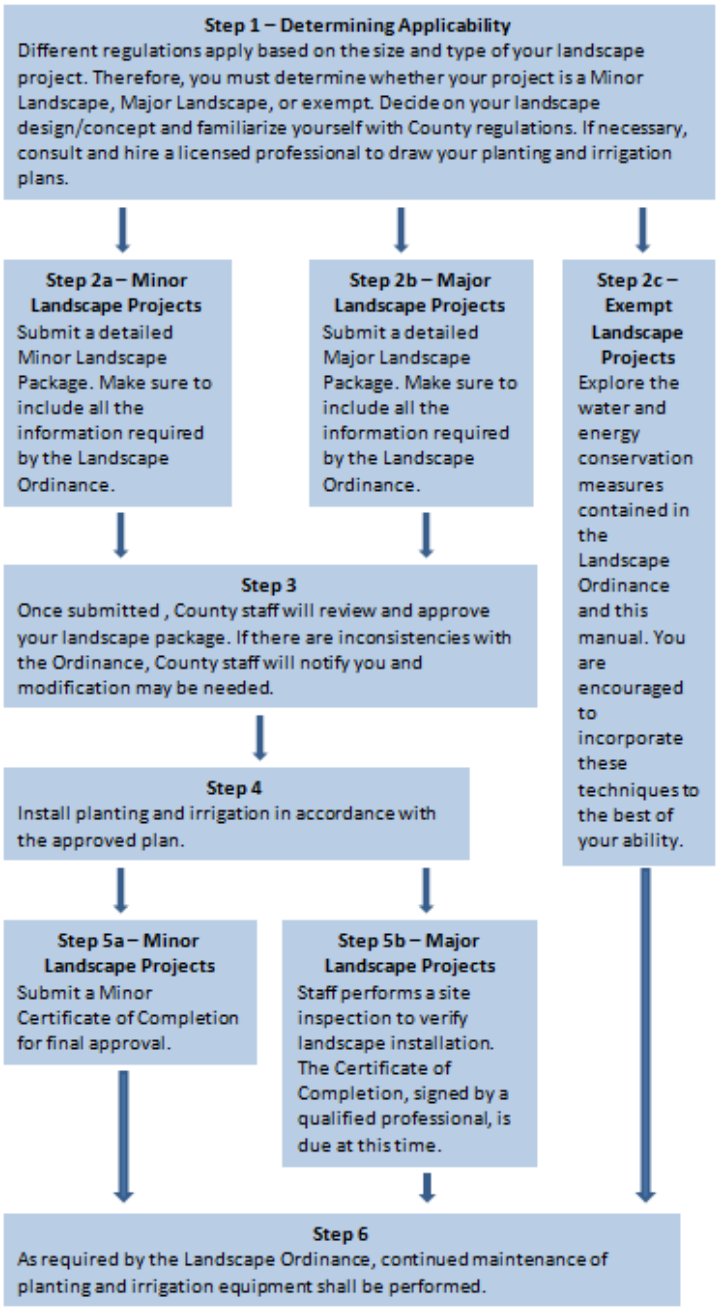
The definitions included in the Landscape Ordinance are also included in this manual.

C. Summary of Landscape Review and Process

The information below provides a general guideline for applicants, illustrating the process for submittal, review, approval, and maintenance of landscape projects subject to the Landscape Ordinance:

Step 1 – Determining Applicability

Once you have determined how the Landscape Ordinance applies to your proposed project (see Section 2 of this manual), certain factors should be taken into account prior to preparing a landscape design in order to comprehensively address all requirements related to landscaping. These factors may include requirements of the Landscape Ordinance, this manual, policies contained in the applicable Area or Land Use Plans, zoning requirements, conditions of approval for related discretionary permits for the project site, and additional requirements from other agencies. For example, water and energy conservation requirements must be aligned with fuel management and tree removal requirements. Selected plant species must be drought tolerant and invasive plants are to be avoided.



Keep in mind if and how the landscape project would affect the existing environment of the site. Are there areas on the property where landscape planting and irrigation should be avoided? For example, is the area flood-prone, landslide-prone, or in a preserved natural area? Is the property located in an area where a wildlife corridor is located? If so, would the landscape project have a negative impact on this area or would the planted vegetation survive if continuously consumed by the existing wildlife? Are trees and shrubs spaced appropriately to allow for fire breaks?

Step 2a – Documents Required for Submittal for Minor Landscape Projects

Landscaping subject to the regulations for Minor Landscape projects in the Landscape Ordinance are required to submit a detailed Minor Landscape Package to the Director of Planning for review and approval prior to installation. For discretionary permits (such as a Use Permit or other entitlement), submittal of a conceptual landscape plan is required with the discretionary application followed by submittal of the Minor Landscape Package prior to the issuance of the related grading or building permit.

Step 2b – Documents Required for Submittal for Major Landscape Projects

Landscaping subject to the regulations for Major Landscape projects in the Landscape Ordinance are required to submit a detailed Major Landscape Package to Director of Planning for review and approval prior to installation. For discretionary permits (such as a Use Permit or other entitlement), submittal of a conceptual landscape plan is required with the discretionary application followed by submittal of a Major Landscape Package prior to the issuance of the related grading or building permit.

Step 2c – Exempt Landscape Projects

In an effort to reduce water consumption to greatest extent feasible, applicants with projects exempt from the regulations contained in the Landscape Ordinance are strongly encouraged to incorporate the water and energy efficient techniques found in the Landscape Ordinance and this manual.

Step 3 – Approval of the Submitted Landscape Package

The Minor or Major Landscape Package must be approved prior to the issuance of an associated ministerial permit (such as a grading or building permit) or design approval. Once the package has been reviewed by the Director of Planning, and any necessary corrections have been made by the applicant, the final landscape and irrigation plans will be signed, stamped approved by the County, and a "Job Copy" returned to the applicant. Installation of the landscaping may not proceed until this approval is complete.

Step 4 – Landscape Installation

Landscaping and irrigation must be installed in conformance with the plans approved by the Director of Planning.

Step 5a – Verification of Installation and Minor Certificate of Completion Submittal for Minor Landscape projects

The applicant shall submit a Minor Certificate of Completion (see Section 3.D and Appendix D) to the Director of Planning to verify that the installed landscaping is in conformance with the approved plans prior to granting of a "final" for an associated ministerial permit (such as a grading or building permit).

Step 5b – Verification of Installation and Certificate of Completion Submittal for Major Landscape projects

The applicant shall submit a Certificate of Completion (see Section 4.5 and Appendix E) and schedule a site inspection with the Director of Planning to verify that the installed landscaping is in conformance with the approved plans prior to granting of a "final" for an associated ministerial permit (such as a grading or building permit). If during installation the applicant needs to modify the planting and/or irrigation beyond what is considered consistent with what

was approved, and the modification is found acceptable by the Landscape Architect/Designer of record, the applicant will be required to submit "as-built" plans to the Director of Planning along with a statement of why the modification is necessary.

Step 6 – Continued Maintenance

Landscape areas and irrigation equipment are required to be maintained, in accordance with the Landscape Ordinance and this manual, for the life of the project, in healthy condition, free from disease, pests, weeds and trash. As stated previously, the applicant will be required to submit either a Minor Certificate of Completion or a Certificate of Completion which will include information for long term maintenance of landscape planting and irrigation equipment. If the landscape and/or irrigation system is not properly maintained the project owner could be subject to a code violation by the County.

SECTION 2 – APPLICABILITY

The Landscape Ordinance applies to new landscape areas that are 500 square feet or greater, or rehabilitated landscapes that are 2,500 square feet or greater. The landscape area of a project is considered to be all the areas on a property that are dedicated to landscaping, unless otherwise found to be exempt (see Subsection D). In order to reduce the complexity and costs for smaller landscape projects, the requirements of the Landscape Ordinance are divided into two different tiers: Minor Landscape projects and Major Landscape projects.

A. Minor Landscapes

The applicability development thresholds for Minor Landscape projects are:

- Construction of a new building where the new landscaped area is between 500 to 2,500 square feet and where the project requires a grading permit, building permit, or design approval.
- New landscape areas that are between 500 to 2,500 square feet not associated with any new buildings, but require a grading permit, building permit, or design approval.
- Rehabilitated landscape projects that: 1) require a grading permit, building permit, or design approval, and 2) consist of a modified landscape area of 2,500 square feet.

B. Major Landscapes

The applicability development thresholds for Major Landscape projects are:

- Construction of a new building where the new landscaped area is greater than 2,500 square feet and where the project requires a grading permit, building permit, or design approval.

- New landscape areas that are greater than 2,500 square feet not associated with any new buildings, but require a grading permit, building permit, or design approval.
- Rehabilitated landscape projects that: 1) require a grading permit, building permit, or design approval, and 2) consist of a modified landscape area greater than 2,500 square feet.

C. Exempt Landscaping

Although the primary focus of this manual is to explain the requirements of the Landscape Ordinance, the information is also provided to help applicants with smaller landscape undertakings that are exempt. Projects exempt from the requirements of the Landscape Ordinance include:

- Landscaping projects on registered local, state, or federal historical sites listed in either the County of Monterey's Register of Historical Resources, the California Register of Historic Places, or the National Register of Historic Places;
- Ecological restoration projects (e.g. sites altered to establish a defined, indigenous, historic ecosystem) with no permanent irrigation system;
- Mined-land reclamation projects (surface mining operations with an approved reclamation plan) with no irrigation system;
- Plant collections, as part of botanical gardens and arboretums open to the public;
- Agricultural cultivation activities;
- Construction of structures that do not include changes in existing landscape;
- Changes in use of an existing structure with no changes to landscaping;
- Private edible plant gardens and/or orchards for personal and individual consumption;
- Construction of wetlands or areas that are not irrigated and used solely for on-site wastewater treatment;
- New, existing or rehabilitated stormwater quality projects that are not irrigated and used solely for the purpose of improving runoff quality and/or retaining runoff for onsite infiltration;

- Natural areas including, but not limited to: open space, native vegetative areas, and hardscapes with no permanent irrigation system;
- Erosion control activities with no permanent irrigation system such as hydroseeding; and
- Landscapes existing as of the effective date of Ordinance Nos. ___ and ___ enacting Chapters 16.63 and 16.64.

