Model Water Efficient Landscape Ordinance (MWELO)

What is MWELO?

The Model Water Efficient Landscape Ordinance is a statewide water conservation law for new and renovated landscapes. The ordinance applies to any single-family or multi-family residential, public, institutional, or commercial project that requires a permit, plan check or design review from the local reviewing agency and meets one of the following size thresholds:

- **New construction projects** with a total landscape area greater than **500 sq ft**
- **Rehabilitations of existing landscape** with a total landscape area greater than **2,500 sq ft**

Submittal Requirements

Prescriptive Compliance Option

If your development proposes less than 2,500 square feet of total landscape area you can use the prescriptive compliance option. **Before construction**, submit the following documents to the local reviewing agency:

- ☐ Landscape Design Plan
- ☐ Project Information
- ☐ Prescriptive Path (Appendix D) Checklist

At the final Inspection, submit the following document to the property owner:

- ☐ Certificate of Completion
- ☐ Certificate of Installation
- ☐ Irrigation Schedule
- ☐ Schedule of landscape and Irrigation Maintenance

Performance Compliance Option

Prior to landscape construction, submit a signed **Landscape Documentation Package** along with your building permit application.

This includes:

- ☐ Project Information
- ☐ Water Budget/Water Use Calculator
- ☐ Soil Management Report
- ☐ Landscape Design Plan, Plant Legend and Specifications
- ☐ Irrigation Plan
- ☐ Hydrozone Plan
- ☐ Grading Plan

After the permit is approved and the landscape installed, submit a **Certificate of Completion** which includes:

- ☐ Project Information
- ☐ Certification that landscape is built per plans
- ☐ As-built drawings (if necessary to show major changes)
- ☐ Irrigation diagram showing hydrozones
- ☐ Irrigation scheduling parameters
- ☐ Landscape and Irrigation Maintenance Schedule
- ☐ Irrigation Audit Report
- ☐ Soil Report (if not submitted during design)
- ☐ Verification of implementation of report recommendations

COUNTY OF HUMBOLDT
PLANNING AND BUILDING DEPARTMENT
BUILDING DIVISION

3015 H STREET EUREKA CA 95501
PHONE: (707) 445-7245
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MWELO PERFORMANCE COMPLIANCE

APPLICATION SECTION FOR LANDSCAPE DOCUMENTATION PACKAGE (REQUIRED FOR MWELO)

SECTION IV
LANDSCAPE DOCUMENTATION

☐ Currently, this project **does not** include irrigated landscaping. I am aware that future landscape installations may be required to comply with the Model Water Efficient Landscape Ordinance (MWELO) requirements per California Code of Regulations, Title 23, Division 2, Chapter 2.7.

☑ This project **does** incorporate irrigated landscaping. Please provide the information below specific to the landscape area which will be completed as part of this project and specify the compliance method to be used:

Total Landscape Area (sq. ft.)(Turf+Non-Turf+Special): _____
Turf Area (sq. ft.): _____
Non-Turf Plan Area (sq. ft.): _____
Special Landscape Area (sq. ft.): _____
Water Type *(potable, recycled, well)*: _____
Name of water purveyor *(If not served by private well)*: _____

Compliance Method

☐ Less than 500 square feet of irrigated landscaping (exempt from MWELO)
☐ No irrigation system proposed (exempt from MWELO)
☐ Prescriptive (500 - 2,500 square feet)
☑ Performance (2,500 square feet or greater)

Signature

I certify the above information is correct and agree to comply with the requirements of the MWELO.

_____
Signature of property owner or authorized representative

_____
Date

Performance Path - Table of Contents

Instruction

1. Complete the "Landscape Documentation Review Package (A - Q)" before permit issuance as part of your submittal package.

2. After permit issuance and during construction, keep this document on-site for inspection. Be aware of the "Additional Submittals" described in Section Q of the Landscape Documentation Review Package.

3. Provide "Additional Submittals" as required by Section Q of the Landscape Documentation Review Package.

4. Note Required Changes, Questions, and Comments (pg. 12).

5. Complete the "Certificate of Completion (A- H)".

6. At final inspection complete the "Irrigation Audit (A - G)".

Note: Use the *"Applicant" checkbox on the left side of the checklist to certify compliance. Leave the "Reviewer" checkboxes at the right side of the checklist blank.*

Landscape Documentation Package Review

A. Project Location

Project Street Address _____

Project City, State, Zip _____

Parcel or lot number(s) if available _____

B. Application Information

Submittal Date _____

Application Number _____

C. Applicant Information

Applicant Name _____

Title _____

Company _____

Phone Number _____

Email Address _____

Street Address _____

City, State, Zip _____

D. Property Owner (or Designee) Information

Name _____

Title _____

Company _____

Phone Number _____

Fax Number _____

Email Address _____

Street Address _____

City, State, Zip _____

E. Project Type & Size

The information in this section must be provided in an annual report from the permitting agency to the State Department of Water Resources.

Total Landscape Area _____

☐ New Construction or ☐ Renovation/Rehabilitation

☐ Public or ☐ Private

☐ Single-family Residential

- ☐ Stand-alone Dwelling
  - ☐ Landscape Architect/Designer
  - ☐ Home Owner Installed
- ☐ Production Homes, Number of Units: _____

☐ Commercial/Institutional

☐ Cemetery

☐ Multifamily Residential Number of Units: _____

F. Water Supply Type

Types of water used for irrigation (Check all that apply)

☐ Potable
☐ Recycled water from a municipal source
☐ Well water
☐ On-site greywater
☐ On-site rainwater

Name of Water Purveyor (if applicable) _____

G. Landscape Documentation Package Submittals

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Project Information	☐	☐	
☐	2. Water Budget/Water Use Calculator	☐	☐	
☐	3. Soil Management Report (if significant mass grading is planned, submit after construction)	☐	☐	
☐	4. Landscape Design Plan, plant legend and specifications	☐	☐	
☐	a. The following statement is on the plan and signed by the appropriate party: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the Landscape Design Plan."	☐	☐	
☐	5. Irrigation Design Plan	☐	☐	
☐	a. The following statement is on the plan and signed by the appropriate party: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the Irrigation Design Plan."	☐	☐	
☐	6. Hydrozone Plan (see Irrigation Design Plan or Landscape Design Plan)	☐	☐	
☐	7. Grading Design Plan	☐	☐	
☐	a. The following statement is on the plan and signed by the appropriate party: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the grading design plan."	☐	☐	

"I agree to comply with the requirements of the Water Efficient Landscape Ordinance and submit a complete Landscape Documentation Package"

Signature: _____

Signed by licensed landscape architect or licensed landscape contractor

H. Water Use Worksheet/ Calculator

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. The Estimated Total Water Use (ETWU) does not exceed the Maximum Applied Water Allowance (MAWA) § 492.6 (a)(1)(A)	☐	☐	
☐	2. ET adjustment factor (ETAF) is 0.55 for residential projects or 0.45 for non-residential projects	☐	☐	
☐	3. Reference Evapotranspiration (ETo) is correct for geographic area (Appendix A - Reference Evapotranspiration (ETo) Table § 492.4 (a)(1))	☐	☐	
☐	4. Majority of landscape area should have plant factors of low to moderate (0.1 - 0.6)	☐	☐	
☐	5. Verify that Special Landscape Areas (SLA's) have an ETAF of 1.0	☐	☐	
	6. Cross check that the irrigation efficiency (IE) used on the worksheet matches the irrigation being used in the irrigation plan (drip = .81 and spray =.75)	☐	☐	
☐	7. Cross check that SLA's are identified on the landscape plans as areas dedicated solely to edible plants, recreational areas, or areas/water features irrigated with recycled water.	☐	☐	
☐	8. If swimming pools are in landscape plans, verify the following in the water budget/water use calculator for:	☐	☐	
☐	a. Residential single family homes: Check that plant factor used = 1.0 and irrigation efficiency = 1.0	☐	☐	
☐	b. Non-residential projects and recreational areas of common interest residential developments: Pools may be included as an SLA	☐	☐	