D. Other Landscape Regulations

In addition to the Landscape Ordinance, other County water conservation regulations that relate to landscaping, such as Monterey County Code (MCC) Chapters 18.44 and 18.50, and the Monterey County Coastal Implementation Plans, Parts 2 through 5 also continue to apply. Regulations related to water use are also enforced by the Monterey County Water Resources Agency, the Monterey Peninsula Water Management District, and the Marina Coast Water District for projects located within their jurisdictional areas.

Projects exempt from the Landscape Ordinance may still be subject to these additional regulations which would require submittal of a landscape and irrigation plan to the County or other agencies. Many of these regulations call for the use of drought tolerant plants, native plants, and the use of low precipitation sprinkler heads, bubblers, drip irrigation system and timing devices as part of the exterior landscape. Furthermore, existing County policies generally encourage the use of native plants, fire resistant plants, and the eradication of invasive plant species.

1. Monterey County Code Chapter 18.44

Monterey County Code ("MCC") Chapter 18.44 requires new construction served by the California American Water Service Company to incorporate low water use or native plants, and low water use irrigation systems as part of the landscape design. Discretionary permits for projects in these areas are typically conditioned to require the submittal of landscape and irrigation plans to be reviewed and approved before the issuance of building permits. Then, prior

to final of the building permit, County staff will verify that the landscaping and irrigation equipment was installed in accordance to the approved plans.

2. Monterey County Code Chapter 18.50

Similar to MCC Chapter 18.44, MCC Chapter 18.50 also requires new construction to incorporate low water use or native plants, and low water use irrigation systems as part of the landscape design. However, Chapter 18.50 is only applicable to property located within the Greater Salinas, Toro, and Greater Monterey Peninsula planning areas, as well as a portion of the North County Planning Area (including the Coastal Zone). Discretionary permits for projects in these areas are typically conditioned to require the submittal of landscape and irrigation plans to be reviewed and approved before the issuance of building permits. Then, prior to final of the building permit, County staff will verify that the landscaping and irrigation equipment was installed in accordance to the approved plans.

3. Monterey County Coastal Implementation Plan, Parts 2 through 5

The North County, Big Sur, Carmel Area, and the Del Monte Forest Coastal Implementation Plans include policies that address water conservation relative to landscaping. Similar to other regulations described above, the 1982 General Plan and state law require water conservation techniques in the coastal zone including planting low water use (or drought tolerant) vegetation, water efficient irrigation systems, and incorporating recycled water where feasible. Discretionary permits for projects in these areas are typically conditioned to require the submittal of landscape and irrigation plans. The landscape and irrigation plans are reviewed and approved by the Director of Planning before the issuance of building permits. Then, prior to final of the building permit, County staff is required to verify that the landscaping and irrigation equipment was installed in accordance to the approved plans.

4. Monterey County Water Resources Agency

On January 22, 1997, the Monterey County Water Resources Agency adopted Ordinance No. 3932, addressing water efficiency in landscaping through the use of drought tolerant planting, encouraging the use of non-potable water for landscape irrigation, and limiting the use of turf grass.

5. Monterey Peninsula Water Management District and the Marina Coast Water District

There are areas within unincorporated Monterey County that are located within the Monterey Peninsula Water Management District ("MPWMD") or the Marina Coast Water District ("MCWD") and therefore are subject to those applicable regulations. MPWMD Rule 142, Water Efficiency Standards, requires landscaping to be consistent with the State Model Water Efficient Landscape Ordinance. In addition, MCWD Ordinance No. 40 and Section 3.36.030.S.2, Water Conservation, of the MCWD Code requires new construction to conform to the requirements of the State Model Water Efficient Landscape Ordinance.

SECTION 3 – LANDSCAPE PACKAGE FOR MINOR LANDSCAPES

A. General Requirements and Content

Projects meeting the applicability thresholds for Minor Landscape projects subject to the Landscape Ordinance are required to submit a Minor Landscape Package to the Director of Planning. In order for the Director of Planning to approve the package, the proposed project must comply with the provisions of the Landscape Ordinance, this manual, other applicable provisions or codes, as well as the conditions of approval for any applicable land use permit or other discretionary approval related to the specific project.

If the Director of Planning finds the package inconsistent with the Landscape Ordinance and denies the application, staff will provide the project applicant with information regarding resubmittal with the appropriate information or their right to file an appeal.

The Minor Landscape Package will need to incorporate a limited amount of information, when compared to a Major Landscape Package, but should be in enough detail to: 1) meet the requirements of the Landscape Ordinance, and 2) demonstrate how the project is water and energy efficient. The applicant will need to provide general information such as applicant, owner and project information. This will be delineated on the Landscape Application and Submittal Form (Appendix A) and on the cover sheet of the submitted plans. As part of the verification process, the project applicant will need to self-certify that the plans submitted conform to the applicable regulations of the Landscape Ordinance. Therefore the following statement shall be submitted with the landscape package: ***"I _____ agree to comply with the Monterey County Minor Landscape requirements including, but not limited to, the use of native drought tolerant, non-invasive species, and limited turf."*** The verification will need to be signed and dated by the applicant as well as the property owner, if different from the project applicant.

B. Planting and Irrigation Plans

As stated above, the Landscape Ordinance requires submittal of specific information for Minor Landscape projects. Although the planting plans and irrigation plans are not required to be drawn by a licensed professional, they need to include the following:

- Information on soil amendments used, such as compost or mulch.
- Show that the landscape design has compost at a rate of at least 4 cubic yards per 1,000 square feet to a depth of 6 inches into the landscape area, unless contraindicated by a Soils Management Report.
- Show that least 75% or more of the total planting area for a residential landscape project uses climate adaptive plants that require occasional, little, or no summer water. Such plants will need to have a WUCOLS plant factor of 0.3 or less.
- Show that at least 100% of the total planting area for a non-residential landscape project uses climate adaptive plants that require occasional, little, or no summer water. Such plants will need to have a WUCOLS plant factor of 0.3 or less.
- Any turf included as part of a residential landscape project will need to be limited to either 20% of the total landscape area or 1,500 square feet, whichever is less.
- Turf is strictly prohibited in the following areas:
    - Non-residential Minor Landscapes;
    - Areas where the slope exceeds 10%;
    - Planting areas that are 8 feet wide or less; and
    - Street medians, traffic islands, planter strips, or bulb-outs of any size.
- The design and components of the proposed irrigation will need to be sufficient in preventing water waste. The irrigation systems are required to meet the minimum standards:
    - Include the use of automatic irrigation controllers;
    - Include soil moisture and rain sensor(s) to prevent irrigation during wet weather;

- Include a manual shutoff valve located as close as possible to the point of connection of the water supply;
- Incorporate subsurface irrigation, especially in areas less than 10 feet in width; and
- Include installation of a private submeter for all non-residential Minor Landscapes served by a public water system and having landscape areas of 1,000 square feet or more.

C. Irrigation with Graywater or Rainwater

Minor Landscape projects incorporating irrigation solely using treated or untreated graywater or rainwater captured onsite, and used to irrigate the entire landscape area, will be subject to approval of the County's Environmental Health Bureau. Planting and irrigation plans are required as part of the Minor Landscape Package; however, they are not subject to MCC Sections 16.63.050.C.1 through 16.63.050.C.4 (coastal) and 16.64.050.C.1 through 16.64.050.C.4 (inland).

D. Completion and Ongoing Maintenance

When installation of the Minor Landscape project has been completed, the project applicant is required to provide a Minor Landscape Certificate of Completion to the owner of the property (if different from the applicant) and the Director of Planning. The Minor Certificate of Completion will need to be submitted on the approved form found in Appendix D of this manual and include the following:

- General project information,
- A certificate of installation,
- An irrigation schedule, and
- A landscape planting and irrigation maintenance schedule.

The irrigation schedule will need to include the irrigation run times taking into consideration emission devices, and flow rates so that the applied water continuously prevents water waste.

The regular maintenance of landscape planting promotes plant health, ensures water use efficiency, and lowers costs to the owner. Maintenance of Minor landscapes will need to include:

- Routine inspection of planting areas and individual plants to remove dead vegetation and adjust fertilization, watering, etc.
- Aerating and dethatching turf areas.
- Replenishing mulch as needed.
- Fertilizing, pruning and weeding in all landscape areas.

Before the applicant/owner of the property can be granted occupancy or obtain final for the associated grading or building permit, the Director of Planning will need to approve or deny the Minor Certificate of Completion. If the certificate is denied, the applicant will need to work with staff to resubmit the correct and/or missing information. If substantial changes occurred during installation, the applicant shall either apply for an amendment to the approved landscape package or file an appeal of the Director of Planning's denial.

E. Final Inspection

Once the Minor Certificate of Completion has been submitted as outlined above, the Director of Planning will need to perform a final inspection of the landscape installation. This inspection is for the verification of installation with the approved plans and certificate.

SECTION 4 – LANDSCAPE PACKAGE FOR MAJOR LANDSCAPES

A. General Requirements

Projects meeting the applicability thresholds for Major Landscape projects subject to the Landscape Ordinance are required to submit a Major Landscape Package to the Director of Planning. In order for the Director of Planning to approve the package, the proposed project must comply with the provisions of the Landscape Ordinance, Landscape Manual, other applicable provisions or codes, as well as the conditions of approval for any applicable land use permit or other discretionary approval related to the specific project.