I. Soil Management Report

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Attach soil analysis report of the soil in planting areas from a soil lab if there is no mass grading during construction (otherwise submit report after construction with Certificate of Completion)	☐	☐	
☐	2. The soil sample follows laboratory protocol and includes:	☐	☐	
☐	a. Soil texture	☐	☐	
☐	b. Infiltration rate	☐	☐	
☐	c. pH	☐	☐	
☐	d. Total soluble salts	☐	☐	
☐	e. Sodium	☐	☐	
☐	f. Percent soil organic matter	☐	☐	
☐	g. Amendment recommendations	☐	☐	
☐	I. Including use of compost at a minimum of 4 cubic yards per 1,000 sf, OR at a rate sufficient to bring soil organic matter up to 6% by dry weight	☐	☐	

J. Hydrozones (see Landscape Design Plan or Irrigation Design Plan)

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Hydrozone information on the water use worksheet/calculator matches landscape plans	☐	☐	
☐	a. Hydrozones are delineated and marked by number, letter or other designation	☐	☐	
☐	b. Hydrozones are identified as low, moderate, high water or mixed water use	☐	☐	
☐	c. No hydrozone has a mix of high (PF = 0.7 – 1.0) and low (PF= 0.1 – 0.3) water use plants.	☐	☐	
☐	d. No plant with a plant factor 0.7 or greater is located in street medians	☐	☐	
☐	2. Water features shown on landscape plans are included as high water use hydrozones in the plans and in the water budget/water use calculator	☐	☐	
☐	3. Temporarily irrigated areas are included in the low water use hydrozones on the plans and on the water budget/water use calculator	☐	☐	

K. Landscape Design Plan

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Plant legend lists common name, botanical name, quantities, mature plant size, water use or plant factor of each plant, and source of information for plant water use	☐	☐	
☐	2. Hardscapes are labeled as pervious or non-pervious	☐	☐	
☐	3. Stormwater treatment areas, including type, size and installation details, are labeled as applicable	☐	☐	
☐	4. Rain harvesting or catchment technologies are labeled as applicable	☐	☐	
☐	5. Graywater discharge piping, system components and area(s) of distribution are labeled as applicable	☐	☐	
☐	6. If SLA's are on the water budget/water use calculator, verify that the plans note the following:	☐	☐	
☐	a. Recreational areas (excluding private single family residential areas)	☐	☐	
☐	b. Areas dedicated solely to edible plants	☐	☐	
☐	c. Areas irrigated with recycled water, if applicable	☐	☐	
☐	7. Invasive Plants: Plant legend shows no plant species listed by the California Invasive Plant Council's "Don't Plant a Pest" brochure as invasive in the San Francisco Bay Area http://cal-ipc.org/landscaping/dpp/	☐	☐	
☐	8. Plant factors used on the plant legend are noted from WUCOLS or approved horticultural researchers	☐	☐	
☐	9. Mature plant spread is noted for each species as well as the published third-party reference	☐	☐	
☐	10. Plants located adjacent to buildings, sidewalks, roads or obstructions are installed to accommodate their minimum spread according to the plant legend	☐	☐	

L. Water Features (skip if not included)

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Water features are shown, including type and surface area	☐	☐	
☐	2. Notes state "recirculating water systems shall be used for water features"	☐	☐	
☐	3. Use of recycled water is noted if used	☐	☐	
☐	4. Single-family residential projects only: new swimming pools are shown as water features and included in water use calculations as a high water use hydrozone	☐	☐	
☐	5. All other projects: new swimming pools are shown as water features and identified as an SLA	☐	☐	

M. Soil, Compost and Mulch

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Mulch: Check that 3 inches of recycled content mulch is specified on planting soil in plans or notes. Exceptions:	☐	☐	
☐	a. Up to 5% of the landscape area may be left bare to provide habitat for ground dwelling pollinators	☐	☐	
☐	b. No mulch is required in turf areas or direct seeding applications	☐	☐	
☐	c. If hydroseeding, the mulching portion of the slurry meets the mulch requirement	☐	☐	
☐	d. If wood mulches are prohibited by local fire regulations	☐	☐	
☐	2. Recycled content mulch is tree trimmings, arbor mulch, pallet mulch or composted mulch.	☐	☐	
☐	3. Compost: Check notes or specifications to verify compost is applied at a minimum rate of 4 CY/1,000 sf or at a rate to bring soil organic matter up to 6% by dry weight as indicated in Soil Report	☐	☐	
☐	a. Construction documents specify that compost is incorporated at least 6 inches deep	☐	☐	
☐	b. Check notes or specifications to verify quality organic compost (CDFA-registered Organic Compost or OMRI-certified Compost) is applied.	☐	☐	