If the Director of Planning finds the package to be inconsistent with the Landscape Ordinance and denies the application, staff will provide the project applicant with information regarding resubmittal with the appropriate information or their right to file an appeal.

B. Submittal Requirements

A complete Major Landscape Package includes the following components which are described in more detail in the referenced sections of this manual:

- Landscape Package Application and Submittal Form (see Appendix A) containing the following information:
    - Project Applicant/Property Owner and contact information.
    - Project Address, Assessor's Parcel Number, and vicinity map.
- General Verification: The Major Landscape Package shall contain the following statement: ***"I _____ agree to comply with the Monterey County Major Landscape requirements including, but not limited to, the use of native, drought tolerant, non-***

invasive species, and limited turf." The verification will need to be signed and dated by the applicant as well as the property owner, if different from the project applicant.

- Planting Plan (see Section 4.1)
- Water Efficient Landscape Worksheet including water budget calculations for MAWA and ETWU (see Section 4.2 and Appendix B)
- Irrigation Plan (see Section 4.3)
- Soil Management Report (see Section 4.4)
- Final Inspection (see Section 4.6)

SECTION 4.1 – PLANTING PLANS FOR MAJOR LANDSCAPES

The Planting Plan is a site plan that depicts the existing and proposed conditions of the landscape area. The plan shows the locations of all proposed planting areas, identifies the species and sizes of the plant materials to be installed, and depicts existing vegetation to be retained and/or removed. If existing trees are to be removed, such removal must be in conformance with County tree removal requirements and any required tree removal permits must be obtained before tree removal takes place. In addition, the planting must be in conformance with Fuel Management/Fire Hazard requirements of the adopted California Fire Code and MCC Chapter 18.09 (Fire Code).

Planting Plans are required to be prepared by a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape and will be used in conjunction with approved irrigation plans, as the final landscape construction plans for the project.

A. General Requirements and Contents of the Planting Plan

The Planting Plan, drawn at a scale that is clearly legible, will need to include the following information:

- Project Information:
    - Project Applicant/Property Owner and contact information;
    - Project Address, Assessor's Parcel Number, and vicinity map;
    - Total square feet of the landscape area (new and existing);
    - Project type (e.g., new, rehabilitated, residential, non-residential); and
    - Water supply for the project. Identify the water purveyor if the applicant is not served by a private well and location of connection point.
- North arrow and scale.

- Existing conditions such as grades, existing vegetation including trees, property lines, right-of-ways, drainage easements, utilities and utility easements, streets, driveways, walkways, and other paved areas (pervious and/or impervious).
- Existing improvements located on the site including all buildings and structures that are to remain.
- Any proposed new structures such as buildings, accessory buildings, fences, and decks.
- Existing Onsite Wastewater Treatment System ("OWTS") and future OWTS replacement areas.
- Stormwater control treatment measures.
- All hydrozones depicted as low, moderate, or high and each hydrozone identified by number, letter, or other method.
- Any required Fuel Management/Fire Hazard zones.
- Natural features to remain, including rock outcroppings, existing native and ornamental trees, shrubs, etc.
- Any proposed outdoor elements such as platforms, planting areas, recreational areas/features, walkways, patios, walls, and water features.
- Any parking areas that include existing or proposed landscaping.
- Other landscape design features listed within the below subsection D titled "Other Landscape Design Features."
- Verification. Planting plans shall contain the following statement: ***"I _____ certify that this planting plan complies with all Monterey County landscaping requirements including, but not limited to, the use of native drought tolerant, non-invasive species, and limited turf."*** This verification shall be signed by a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. This verification is required to ensure that the licensed professional who prepared the plans certifies that the plans comply with the County's requirements.

B. Planting Areas and Palette

1. Planting Areas

Planting areas need to be depicted accurately on the Planting Plan and must identify the different plant types by utilizing a plant symbol and labeling system, and a key or legend listing each plant used and its corresponding symbol. The applicant must also include information relative to the plants such as: plant species name (both scientific and common), container size (e.g., 1 gallon, 5 gallon, etc.), quantity of each plant type used, and the spacing needed for planting (e.g., plant at 3 feet on center). The Planting Plans must also include information on the existing vegetation of the site which should be shown clearly and quantified (in square feet). In order to gain a full understanding of the landscape project, areas where existing vegetation is to remain, areas that require new irrigation or where existing irrigation that will remain in place, and areas where existing vegetation will be removed should be clearly depicted on the plans with a corresponding note or table indicating their size in square footage. Proposed turf areas must be accurately depicted and the square footage indicated to document that the amount is under the threshold limitations. Trees to be removed must be clearly and accurately represented in conformance with requirements of any tree removal permit.

Landscape areas that are exempt from the Landscape Ordinance (see Section 16.63.030.D of Chapter 16.63 (applicable in coastal zone) of the Monterey County Code; Section 16.64.030.D of Chapter 16.64 (applicable in the inland area) of the Monterey County Code; and Section 2.C of this manual) should be clearly delineated. Examples of these exempt areas include areas dedicated permanently and solely to edible plants, areas on the property to remain natural, and any other vegetated areas that do not have a permanent irrigation system. When designing the landscape, the applicant must also keep in mind that plants with similar water use needs are required to be grouped together in distinct hydrozones (see Section 4.2.C of this manual), and the mix of high and low water use plants is generally prohibited. In terms of energy efficiency, plant type and location should also be selected to avoid obstructing passive solar energy systems. In

addition, planting that must meet fuel management/fire hazard requirements should be clearly noted as such.

2. Planting Palette

Selected plants used in landscape areas should generally be drought tolerant with an emphasis on native and/or native compatible species when appropriate. Limiting high water use plants to special design areas of the landscape, such as entrances, courtyards, and Low Impact Development[1] ("LID") areas is recommended. Plants should be carefully selected, giving attention to the survivability rate in your area, disease, and pest resistance. This will keep costs and maintenance down, as it limits the need to replant and add supplemental fertilizers. Turf uses a significant amount of water and should only be used for specific functional areas (playing areas, etc.) that require turf. The Landscape Ordinance limits turf to either 20% of the landscape area or up to 1,500 square feet (whichever is lower), unless the turf area is designated as a Special Landscape Area and is solely dedicated to active play such as parks, sports fields, golf courses, and where natural turf provides a playing surface. However, in typical landscaped areas, avoiding the use of turf altogether or limiting it to an amount much less than the maximum allowed is strongly encouraged. In addition to turf square footage limitation, the Landscape Ordinance prohibits planting turf in areas with slopes that exceed 10%, areas that are 8 feet wide or less, and on street medians, traffic islands, planter strips, or bulb-outs. These requirements reflect the concept of only using turf when it is required for a specific function. The use of drought tolerant shrubs and groundcovers instead of turf is strongly encouraged.

The use of invasive plants is strictly prohibited and the eradication of these species in the existing landscape is highly encouraged. Invasive plants have become a significant problem in both ornamental and natural landscapes. Incorporating eradication into new landscape projects and ongoing maintenance will help limit their spread.

[1] LID is an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements.

Appropriate plant spacing must be carefully considered based upon their specific adaptability of the plant to the climatic, geologic, and topographical conditions of the project site. In addition, careful attention must be given to incorporating fire safe landscaping and fuel management requirements into a proposed landscape. If a project requires fuel management due to its location in a fire hazard area, proper plant selection is critical. Section 6 of this manual provides guidance related to this issue.

3. Onsite Wastewater Treatment Systems and Repair Areas

Areas with installed Onsite Wastewater Treatment Systems (OWTS) or repair areas for future OWTS shall be maintained/planted to provide the best outcome for the wastewater treatment system. Landscaping the OWTS system will prevent erosion of the soils cover over the drain field. Additionally, plants aid in the function of the system by optimizing oxygen exchange and promoting necessary soil moisture removal trough transpiration. For ease of maintenance, plants in this area should be shallow rooted herbaceous plants that are well adapted to normal rainfall amounts for the area. Conversely, plants that have aggressive, woody, water-loving, deep roots can potentially clog or disrupt the pipes in the system and cause serious damage. Additionally, the use of landscaping plastics is not allowed over areas with installed OWTS drain field(s). Alternatively, landscaping fabrics that allow moisture and oxygen transfer are acceptable.

C. Grading, Soil Amendments, and Mulching

When conceptualizing the required grading for a landscaping project, the design shall incorporate techniques that minimize soil erosion, artificial manipulation of natural topography, runoff, and water waste. Among other techniques, soil erosion shall be minimized by applying three inches of mulch on all exposed soil in the landscape area. In addition, the soil in all planted areas will need to be maintained in a friable condition to allow maximum water infiltration. In order to demonstrate this, grading information shall depicted on the plans and include the height of graded slopes, drainage patterns, pad elevations, and finished elevations. It is recommended

that the natural topography of the site be retained wherever feasible such that all irrigation and normal rainfall remain within the property lines and avoid disruption of natural drainage patterns. In addition, the Planting Plan should clearly denote (either as notes and/or details and specifications, whichever is appropriate) all soil amendments consistent with the recommendations of the Soils Management Report (see Section 4.4).

D. Other Landscape Design Features

In addition to planting, landscapes typically incorporate the use of other design features for aesthetic and/or multi-functional purposes such as:

- Water features such as fountains, spas, ponds, etc. These water features shall include the use of a recirculating water system to prevent water waste.
- Ornamental features such as windmills, statuary, monuments, public art, flagpoles, etc.
- Stormwater management facilities and Low Impact Development (LID) that control runoff and increase on-site retention and infiltration into the landscape design, such as vegetated filter strips, bio-filtration and bio-retention facilities, swales, infiltration basins, etc.
- Rain harvesting or catchment technologies such as rain gardens, cisterns, etc.
- Energy efficient landscape techniques (see Section 5).
- Landscape planting located within parking areas or lots.