N. Irrigation Design Plan

APPLICANT	ITEM	FOR REVIEWER		NOTES
		PASS	FAIL	
☐	1. Check for the following notes on the irrigation plans:	☐	☐	
☐	a. "Pressure regulating devices are required if water pressure is below or exceeds the recommended pressure of the specified irrigation devices."	☐	☐	
☐	b. "Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur."	☐	☐	

APPLICANT	ITEM	FOR REVIEWER		NOTES
		PASS	FAIL	
☐	c. "Irrigation system is designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas."	☐	☐	
☐	2. Automatic irrigation controllers that are ET-based or soil moisture-based	☐	☐	
☐	3. Sensors that shut off the irrigation controller during unfavorable weather conditions - sensors for rain, freezing temperatures (if necessary), and wind (if necessary)	☐	☐	
☐	4. Manual shut-off valve (gate, ball, butterfly valve) located as close as possible to the point of connection	☐	☐	
☐	5. Master shut-off valve. Exception: Individual control of individually pressurized sprinklers in a system with low pressure shut down features	☐	☐	
	6. Check that a dedicated water meter or submeter for the landscape is installed as applicable. Applicability:			
☐	a. Non-residential projects: Greater than 1,000 sf landscape area	☐	☐	
☐	b. Residential projects: Greater than 5,000 sf landscape area	☐	☐	
☐	7. Check for flow sensors for landscapes 5,000 sf or greater	☐	☐	
☐	8. Check for static water pressure at point of connection	☐	☐	
☐	9. Location, type and size of the following:			
☐	a. Water meters	☐	☐	
☐	b. Backflow prevention devices	☐	☐	
☐	b. Main lines	☐	☐	
☐	c. Lateral lines	☐	☐	
☐	d. Valves (stations), including:	☐	☐	
☐	I. Flow rate (gpm)	☐	☐	
☐	II. Application rates (in/hr)	☐	☐	
☐	III. Design operating pressure (pounds per square inch) for each station	☐	☐	
☐	e. Sprinkler heads	☐	☐	
☐	10. No spray heads are located within 24 inches of non-permeable surface	☐	☐	
☐	11. Sprinkler heads and other emission devices have matched precipitation rates	☐	☐	
☐	12. Swing joints or other riser protection provided in high traffic areas and areas near hardscape	☐	☐	
☐	13. Cross-check landscape plan and irrigation plan to verify that low volume irrigation (drip, drip lines, and bubblers) are used in mulched planting areas (no spray irrigation)	☐	☐	
☐	14. Check that planting areas less than 10 feet in width are irrigated with subsurface irrigation or other means that produce no runoff or overspray	☐	☐	
☐	15. Trees are on separate valves	☐	☐	
☐	16. Biotreatment areas are on separate valves	☐	☐	
☐	17. Irrigation design matches hydrozones shown on Landscape Design Plan	☐	☐	

"I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the Irrigation Design Plan."

Signature: _____

Signed by licensed landscape architect, certified irrigation designer or licensed landscape contractor

O. Grading Design Plan

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Check the grading plan for the finished configurations and elevations of the landscape area including:	☐	☐	
☐	a. Height of graded slopes	☐	☐	
☐	b. Drainage patterns	☐	☐	
☐	c. Pad elevations	☐	☐	
☐	d. Finish grade	☐	☐	
☐	e. Stormwater retention improvements (if applicable)	☐	☐	
☐	2. On slopes greater than 25%, cross-check the Irrigation Design Plan to verify:	☐	☐	
☐	a. Slopes are not irrigated with an application rate exceeding 0.75 inches per hour	☐	☐	

P. Required Statements and Certification

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Check for the following notes on plans:	☐	☐	
☐	a. "A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes."	☐	☐	
☐	b. "A Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, the designer of the irrigation plans, or the licensed landscape contractor for the project."	☐	☐	
☐	c. "An irrigation audit report shall be completed at the time of final inspection."	☐	☐	
☐	d. "A landscape waste diversion plan shall be completed and submitted with the Certificate of Completion."	☐	☐	

Q. Additional Submittals

Applicant: Be prepared to provide these additional submittals at completion of landscape construction:

1.	Certificate of Completion
2.	Completed Irrigation Audit and documents verifying that recommended repairs were completed.
2.	Landscape Waste Diversion Report (can be submitted separately if building construction is a part of the project)
3.	"As-builts" or record drawings, if changes were made to approved landscape documents
4.	Irrigation schedule, landscape maintenance schedule, landscape irrigation audit report
5.	Soil Management Report if not submitted previously and provide documents that soil analysis recommendations were used to amend the planting soil, such as delivery tags and receipts for compost and mulch

Required Changes, Questions and Comments

For Agency _____

Date Reviewed _____

Follow-up Required _____

Item #	Required changes, questions or comments	Resolved

Certificate of Completion

A. Project Information

Date _____

Project Name _____

Project Street Address, City and Zip _____

Parcel or Lot Number(s) (if available) _____

Applicant Name _____

Applicant Job Title _____

Applicant Company Name _____

Phone Number _____

Email Address _____

Street Address, City and Zip _____

Property Owner Name _____

Phone Number _____

Email Address _____

Street Address, City and Zip _____

Property Owner:

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

Property Owner Date

B. Certificate of Installation

To be signed by the signer of the Landscape Design Plan or the Irrigation Design Plan or by the licensed landscape contractor

"I/we certify that based upon periodic site observations, the work has been completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package. As-built drawings have been provided to document any major modifications of the approved Landscape Documentation Package. Significant changes made during construction comply with the ordinance."

Contractor/Professional Signature _____

Date _____

Print Name _____

License Number _____

C. Irrigation Scheduling

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Irrigation scheduling is regulated by automatic irrigation controller	☐	☐	
☐	2. Overhead irrigation is scheduled between 8 p.m. and 10 a.m.	☐	☐	
☐	3. Settings for the irrigation controller for each station include the following:	☐	☐	
☐	a. Irrigation days	☐	☐	
☐	b. Run times	☐	☐	
☐	c. Number of cycle starts per watering event to avoid run off	☐	☐	
☐	d. Amount of applied water on a monthly basis	☐	☐	

D. Schedule of Landscape and Irrigation Maintenance

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Attach schedule of maintenance for the landscape and irrigation system per ordinance to ensure water efficiency. The attached schedule of landscape maintenance includes:	☐	☐	
☐	a. Routine inspection, auditing, adjusting and repair of the irrigation system	☐	☐	
☐	b. Aerating and dethatching turf areas	☐	☐	
☐	c. Topdressing planting areas with compost as needed	☐	☐	
☐	d. Replenishing mulch	☐	☐	
☐	e. Pruning and weeding	☐	☐	
☐	f. Routine inspection, auditing, adjusting and repair of the irrigation system	☐	☐	
	(Bay-Friendly Landscape maintenance manual used for the site would satisfy this requirement)			
☐	2. Attach landscape irrigation audit report	☐	☐	
☐	3. Attach landscape irrigation audit checklist	☐	☐	
☐	4. The irrigation audit was conducted by a third-party certified Irrigation Auditor professional who is not a part of the design team	☐	☐	
☐	5. Irrigation items identified for repair in the audit are fixed	☐	☐	
☐	6. In large project or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or 15% is conducted	☐	☐	

Complete the following sections ONLY if project has submitted the Landscape Documentation Package.