These features should also be depicted on the Planting Plans. For those areas that are not subject to water budget calculations, a note of explanation must be included.

E. Landscape Maintenance Schedule

The regular maintenance of landscape planting promotes plant health, ensures water use efficiency, and lowers costs to the owner. The Landscape Ordinance requires submittal of a

regular maintenance schedule with a Certificate of Completion for Major Landscape projects (see Section 4.5) and at a minimum, should include the following:

- Routine inspection of planting areas and individual plants to remove dead vegetation and adjust fertilization, watering, etc.;
- Aerating and dethatching turf areas;
- Replenishing mulch as needed; and
- Fertilizing, pruning and weeding in all landscape areas.

SECTION 4.2 – WATER EFFICIENT LANDSCAPE REQUIREMENTS FOR MAJOR LANDSCAPES

The water efficient landscape requirements are a key component to the overall landscape design and strict adherence can be achieved by incorporating water management practices and water waste prevention through planting and irrigation design. When designing a Planting Plan, the effective use of hydrozones is critical. Strategic placement and groupings of plants in each area will not only reduce the need for water use, but also result in minimizing costs for maintenance and upkeep of the landscape.

In order for the County to determine if a project complies with the Landscape Ordinance, the applicant will need to prepare and submit a series of calculations. First, the maximum water allowance for a site must be established. This is done by setting the Maximum Applied Water Allowance ("MAWA") limit for water use (see Subsection B below). Once the MAWA is established, the Estimated Total Water Use ("ETWU") for the proposed landscaping is calculated using the water use information included the Hydrozone Table. If the amount of water calculated from the ETWU is lower than the amount of water calculated from the MAWA, it is assumed that the landscape project has reduced its water use to the lowest amount practical. This section will walk through each step in determining if the landscape project is water efficient.

A. Water Budget Calculations – Water Efficient Landscape Worksheet

In order to document a project's efficient use of water, the applicant is required to submit a Water Efficient Landscape Worksheet (see Appendix B) to the County as part of the Major

Landscape Package. The worksheet includes the calculation of a project site's MAWA, the proposed planting's water use depicted in a Hydrozone Table, and the project's ETWU.

B. Establishing the MAWA

Calculation of the MAWA is used to determine the maximum amount of the annual applied water that can be used to irrigate the landscape area. The MAWA is determined by multiplying the annual evapotranspiration or ETo value (the annual amount of water evaporated from the earth and the water lost through plants) by the total landscape area. ETo values vary between regions and areas due to differences in climate. Therefore, to determine a project site's ETo value, a Referenced Evapotranspiration Table has been included as Appendix C of this manual. The following equation is used to determine the MAWA and the calculation will be submitted with the landscape package as a worksheet. Example 1 below is provided to show how the calculation is performed.

$$\mathbf{MAWA= (ETo)(0.62) [(ETAF \times LA) + (1-ETAF \times SLA)]}$$

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration from Appendix C of this manual (inches per year)

ETAF = ET Adjustment Factor or ETAF is equal to 0.55 for residential projects and 0.45 for non-residential projects

LA = Square feet of the total landscaped area (including Special Landscape Area)

0.62 = Conversion factor (to gallons per square foot)

SLA = Square feet of the Special Landscape Area (area of the landscape irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where natural turf provides a playing surface)

Example 1. *Isabel has a residential landscape project (2,800 square feet total) for her house located in the Central Salinas Valley planning area, located near Arroyo Seco. She intends on planting low and moderate use plants but does not wish to include planting that can be considered as a Special Landscape Area (SLA). The MAWA calculation would be performed as follows:*

MAWA= (ETo)(0.62) [(0.55 x 2,800) + (1-0.55 x 0)]

MAWA= (52.6)(0.62)[1,540 + 0]

MAWA= (32.61)(1,540)

MAWA= 50,219 gallons per year

C. Hydrozones – Hydrozone Information Table

The proper establishment of hydrozones in a landscape improves water conservation. Establishing hydrozones is done by grouping vegetation that requires similar water uses, as described in Example 2. This allows the amount of water needed to irrigate the plants to be used efficiently. Proper design of hydrozones will also allow applicants to take advantage of microclimates on the specific site; planting vegetation that will tolerate heat and wind can be placed closer to the street while more sensitive plants placed in shaded areas closer to structures where they are more protected. Once the applicant has determined the distinct hydrozones, the applicant will then need to make the appropriate plant selection. In order to do this, the applicant will have to determine what the general water use is for each plant selected. The plant water use shall be determined using the Water Use Classification of Landscape Species guide or WUCOLS (see Appendix G, Glossary).

Example 2. *Isabel decides to place three different plants in one hydrozone: Anigozanthos flavidus* (kangaroo paw), *hypericum olympicum* (Olympic hypericum), *and leucanthemum X superbum* (Shasta Daisy). *Using the Species Evaluation List (1999) found in the WUCOLS to determine water use, she found that both Kangaroo paw and Olympic hypericum are listed as low water use plans but the Shasta Daisy is listed as a moderate use plant. Therefore, the hydrozone for this planting would be identified as a moderate water use area.*

When designing the landscape and identifying the placement of hydrozones, the applicant will also need to consider the specific requirements of the Landscape Ordinance, such as:

- The surface area of water features shall be classified as a high water use hydrozone area.
- Low and moderate water use plants can be mixed, but the entire hydrozone shall be classified as moderate water use (as shown in Example 2).
- High water use plants cannot be mixed with low or moderate water use plants.
- Temporarily irrigated areas are classified as a low water use hydrozones.
- Special Landscape Areas using recycled water are classified as low water use hydrozone.

Hydrozone Information Table.

Not only does the Landscape Ordinance require landscapes to be designed utilizing hydrozones, it also requires applicants to take the hydrozone data and place it into a Hydrozone Information Table (see Appendix B). For each hydrozone listed, the applicant must list the plant type and/or water feature, the irrigation method used, the square footage of the hydrozone, and the percentage of the total landscape area of the project that the hydrozone represents. This table will be used to calculate ETWU in Section D.3.

Example 3. *After careful thought, Isabel decides to plant the Kangaroo paw and Olympic hypericum in one 2,000 square foot hydrozone and the Shasta Daisy in a different 800 square foot hydrozone. This information would be shown in the Hydrozone Information Table as follows:*

Hydrozone	Zone or Value	Irrigation Method	Areas (sq. ft.)	% of Landscape Area
1	Low	Bubbler	2,000	71%
2	Moderate	Drip	800	29%
			Total	100%

D. Calculating the Estimated Total Water Use

The ETWU is calculated using the hydrozone information from previous Section C, plant factor range, and plant factor.

1. Plant Factor Range

The plant factor is the estimated amount of water needed by plants. This is determined by first identifying the plant factor range established by WUCOLS. The table below represents the Plant Factor Range:

Plant Factor Range Table	
Very Low Water Use	< 0.1
Low Water Use	0.1 to 0.3
Moderate Water Use	0.4 to 0.6
High Water Use	0.7 to 1.0

Example 4. *Now that Isabel has decided what and where she would like to plant, she must then determine their water use based on the Species Evaluation List (1999) found in the WUCOLS. Both Kangaroo paw and Olympic hypericum are listed as low water use plants and the Shasta Daisy is listed as a moderate use plant. Utilizing the Plant Factor Range table, the low water use plants would fall into the range of 0.1 to 0.3 and the moderate water use plant would fall in the 0.4 to 0.6 range.*

2. Plant Factor

The plant factor range(s) are used to determine the plant factor. The typical practice for selecting the plant factor uses the mid-value of the given range (e.g., the plant factor range for low water use plants is 0.1 to 0.3; therefore, the mid-value would be 0.2). In order to assist applicants with calculating the total plant factor for the proposed landscaping, especially those that may have a wider range of plants, the County has provided an additional worksheet: the Hydrozone/Plant Factor Calculation worksheet found in Appendix B. The data found in the Hydrozone Information Table and the determined plant factor range will be needed to complete the Hydrozone/Plan Factor Calculation worksheet as shown below.

Example 5. *Based on the Hydrozone Information Table in Example 3 and using the mid-value given for each respective hydrozone identified in Example 4, the completed Hydrozone/Plant Factor Calculation worksheet would be as follows:*

Hydrozone	Zone or Value	Plant Factor (PF)	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	Low	0.2	2,000	400 sq. ft.
2	Moderate	0.5	800	400 sq. ft.
			Total PFxHA	800 sq. ft.
N/A	SLA	N/A	0	0

3. Calculating the Estimated Total Water Use

The calculation of the ETWU is used to determine the total amount of water required for the landscape area. The formula below uses data from previous sections and variables for the specific landscape site.

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

Where:

ETWU = Estimated Total Water Use per year (gallons)

ETo = Reference Evapotranspiration from Appendix C of this manual (inches)

PFxHA = Plant Factor multiplied by Hydrozone Area (use sum PHxHA from Hydrozone/Plant Factor Calculation worksheet (see Example 5 and Appendix B).

0.62 = Conversion factor (to gallons per square foot)

SLA = Square feet of the portion of the landscape area identified as Special Landscape Area (areas of the landscape irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where natural turf provides a playing surface)

IE = Irrigation Efficiency is equal to 0.75 for spray head and 0.81 for drip irrigation

Example 6. *Based on the data found in the Hydrozone/Plant Factor Calculation worksheet in Example 5 and the known ETo factor for the project area, calculation of the ETWU can be performed as follows:*

ETWU= (ETo)(0.62) [((PF x LA) / (IE)) + SLA]

ETWU= (52.6)(0.62)[(800/.71) + 0]

ETWU= (32.61)(1,127)

ETWU= 36,744 gallons per year

E. Determining if the Proposed Landscaping Project is Water Efficient

If the calculated ETWU is less than the established MAWA, the project is considered to be water efficient.

Example 7. *Based on the information below, Isabel's landscape project is assumed to be water efficient.*

MAWA limit from Example 1 = 50,219 gallons per year

ETWU from Example 6 = 36,744 gallons per year

ETWU is below the MAWA by 13,475 gallons per year

SECTION 4.3 – IRRIGATION PLANS FOR MAJOR LANDSCAPES

For the efficient use of water, an automated irrigation system must be designed to meet all the requirements listed in this section and the equipment manufacturer's recommendations. The irrigation system and its related components must be planned and designed to allow for proper installation and maintenance. Consistent with the requirements of the Landscape Ordinance, irrigation plans will need to be prepared by a licensed landscape architect, a licensed landscape contractor, a certified irrigation designer, or any other person authorized to design a landscape and will be used in conjunction with approved Planting Plans, as the final landscape construction plans for the project. The irrigation plan is typically a site plan prepared to depict the locations of the irrigation system equipment. In order to provide applicants with a simplistic format, the information to be included in the irrigation plan has been broken up into four separate content sections: general contents and requirements; system standards; irrigation design standards; and irrigation scheduling and maintenance.

A. General Contents and Requirements

The irrigation plan, drawn at a clear and legible scale, should include the following information:

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

- Verification. Irrigation plans shall contain the following statement: ***"I _____ certify that this irrigation plan complies with all Monterey County landscaping requirements including, but not limited to, the use of low flow and water conserving irrigation fixtures."*** The verification shall be signed by a licensed landscape architect, licensed landscape contractor, a certified irrigation designer, or any other person authorized to design an irrigation plan.

B. Irrigation System Standards

In order to ensure irrigation systems use water efficiently, the Landscape Ordinance requires applicants to incorporate certain standards within the design of their system. The irrigation system should integrate specific structural components that have been identified to meet these standards. The following is a list of those components:

1. Irrigation Efficiency

- All irrigation emission devices will be required to meet the requirements set in the American National Standards Institute standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ADABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must document a distribution uniformity of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
- The irrigation system is required to be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommendation pressure range for optimal performance. For the purpose of determining ETWU, irrigation efficiency for overhead spray is assumed to be 0.75 and 0.81 for drip irrigation. Irrigation systems shall be designed, maintained, and managed to meet or exceed the average landscape irrigation efficiency.
- Pressure regulation and/or booster pumps shall be installed so that all components of the irrigation system operate at the manufacturer's recommended optimal pressure.

- Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of emergency (such as a main line break) or routine repair.
- Isolation valves shall be installed at the point of connection and before each valve or valve manifold.
- Backflow prevention devices shall be provided to protect the water supply from contamination by the irrigation system.
- Point source irrigation is required where plant height at maturity will affect the uniformity of an overhead irrigation system.

2. Irrigation Sensors

- In order to prevent irrigating during wet weather, weather-based self-adjusting irrigation controllers with rain sensors are required for both residential and non-residential irrigation systems.
- High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.
- Irrigation systems with meters 1.5 inches or greater shall have a high-flow sensor that can detect high flow conditions and have the capability to shut off the irrigation system automatically.

C. Irrigation Design Standards

The actual design of an irrigation system (placement and location of irrigation system components) is just as essential as the irrigation itself when trying to achieve maximum water efficiency. Therefore, the Landscape Ordinance requires applicants to incorporate the following standards when designing irrigation systems:

1. Preventing Water Waste

- All irrigation systems 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 properties, hardscapes, roadways, or structures.
- Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems. This will allow water to be distributed efficiently and prevent overflow in areas with poor water infiltration.
- Low volume irrigation, such as drip irrigation and the use of bubblers, shall be used in mulched planting areas to maximize water infiltration into the root zone.
- Sprinkler heads, rotors, and other emission devices on one valve shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- Sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- Narrow or irregularly shaped landscape areas, including turf less than 8 feet in width in any direction, shall be irrigated with subsurface irrigation or low volume irrigation technology in order to prevent water waste due to over spraying of the area.
- Overhead irrigation shall require a 24 inch setback from any non-permeable surface that does not drain toward the landscape area.
- Slopes greater than 15% shall be irrigated with point source or other low-volume irrigation technology.
- Swing joints or other riser protection components, which allow flexibility between sprinkler heads and the irrigation system, shall be required on all risers. This will prevent large amounts of water waste by preventing the connections from breaking.
- Check valves shall be installed to prevent low-head drainage.
- Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour.

2. Use of Recycled Water

- Irrigation systems shall be designed and constructed to allow the use of recycled water where such recycled water is available or may become available in the future. Landscaping using recycled water shall be considered a Special Landscape Area.
- Use of alternative landscape features that increase the capture and use of rainwater to irrigate (i.e. rain gardens, cisterns) or create opportunities for infiltration and/or onsite storage is recommended and encouraged.

3. Hydrozones

- The design of the irrigation system shall conform to the hydrozones delineated on the approved Planting Plans. Separate valves shall be used to irrigate hydrozones with high water use plants and moderate or low water use plants.
- Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions and plant materials with similar water use.
- Sprinkler heads and other emission devices shall be selected based on its appropriateness for the plant type within that hydrozone. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

D. Irrigation Scheduling and Maintenance

The regular scheduling and maintenance of an irrigation system is requirement of the Landscape Ordinance to make water use more efficient. All irrigation schedules shall be developed, managed and evaluated to utilize the minimum amount of water required to maintain plant health. To ensure functioning equipment, the irrigation system must be also be properly maintained. A regular maintenance schedule shall include routine inspection and the adjustment and repair of the irrigation system and its component. The irrigation schedule shall factor irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. In an effort to ensure consistent scheduling

and maintenance, a diagram of the irrigation plan showing hydrozones is required to be kept with the irrigation controller. Consistent with the requirements of the Landscape Ordinance, a regular maintenance schedule shall be submitted with the landscape Certificate of Completion, and when applicable, it shall incorporate the following:

- Irrigation interval (days between irrigation).
- Irrigation run times (hours or minutes per irrigation event to avoid runoff).
- Number of cycle starts required for each irrigation event to avoid runoff.
- Amount of applied water scheduled to be applied on a monthly basis.
- Application rate setting.
- Root depth setting.
- Plant type setting.
- Soil type setting.
- Slope factor setting shade factor setting.
- Irrigation uniformity or efficiency setting.

SECTION 4.4 – SOILS MANAGEMENT REPORT FOR MAJOR LANDSCAPES

In order to promote healthy plant growth and prevent excessive erosion and runoff, the Landscape Ordinance requires that a Soil Management Report be completed by either the project applicant or his/her designee. The purpose of this report is to obtain an analysis of the existing soil conditions from a lab qualified to evaluate soils relative to horticulture (verses agriculture or structural integrity), resulting in recommendations of appropriate soil amendments for which the applicant should incorporate into the planting and irrigation plans.

Typically, an applicant will package a soil sample and send it directly to a qualifying lab that will analyze the project site's soil as it specifically relates to horticulture. Once the analysis is complete, the lab will then provide the applicant with an analysis report and recommendations for soils amendments based off the results of the reports.

At home soils analysis kits are also available and are relatively inexpensive. However, to be consistent with the requirements of the Landscape Ordinance, one must make sure that the test has the capability for a complete soils analysis and submit this information, along with the recommended soils amendments as part of the Major Landscape Package.

Although not required to perform a soils analysis, Minor Landscapes and exempt projects are encouraged to perform a soils analysis or use an at home soils test kit, as they promote a healthy and thriving garden.

Submittal of the report will be required as part of the Major Landscape Package, and the landscape architect or landscape contractor who prepared the planting and irrigation plans is required to verify that the report recommendations were used in conjunction with the preparation of those plans. Developments with large or multiple landscapes (i.e. parks or subdivisions) will not require a soils analysis of the entire site. However, the Landscape Ordinance requires that a

soil sample be taken at a rate of 1:7 lots or 15%. Furthermore, as part of the Certificate of Completion, the applicant is required to submit documentation that the installation of landscaping was done in accordance with the Soils Management Report. Based on the requirements of the Landscape Ordinance, the report should contain a laboratory analysis of soil samples that includes the following:

- Soil texture;
- Infiltration rates determined by laboratory test or soil texture infiltration rate table;
- Soil pH;
- Total soluble salts;
- Sodium;
- Percent of organic matter; and
- Recommendations for appropriate soil amendments.

SECTION 4.5 – CERTIFICATE OF COMPLETION FOR MAJOR LANDSCAPES

Prior to occupancy or final of an associated grading or building permit, a signed landscape Certificate of Completion shall be submitted to the Director of Planning (see Appendix E) with information and documentation that the landscape planting and irrigation has been installed in accordance with the approved Major Landscape Package and Soils Management Report. If minor changes occurred during installation of the landscape and irrigation system, the applicant will be required to submit "as-built" plans demonstrating the project is consistent with the Landscape Ordinance. If substantial changes occurred, the applicant will be required to apply for an amendment to the approved Major Landscape Package. The landscape architect or landscape contractor must verify that the as-built landscape plans are in accordance with the planting, irrigation, water efficiency, and energy efficiency requirements of the Landscape Ordinance.