E. Irrigation Audit Report

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Audit completed	☐	☐	
☐	2. Any recommended repairs have been completed	☐	☐	
☐	3. The Irrigation Audit Report includes:	☐	☐	
☐	a. Inspection for leaks	☐	☐	
☐	b. System tune-up	☐	☐	
☐	c. Reporting overspray or run off	☐	☐	
☐	d. An irrigation schedule including configuring controller with application rate, soil types, plant factors, slope, exposure and other factors needed to increase water efficiency	☐	☐	

F. Soil Management Report

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Attach soil analysis report of the soil in planting areas from a soil lab if not previously submitted with the Landscape Documentation Package per ordinance.	☐	☐	
☐	2. The soil sample follows laboratory protocol and includes:	☐	☐	
☐	a. Soil texture	☐	☐	
☐	b. Infiltration rate	☐	☐	
☐	c. pH	☐	☐	
☐	d. Total soluble salts	☐	☐	
☐	e. Sodium	☐	☐	
☐	f. Percent organic matter	☐	☐	
☐	g. Amendment recommendations	☐	☐	
☐	3. Attach document(s) showing that soil analysis report recommendations were used to amend the planting soil, such as delivery tags and receipts for compost and mulch.	☐	☐	

G. Landscape Diversion Report

APPLICANT	ITEM	REVIEWER		NOTES
		PASS	FAIL	
☐	1. Attach a construction waste management report for the project that shows at least 50% diversion of construction and demolition debris and 100% diversion of excavated soil and land clearing debris through recycling or reuse. Building debris can be used in calculations.	☐	☐	
☐	2. Confirm that diversion facilities where collected construction waste material was taken are identified in the waste management report.	☐	☐	

H. Additional Modifications

Applicant: If major modifications were made in construction from the submitted plans, attach record drawings (as-builts)

☐ No major modifications
☐ Record drawings (as-builts) attached

Irrigation Audit Checklist

A. Project & Auditor Information

Inspection Date _____

Project Name _____

Project Address _____

Application Number _____

Irrigation Auditor Name _____

Irrigation Auditor Company _____

Irrigation Auditor Address _____

Irrigation Auditor Phone Number _____

Irrigation Auditor Email _____

Auditor Certified by:

- ☐ Irrigation Association
- ☐ EPA WaterSense program
- ☐ Other: _____

Note: For large projects or projects with multiple landscape installations (i.e. production home developments), an auditing rate of 1 in 7 lots or approximately 15% satisfies the audit requirement.

B. Audit Report

APPLICANT	ITEM	AUDITOR		NOTES
		PASS	FAIL	
☐	1. Separate landscape customer service water meter or private submeter has been installed as applicable:	☐	☐	
☐	a. Non-residential projects: Greater than 1,000 sf landscape area	☐	☐	
☐	b. Residential projects: Greater than 5,000 sf landscape area	☐	☐	
☐	2. The irrigation audit report includes:	☐	☐	
☐	a. System inspection	☐	☐	
☐	b. Inspect for leaks	☐	☐	
☐	c. System tune-up	☐	☐	
☐	d. Test the operating pressure of the irrigation system	☐	☐	
☐	e. Test to determine distribution uniformity	☐	☐	
☐	f. Test to determine precipitation rate of representative overhead irrigation valves	☐	☐	
☐	g. Confirm matched precipitation rates on valves with sprinkler heads, rotors and other emission devices	☐	☐	
☐	h. Report of any overspray or broken irrigation equipment	☐	☐	
☐	i. Report of overspray or run off that causes overland flow	☐	☐	
☐	j. Written recommendations to improve performance of the irrigation system	☐	☐	
☐	k. Preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming	☐	☐	
☐	l. Other:	☐	☐	