The Certificate of Completion includes six parts which contain the following information:

1. Project information.
2. A signed statement verifying that the landscape installed is consistent with the approved plans.
3. An irrigation audit demonstrating that an inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule has occurred.
4. An irrigation schedule that includes the parameter setting and schedule for controllers.
5. A schedule of landscape and irrigation maintenance.
6. Documentation verifying recommendations from the soils analysis were implemented in the landscape installation.

Once submitted, the Director or Planning will either approve or deny the Certificate of Completion. If the certificate is denied, the applicant will need to resubmit the correct information, apply for an amendment to the approved landscape package or file an appeal.

SECTION 4.6 – FINAL INSPECTION FOR MAJOR LANDSCAPES

Once the Certificate of Completion has been submitted as outlined above, the Director of Planning will need to perform a final inspection of the landscape installation. This inspection is for the verification of installation with the approved plans and certificate.

SECTION 5 – ENERGY EFFICIENCY

Improving energy efficiency adds to the sustainability of all residents in the County by reducing air pollutants and greenhouse gas emissions from fossil fuels. In addition, there is an economic benefit from reducing dependency of these energy resources through lowering expenses on energy bills.

Provisions for landscape lighting are found in the Landscape Ordinance and require energy efficiency by utilizing one or both of the following:

- ENERGY STAR qualified hard-wired fixtures. All hard-wired lighting shall employ programmable photocontrol or astronomical time-switch controls that automatically switch off when daylight is available.
- Solar powered lighting systems.

In addition to the provisions of the Landscape Ordinance, applicants are encouraged to incorporate supplemental energy efficiency measures into the landscape design to further promote energy efficiency. These measures/techniques include the following:

- Use strategic shading techniques, plant selection, location and deciduous tree species in the landscape to reduce solar heat gain in the summer and maximize passive solar warming in the winter. For example, deciduous trees in front of a large window

would provide shade during warmer months when the leaves are full and allow infiltration of sunlight and warmth during the cooler months when the leaves fall.

- Reduce local heat island effects through planting of shade trees or installation of high-albedo (highly reflective) hardscapes.
- Select and place landscaping to provide wind protection or windbreaks.
- Use solar power and/or other renewable energy (such as wind) in the landscape design.
- Use salvaged, refurbished, renewable, local and recycled landscape and planting materials to reduce the energy requirements of new manufacture and transport.

SECTION 6 – FUEL MANAGEMENT

A well-designed landscape has many benefits beyond creating areas that are pleasing to the senses and water and energy efficient. With proper forethought, one can design landscapes that incorporate fire safety and fuel management that can result in the protection of structures and the immediate surrounding areas from wildfires.

The Landscape Ordinance requires Minor and Major Landscape projects to be consistent with all applicable fire safe landscaping regulations imposed by a property's designated Fire District and/or MCC Chapter 18.56, Wildfire Protection Standards in State Responsibility Areas. Property owners are encouraged to discuss their landscape concept with the appropriate Fire District and consider the following recommended fire safe methods in designing their landscape:

- Establish a greenbelt. A greenbelt is an area of irrigated landscaping which includes fire resistant and/or retardant planting strategically located to separate structures and wildland fuels. Establishment of a greenbelt results in creating a buffer zone between structures and any surrounding vegetation, which slows or prevents the advancement of ground or surface fires.
- Eliminate fire-ladders. A "fire ladder" is an arrangement of plants that provide fuel for a fire to climb from ground covers or grasses to shrubs and up into tree tops or structures. The landscape design should increase the vertical separation of fuels which could effectively reduce and/or eliminate fire-ladders.
- Eliminate continuous fuel beds. Fires can spread quickly if areas in the landscape which contain fuel (patches of vegetation) are too close or continuous. The landscape design should reduce the amount of horizontal continuity through the incorporation of hard and/or non-flammable surfaces such as bare ground, pavement, or other landscape design features.
- Maintenance of vegetation. Proper maintenance of the landscape area can reduce the fire load by removing dead branches from shrubs and trees, clearing leaf litter from the ground, and pruning lower branches to increase clearance above the ground.

- Plant selection. Incorporating fire resistant vegetation and plants with deep roots within the landscape will enhance fire protection and erosion control if a fire does occur. Furthermore, fire-prone plant materials and highly flammable mulches should be avoided. For additional information, the suggested plant list included within Appendix F of this manual includes fire resistant plants.

SECTION 7 – PUBLIC EDUCATION

Water conservation is a high priority for the County, as potable water is a precious resource. Therefore, reduction of water use in landscaping is the primary objective of the Landscape Ordinance and this manual. An important part of this water conservation effort is to educate the general public and facilitate voluntary water conservation efforts. To achieve this, this manual contains planting and irrigation design and techniques that can be incorporated in any landscape project, new or existing. Furthermore, this manual provides information on available water conservation programs. To encourage water conservation for the general public, the Landscape Ordinance encourages participation in the applicable programs mentioned below to the greatest extent feasible.

A. Monterey Peninsula Water Management District.

Several programs for water conservation in landscaping are available through the Monterey Peninsula Water Management District. Landscapes located within the District may participate in rebate programs for turf removal, the use of cisterns, graywater and weather based irrigation controllers. Rebates for landscapes associated with non-residential uses are also available. Service providing a water use analysis and water budget is available, free of charge, for irrigated landscapes over three acres, landscapes with a dedicated water meter, and residential water users that are located within the District and are served by California American Water. In addition, information for Water-Wise Landscaping Techniques and drought tolerant planting is available.

For more information, you may contact MPWMD at:

5 Harris Court, Building G
Monterey, CA 93940
(831) 658-5601

www.mpwmd.dst.ca.us/wdd/default.html

B. Marina Coast Water District.

A Water-Wise Landscape Incentive Program is available for areas served by the Marina Coast Water District, which promotes water conservation through incentives for retrofitting inefficient irrigation equipment and turf replacement. To assist people to further reduce water use, information for Water-Wise Landscaping is also available.

For more information, you may contact MCWD at:

11 Reservation Road
Marina, CA 93933
(831) 384-6131
www.mcwd.org/conserve.html

C. Pajaro Valley Water Management Agency.

A graywater rebate program through the Pajaro Valley Water Management Agency is available for local residents within its boundaries. Information, tips and suggested resources are also available.

For more information, you may contact PVWMA at:

36 Brennan Street
Watsonville, CA 95076
(831) 722-9292
www.pvwma.dst.ca.us

D. Small Water Systems.

Small water systems (between 15 to 200 connections) located within the unincorporated areas of Monterey County are required by the Monterey County Water Resources Agency to establish an Urban Water Conservation Plan. This plan requires identification of water conservation goals and the measures to achieve such goals. To support attainment of these goals and further water

conservation, the Landscape Ordinance requires existing landscapes in these areas to be consistent with the system's Urban Water Conservation Plan.

For more information, you may contact MCWRA at:

893 Blanco Circle
Salinas, CA 93901
(831) 755-4860
www.mcwra.co.monterey.ca.us/index.php

E. Areas Served by Private Wells.

Properties served by private wells make up the majority of land area for unincorporated Monterey County. Although these areas typically consist of large rural parcels that do not contain complex urban-type landscaping, any type of landscape should participate in conserving water. Therefore, the Landscape Ordinance encourages implementing the water conservation measures contained in the ordinance and this manual to the greatest extent feasible.

SECTION 8 – AMENDMENTS AND APPEALS

From time to time, there may be instances when approved landscape projects require modification during implementation. For example, the intended plant material may not be available, site issues or constraints that were not known during project design may now be identified, or for some reason a complete redesign may be necessary. Small changes in the landscape project that do not affect water use, such as installation of a different plant species than approved but the plant location and water use remains the same, may be approved at the discretion of the Director of Planning if he/she finds the modification to be in substantial conformance with the approved landscape project.

However, if the Director of Planning finds that the modification is not in substantial conformance with the approved plans, the applicant will be required to apply for an amendment prior to receiving approval of the Minor Certificate of Completion or the Certificate of Completion by the Director of Planning. If the Director of Planning denies a landscape package, Minor Certificate of Completion, or the Certificate of Completion and the project applicant disagrees with the bases of denial, an appeal may be filed with the Board of Supervisors.

A. Amendments.

As outlined in the Landscape Ordinance, if an amendment to an approved Minor or Major Landscape Package is required, the project applicant will need to work with the planner and to apply for and obtain approval of an amendment prior to final approval of the Minor Certificate of Completion or Certificate of Completion. The applicant will need to document the nature of the amendment as well as demonstrate how the amended project is consistent with the regulations for planting, irrigation and water efficiency found in the Landscape Ordinance.

B. Appeals.

Any denial by the Director of Planning of a Minor Landscape Package, Major Landscape Package, Minor Certificate of Compliance, or Certificate of Completion may be appealed by the applicant to the Board of Supervisors. As outlined in the Landscape Ordinance, an appeal shall be filed with the Clerk of the Board of Supervisors within 10 days of receiving notice of the denial. Once the appeal is accepted by the Clerk, it is to be heard before the Board of Supervisors within 60 days. The Board of Supervisors may grant or deny the appeal in whole or in part. The decision of the Board of Supervisors shall be final.

APPENDIX A

LANDSCAPE PACKAGE APPLICATION AND SUBMITTAL FORM

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
LANDSCAPE PACKAGE APPLICATION AND SUBMITTAL FORM

RMA – PLANNING
MIKE NOVO, DIRECTOR
168 W. Alisal St. 2nd Flr.
Salinas, CA 93901
(831) 755-5025
www.co.monterey.ca.us/rma

Landscape applications shall be submitted to the RMA-Planning for review and approval. The following is a checklist of materials required for submittal of your landscape package. Please feel free to contact your assigned project planner at any point in the development process regarding questions you may have about your application. Two (2) hardcopies of all materials are required. Plans shall be drawn on a sheet sized large enough to have legible fonts and lineweights. An electronic copy (pdf.) of all submitted materials is also required to be submitted on CD or flash-drive.

PROJECT INFORMATION		**PERMIT NO.**	
SITE ADDRESS	CITY/STATE		ZIP
NEAREST CROSS-STREET	ASSESSOR'S PARCEL NUMBER(S)		

OWNER(S) INFORMATION		
NAME		PHONE
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

APPLICANT INFORMATION		
NAME		PHONE
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

PROJECT INFORMATION	
PROJECT TYPE (RESIDENTIAL, NON-RESIDENTIAL OR REHABILITATED)	
SQUARE FOOTAGE OF LANDSCAPE AREA	SQUARE FOOTAGE OF TURF USED
WATER SUPPLY TYPE	NAME OF WATER PURVEYOR IF ON PUBLIC WATER

FOR MINOR LANDSCAPE PROJECT: Submit the following information and materials in accordance with the requirement of the Water and Energy Efficient Landscape Ordinance and the Landscape Manual:			
☐	**Planting Plan**	☐	**The landscape review fee has been paid**
☐	**Irrigation Plan**	☐	**A Plumbing/Irrigation Permit has been issued for a backflow prevention device. Permit No. _____**

"I _____ agree to comply with the Monterey County Minor Landscape requirements including, but not limited to, the use of native drought tolerant, non-invasive species, and limited turf."

Owner Signature: _____ Date: _____

Applicant Signature:_____ Date: _____

FOR MAJOR LANDSCAPE PROJECT: Submit the following information and materials in accordance with the requirement of the Water and Energy Efficient Landscape Ordinance and the Landscape Manual:			
☐	**Planting Plan**	☐	**Water Budget Calculations**
☐	**Irrigation Plan**	☐	**A Plumbing/Irrigation Permit has been issued for a backflow prevention device. Permit No. _____**
☐	**Soils Management Report**	☐	**The landscape review fee has been paid**

"I _____ certify that this Landscape Package complies with all Monterey County landscaping requirements including, but not limited to, the use of native drought tolerant, non-invasive species, and limited turf."

Owner Signature: _____ Date: _____

Applicant Signature:_____ Date: _____

FOR DEPARTMENT USE ONLY		
RECEIVED BY:	DATE STAMP:	ALL THE REQUIRED MATERIAL WERE SUBMITTED: __ YES __ NO

APPENDIX B

WATER EFFICIENT LANDSCAPE WORKSHEET

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY

WATER EFFICENT LANDSCAPE WORKSHEET

RMA – PLANNING
MIKE NOVO, DIRECTOR
168 W. Alisal St. 2nd Flr.
Salinas, CA 93901
(831) 755-5025
www.co.monterey.ca.us/rma

The water efficient landscape worksheet shall be filled out by the project applicant and submitted with the Landscape Package Application to the Director of Planning for review and approval.

SECTION 1. HYDROZONE INFORMATION TABLE

Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone*	Zone or Value	Irrigation Method**	Areas (sq. ft.)	% of Landscape Area
			Total	

* Hydrozone
HW = High Water Use Plants
MW= Moderate Water Use Plants
LW = Low Water Use Plants

**Irrigation Method
MS = Micro-spray
S = Spray
R = Rotor
B = Bubbler
D = Drip
O = Other

SECTION 2. MAXIMUM APPLIED WATER ALLOWANCE (MAWA) CALCULATION

The project's Maximum Applied Water Allowance shall be calculated using this equation:

$$MAWA = (ETo)(0.62)\ [(ETAF \times LA) + (1 - ETAF \times SLA)]$$

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration from Appendix C of this manual (inches per year)

ETAF = ET Adjustment Factor or ETAF is equal to 0.55 for residential projects and 0.45 for non-residential projects

LA = Square feet of the total landscaped area (including Special Landscape Area)

0.62 = Conversion factor (to gallons per square foot)

SLA = Square feet of the Special Landscape Area

Maximum Applied Water Allowance = _____ gallons per year

Show calculations:

SECTION C. HYDROZONE/PLANT FACTOR CALCULATION WORKSHEET

Please complete the hydrozone table(s). Use as many tables as necessary

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (HA) (square feet)	PF x HA (square feet)
			Sum	
	SLA			

SECTION 4. ESTIMATED TOTAL WATER USE (ETWU) CALCULATION

The project's Estimated Total Water Use is calculated using the following formula:

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

Where:

ETWU = Estimated Total Water Use per year (gallons)

ETo = Reference Evapotranspiration from Appendix C (inches)

PFxHA = Plant Factor multiplied by Hydrozone Area (use sum PHxHA from Hydrozone/Plant Factor Calculation worksheet)

0.62 = Conversion factor (to gallons per square foot)

SLA = Portion of the landscape area identified as Special Landscape Area (square feet)

IE = Irrigation Efficiency (minimum 0.75 for overhead spray & 0.81 for drip irrigation &)

Estimated Total Water Use = _____ gallons

Show calculations:

APPENDIX C

REFERENCE EVAPOTRANSPIRATION (ETo) TABLE

REFERENCE EVAPOTRANSPIRATION (ETo) TABLE

For calculation of the MAWA and ETWU, the project applicant shall use the following annual evapotranspiration (ETo) values

Nearest City/Town	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7

Sources: * The values in this table were derived from:
1) California Irrigation Management Information System (CIMIS);
2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999;
3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922; and
4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426.

APPENDIX D

MINOR CERTIFICATE OF COMPLETION

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
MINOR CERTIFICATE OF COMPLETION

RMA – PLANNING
MIKE NOVO, DIRECTOR
168 W. Alisal St. 2nd Flr.
Salinas, CA 93901
(831) 755-5025
www.co.monterey.ca.us/rma

This Certificate of Completion shall be submitted for all Major Landscape Projects.

PART 1. PROJECT INFORMATION

SITE INFORMATION		PERMIT NO.	
SITE ADDRESS	CITY/STATE	ZIP	
NEAREST CROSS-STREET	ASSESSOR'S PARCEL NUMBER(S)		

OWNER(S) INFORMATION		
NAME	PHONE	
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

APPLICANT INFORMATION		
NAME	PHONE	
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

"I/we certify that I/we have received copies of all the documents within the Minor Landscape Package and the Minor Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Owner Signature: _____ Date: _____

Applicant Signature:_____ Date: _____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE PACKAGE

"I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conforms to the criteria and specification of the approved Minor Landscape Package."

Signature*	Date	
Name and Title (print)	Telephone No.	
	Fax No.	
License or Certification No. (if applicable)	Email Address	
Company	Street Address	
City	State	Zip Code

*Signer of the planting plan, signer of the irrigation plan, or the licensed contractor who installed the landscaping.

PART 3. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per Section 4.3.D – Irrigation Scheduling and Maintenance of the Landscape Manual.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attached schedule of Landscape and Irrigation Maintenance per 4.3.D – Irrigation Scheduling and Maintenance of the Landscape Manual.

APPENDIX E

CERTIFICATE OF COMPLETION

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
CERTIFICATE OF COMPLETION

RMA – PLANNING
MIKE NOVO, DIRECTOR
168 W. Alisal St. 2nd Flr.
Salinas, CA 93901
(831) 755-5025
www.co.monterey.ca.us/rma

This Certificate of Completion shall be submitted for all Major Landscape Projects.

PART 1. PROJECT INFORMATION

SITE INFORMATION		PERMIT NO.	
SITE ADDRESS	CITY/STATE	ZIP	
NEAREST CROSS-STREET	ASSESSOR'S PARCEL NUMBER(S)		

OWNER(S) INFORMATION		
NAME	PHONE	
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

APPLICANT INFORMATION		
NAME	PHONE	
MAILING ADDRESS	CITY/STATE	ZIP
FAX	EMAIL	

"I/we certify that I/we have received copies of all the documents within the Landscape Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Owner Signature: _____ Date: _____

Applicant Signature:_____ Date: _____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE PACKAGE

"I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conforms to the criteria and specification of the approved Landscape Package."

Signature*	Date	
Name and Title (print)	Telephone No.	
	Fax No.	
License or Certification No.	Email Address	
Company	Street Address	
City	State	Zip Code

*Signer of the planting plan, signer of the irrigation plan, or the licensed contractor who installed the landscaping.

PART 3. IRRIGATION AUDIT

An irrigation audit demonstrating that an inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule has occurred.

PART 4. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per Section No. 4.3.D – Irrigation Scheduling and Maintenance of the Landscape Manual.

PART 5. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attached schedule of Landscape and Irrigation Maintenance per Section No. 4.3.D – Irrigation Scheduling and Maintenance of the Landscape Manual.

PART 6. SOIL MANAGEMENT REPORT

Attach documentation verifying implementation of recommendation from soils analysis report per Section No. 16.63.100 (Coastal) or 16.64.100 (Inland) of the Water and Energy Efficient Landscape Ordinance.