C. Irrigation Equipment

APPLICANT	ITEM	AUDITOR		NOTES
		PASS	FAIL	
☐	1. Irrigation equipment is installed (location, type and size) as shown in the approved plans:	☐	☐	
☐	a. Automatic controller is ET-based or soil moisture-based and includes:	☐	☐	
☐	I. Irrigation scheduling parameters	☐	☐	
☐	II. Hydrozone map	☐	☐	
☐	b. Sensors installed include rain, frost (if necessary) and wind sensors (if necessary)	☐	☐	
☐	c. Point of connection includes:	☐	☐	
☐	I. Backflow prevention devices (if necessary)	☐	☐	
☐	II. Manual shut-off valve (gate, ball, butterfly valve)	☐	☐	
☐	III. Master shut-off valve	☐	☐	
☐	IV. Flow sensor for landscapes over 5,000 sf only	☐	☐	
☐	d. Valves (station)	☐	☐	
☐	I. Flow rate (gpm)	☐	☐	
☐	II. Application rates (in/hr)	☐	☐	
☐	III. Design operating pressure:	☐	☐	
☐	e. If static pressure is above or below required dynamic pressure of the system, pressure-regulating devices are installed	☐	☐	
☐	2. Main and lateral lines	☐	☐	
☐	3. Sprinkler heads	☐	☐	
☐	a. No spray heads within 24 inches of non-permeable surface	☐	☐	
☐	b. Sprinkler heads and other emission devices have matched precipitation rates	☐	☐	
☐	c. Swing joints or other riser protection provided in high traffic areas and areas near hardscape	☐	☐	
☐	4. Low volume irrigation (drip, drip lines, and bubblers) is used in mulched planting areas (no spray irrigation) and in areas less than 10 feet wide	☐	☐	
☐	5. Slopes greater than 25% are irrigated with an application rate not exceeding 0.75 inches per hour	☐	☐	
☐	6. Runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas are prevented	☐	☐	
☐	7. Check valves or anti-drain valves are installed to prevent low head drainage	☐	☐	
☐	8. Pressure regulating devices are used if the static water pressure at the connection of the public water system does not match the water pressure needs of the irrigation system	☐	☐	

D. Hydrozones

APPLICANT	ITEM	AUDITOR		NOTES
		PASS	FAIL	
☐	1. Match on the landscape plan and irrigation plan	☐	☐	
☐	2. Are irrigated by valves with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use	☐	☐	
☐	3. Trees are on separate valves	☐	☐	
☐	4. Biotreatment areas are on separate valves	☐	☐	

E. Water Features

APPLICANT	ITEM	AUDITOR		NOTES
		PASS	FAIL	
☐	1. Use recirculating water systems	☐	☐	
☐	2. Use recycled water if available	☐	☐	

F. Irrigation Schedules

APPLICANT	ITEM	AUDITOR		NOTES
		PASS	FAIL	
☐	1. Irrigation schedules have been developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:	☐	☐	
☐	a. Irrigation scheduling is regulated by automatic irrigation controllers	☐	☐	
☐	b. Overhead irrigation is scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it	☐	☐	
☐	c. Irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data	☐	☐	
☐	2. The irrigation schedules have been developed to include the parameters used to set the automatic controller and are submitted for each of the following:	☐	☐	
☐	a. Plant establishment period	☐	☐	
☐	b. Established landscape	☐	☐	
☐	c. Temporarily irrigated areas	☐	☐	
☐	3. Each irrigation schedule includes the following that apply for each station (valve):	☐	☐	
☐	a. Irrigation interval (days between irrigation)	☐	☐	
☐	b. Irrigation run times (hours or minutes per irrigation event to avoid runoff)	☐	☐	
☐	c. Number of cycle starts required for each irrigation event to avoid runoff	☐	☐	
☐	d. Amount of applied water scheduled to be applied on a monthly basis	☐	☐	
☐	e. Application rate setting	☐	☐	
☐	f. Root depth setting	☐	☐	
☐	g. Plant type setting	☐	☐	
☐	h. Soil type	☐	☐	
☐	i. Slope factor setting	☐	☐	
☐	j. Shade factor setting	☐	☐	
☐	k. Irrigation uniformity or efficiency setting	☐	☐	