APPENDIX F

PLANT LISTS

Harmful and Invasive Plants that are Prohibited or Discouraged from Being Planted in County

Scientific Name	Common Name
Acacia dealbata	Acacia
Acacia melanoxylon	Blackwood Acacia
Agerata adenophora	Sticky Eupatorium
*Ailianthus alitissima******	Tree of Heaven
Arundo donax	Giant Reed
Carpobrotus edulis	Highway Iceplant
*Centauria stoebe ssp. micranthos****	Spotted Knapweed
Cortaderia jubata	Purple Pampas Grass, Jubata Grass
Cortaderia selloana	Pampas Grass
Cotoneaster lacteus	Cotoneaster
Cotoneaster pannosus	Cotoneaster
*Cystisus scoparius******	Scotch Broom
Delairia odorata	Cape Ivy
*Eichornia crasipes******	Water Hyacinth
Elaeagnus angustifolia	Russian Olive
Eucalyptus globulus	Blue Gum Eucalyptus
*Euphorbia oblongata*****	Egg Leafed Spurge
*Genista monspessulana******	French Broom
Hedera caneriensis	English Ivy
Hedera helix	Algerian Ivy
Iris pseudocomus	Yellow Flag Iris
*Linaria genistifolia ssp. dalmatica****	Dalmation Toadflax
*Lythrum salicaria****	Purple Loosetrife
Maytens boaria	Mayten
Mesembryanthemum crystallinum	Crystalline Iceplant
Myoporum laetum	Myoporum
*Nassella tenuissima (Stipa tenuissima)****	Mexican Feathergrass
*Onopordum acanthium****	Scotch Thistle
Pennisetum setaceum	Green Fountain Grass
*Populus nigra 'Italica'**	Lombardy Poplar
*Retama monosperma****	Bridal Veil Broom
Ricinis communis	Castor Bean
Robinia pseudoacacia	Black Locust
*Sesbania punicea****	Scarlet Wisteria
Spartium junceum	Spanish Broom
*Tamarix ramosissima*****	Saltcedar
Triadica (Sapium) sebifera	Chinese Tallow Tree
Vinca major	Periwinkle

*Prohibited by California Code of Regulation, Section 3597 in Pajaro Valley and Salinas Valley.
**CDFA 'A' rated weed ***CDFA 'B' rated weed ****CDFA 'C' rated weed

Suggested Plants for Use in Landscaping in Monterey County

Scientific Name	Common Name
Achillea millefolium	Yarrow
Achillea taygeta	Moonshine' Yarrow
Achillea tomentosa	Woolly Yarrow
Alnus rhombifolia	White Alder
Arbutus unedo	Strawberry Tree
Arctostaphylos endumdsii	Woods red' Manzanita
Arctostaphylos sp.	Emerald Carpet' Manzanita
Arctostaphylos sp.	Dr. Hurd' Manzanita
Arctostaphylos sp.	Sunset' Manzanita
Baccharis pilularis	Twin Peaks' Dwarf Coyote Brush
Ceanothus gloriosus	Mountain Lilac
Ceanothus griseus horizontalis	Mountain Lilac
Ceanothus sp.	Frosty Blue' Mountain Lilac
Ceanothus sp.	Joyce Coulter' Mountain Lilac
Ceanothus sp.	Ray Hartman' Mountain Lilac
Ceanothus sp.	Snow Flurry' Mountian Lilac
Ceanothus sp.	Wheeler Canyon' Mountian Lilac
Ceanothus sp.	Yankee Point' Mountian Lilac
Ceanothus sp.	Point Reyes' Mountian Lilac
Cercis occidentalis	Western Redbud
Cercocarpus betuloides	Mountain Mahogany
Eriogonum fasciculatum (low growing cultivars)	California Buckwheat
Festuca rubra	Creeping Red' Red Fescue
Fragaria chiloensis	Wild Strawberry
Garrya elliptica	Evie' Coast Silktassel
Hesperoyucca whipplei	Yucca
Heteromeles arbutifolia	Toyon
Heuchera maxima	Coral Bells
Prunus lyonii	Catalina Cherry
Quercus agrifolia	Coast Live Oak
Rhamnus californica	Eve Case' Coffee Berry
Rhamnus crocea	Redberry
Ribes viburnifolium	Evergreen Currant
Romneya coulteri	Matilija Poppy
Sedum spathulifolium	Purpureum' Stonecrop

APPENDIX G

GLOSSARY

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

"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.

"California Invasive Plant Inventory" means the California Invasive Plant Inventory maintained by the California Invasive Plant Council.

"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 U.S. Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

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

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

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

"Controller" means an automatic timing device used to remotely control valves or heads to operate an irrigation system. A weather-based controller is a controller that utilizes evapotranspiration or weather data to make adjustments to irrigation schedules. A self-adjusting irrigation controller is a controller that uses on-site sensor data (e.g., soil moisture) to adjust irrigation schedules.

"Director of Planning" means the Director of RMA-Planning for the County of Monterey as codified in Section 2.30.020 of the Monterey County Code. For the purposes of this manual, the Director of Planning includes his or her designees.

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

"Ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

"Energy efficient landscape" means any new or rehabilitated landscape, public or private, that helps a project achieve a minimum 15% reduction in energy use when compared to the State's mandatory energy efficiency standards.

"Energy efficient lighting system" means any outdoor landscape lighting system consisting of at least 90% ENERGY STAR qualified hard-wired fixtures, solar powered lighting, and/or systems that employ programmable photocontrol or astronomical time-switch controls that automatically switch off when daylight is available.

"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.

"Estimated Total Water Use" (ETWU) means the total water used for the landscape.

"ET adjustment factor" (ETAF) means, except for special landscape areas, a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency.

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

"Friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planning material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

"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.

"Graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. Graywater includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

"Hardscapes" means any durable material (pervious or impervious).

"High water use plant" mean any plant categorized as high water need by the water use classification of landscape species guide.

"Hydrozone" means a portion of the landscaped area having plants with similar water needs and rooting depths that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated.

"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).

"Invasive plant" means a species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources, and is listed as an

invasive plant in either the California Invasive Plant Inventory; USDA invasive, noxious weeds database; or the Landscape Manual.

"Irrigation audit" means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit shall include, but is not limited to: inspection; system tune-up; system test with distribution uniformity or emission uniformity; reporting overspray or runoff that causes overland flow; and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Watersense" labeled auditing program.

"Irrigation design plan" means a plan that is consistent with the requirements outlined in MCC Sections 16.63.080 (Coastal) or 16.64.080 (Inland).

"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 irrigation efficiency for purposes of this ordinance is 0.75 for overhead spray devices and 0.81 for drip systems.

"Irrigation meter" means a separate meter that measures the amount of water used for items such as lawns, washing exterior surfaces, washing vehicles, or filling pools.

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

"Landscape area" means the total dedicated landscape area on a property. Water features are included in the calculation of the landscape area. Areas dedicated to agricultural cultivation are not included. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

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

"Landscape Package application" means the landscape materials required to be submitted for review and approval by the Director of Planning pursuant to Sections 16.63.050 or 16.63.060 (Coastal) and 16.64.050 or 16.64.060 (Inland) of the Monterey County Code.

"Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

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

"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.

"Low water use plant" means any plant categorized as low water need by the Water Use Classification of Landscape Species guide.

"Main line" means the pressurized pipeline that delivers water for the water sources to the valve or outlet.

"Major Landscape project" means landscape projects subject to MCC Chapters 16.63 or 16.64 with an aggregate landscape area greater than 2,500 square feet.

"Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area.

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

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

"Minor Landscape project" means landscape projects subject to MCC Chapters 16.63 or 16.64 with an aggregate landscape area less than or equal 2,500 square feet.

"Moderate water use plant" means any plant categorized as moderate water need by the Water Use Classification of Landscape Species guide.

"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 weeks, moderating soil temperature, and preventing soil erosion.

"Non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.

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

"Overhead irrigation systems" means systems that deliver water through the air (for example pop-ups, impulse sprinklers, spray heads, rotors, and micro-sprays).

"Overspray" means the irrigation water that is delivered beyond the landscape area, wetting pavements, walks, structures, or other non-landscaped areas.

"Permit" means an authorizing document issued by the County or local agencies for new construction or rehabilitated landscapes.

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

"Plant factor" or "plant water use factor" is a value when multiplied by "reference evapotranspiration," as defined below that estimates the total amount of water needed by plants. For purposes of the Water and Energy Efficient Landscape ordinance, the plant factor range for very low water use plants is less than 0.1, the plant factor for low water use plants is 0.1 to 0.3, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the publication "Water Use Classification of Landscape Species." Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources.

"Planting Plan" means plans consistent with the requirements outlined in MCC Section 16.63.060 (Coastal) or 16.64.060 (Inland) of the Landscape Ordinance.

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

"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.

"Recreational area" means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf course tees, fairways, roughs, surrounds, and greens.

"Reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year, and is an estimate of the evapotranspiration of a large field of four- 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.

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

"Residential landscape" means landscape surrounding single or multifamily homes.

“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.

“Soil moisture sensing device” or “soil moisture sensor” means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

“Soil texture” means the classification of soil based on its percentage of sand, silt, and clay.

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

“Sprinkler head” means a device which delivers water through a nozzle.

“Station” means an area served by one valve or by a set of valves that operate simultaneously.

“Stormwater control facility” means a structural feature intended to control or reduce stormwater runoff and associated pollutants, to induce or control the infiltration or groundwater recharge of stormwater, or to eliminate illicit or illegal non-stormwater discharges into stormwater conveyances.

“Stormwater control measure” means any structural or non-structural strategy, practice, technology , process, program or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater, or to eliminate illicit or illegal non-stormwater discharges into stormwater conveyances. Stormwater control measures include stormwater control facilities.

“Turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.

“Valve” means a device used to control the flow of water in the irrigation system.

“Water conserving plant species” means a plant species identified as having a low plant factor.

“Water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed facilities used for on-site wastewater treatment or stormwater control measures that are not irrigated and used solely for water treatment or stormwater retention are not water features.

“Watering window” means the time of day irrigation is allowed.

"Weather-based self-adjusting irrigation controller" means a system component that uses local weather and landscape conditions to automatically adjust irrigation schedules to actual conditions on the site or historical weather data.

"WUCOLS" means the "Water Use Classification of Landscape Species" guide published by the University of California Cooperative Extension and the California Department of Water Resources 2014, as may be periodically updated.

"Xeriscape" means a landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques (such as the use of drought-tolerant plants, mulch, and efficient irrigation) to balance hydrology at the parcel level.