G. Reviewer Comments

3 | VIT VIN
0.3

N/A | VEGETABLES
1.0

GRAVEL MULCH

388

FENCE

HET ARB | 4
0.2

ORGANIC WOOD MULCH

LUP ALB | 4
0.1

12 | MIM AUR
0.1

NAT TURF | 600
0.5

FRA LAT | 1
0.5

PHY NOD | SOD
0.3

CEA CON | 10
0.2

RESIDENCE

387

LOW POINT +
386.5'
RAIN-WATER BASIN

WOO FIM | 1
0.5

HEU MIC | 50
0.5

GRAVEL MULCH

WOOD DECK

CONC WALK

WOOD PORCH

392

391

390

389

5 | MAL DOM
0.6

FOUNTAIN

PLAY STRUCTURE

60 | HEU MIC
0.5

ACE CIR | 1
0.5

LUP ALB | 7
0.1

CEA CON | 4
0.2

MIM AUR | 12
0.1

PERVIOUS CONCRETE DRIVEWAY

ORGANIC WOOD MULCH

GRAVEL MULCH

POTTING SHED

ACE CIR | 2
0.5

PLANT LABEL KEY

QUANTITY

5 | LUP ALB — SYMBOL (SEE PLANT LEGEND)

0.5 — WUCOLS PLANT FACTOR

HYDROZONE KEY

- LOW AND VERY LOW WATER USE
- MODERATE WATER USE
- HIGH WATER USE
- SPECIAL LANDSCAPE AREA (EDIBLES)

LUP ALB | 5
0.1

MIM AUR | 20
0.1

PERVIOUS CONCRETE WALKWAY

CEA CON | 7
0.2

12 | HET ARB
0,2

HET ARB | 10
0.2

DESIGNER CONTACT INFORMATION

ORIGINAL SCALE: 1/4" = 1'

0 5 10

PROJECT TITLE AND SITE ADDRESS

PLANTING AND HYDROZONE PLAN

DATE:

REVISIONS:

L

1.0

SAMPLE PLANT LEGEND

(BOTANICAL NAME AND WATER USE DESIGNATION REQUIRED)

SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	NOTES	WUCOLS
TREES:						
ACE CIR	ACER CIRCINATUM	VINE MAPLE	3	15 GAL.	NATIVE, MULTI-STEM	M
FRA LAT	FRAXINUS LATIFOLIA	OREGON ASH	1	24" BOX	NATIVE, STANDARD	M
MAL DOM	MALUS DOMESTICA 'FUJI'	FUJI APPLE	4	15 GAL.	EDIBLE, STANDARD	M
SHRUBS:						
CEA CON	CEANOTHUS CONCHA	MOUNTAIN LILAC	20	5 GAL.	NATIVE, REDUCED SUMMER WATER	L
HET ARB	HETEROMELES ALBUTIFOLIA	TOYON	16	5 GAL.	NATIVE, REDUCED SUMMER WATER	L
LUP ALB	LUPINUS ALBIFRONS	SILVER BUSH LUPINE	17	1 GAL.	NATIVE, REDUCED SUMMER WATER	VL
MIM AUR	MIMULUS AURANTIACUS	STICKY MONKEY FLOWER	29	1 GAL.	NATIVE, REDUCED SUMMER WATER	VL
VIT VIN	VITIS CALIFORNICA 'RODGER'S RED'	WILD GRAPE	3	1 GAL.	NATIVE HYBRID	L
WOO FIM	WOODWARDIA FIMBRIATA	GIANT CHAIN FERN	1	5 GAL.	NATIVE	M
GROUNDCOVERS:						
HEU MAX	HEUCHERA MICRANTHA	CREVICE ALUM ROOT	110	4 INCH	NATIVE	M
PHY NOD	PHYLA NODIFLORA	KURAPIA	675 SF	SOD	NATIVE CULTIVAR	L
NAT TURF	F.OCCIDENTALLIS, F. RUBRA, F. IDAHOENSIS	NATIVE FESCUE BLEND	600 SF	SOD	NATIVE	L

SAMPLE NOTES

(REQUIRED MEASURES)

PLANTING

1) TURF IS LIMITED TO 25 PERCENT OF THE TOTAL IRRIGATED AREA (EXCEPT WHERE NON-RESIDENTIAL PLAY FIELDS ARE A PROGRAM REQUIREMENT) AND NOT PLANTED ON AREAS SLOPING MORE THAN 25 PERCENT.
2) PLANTINGS MUST BE GROUPED INTO HYDROZONES BASED ON MICROCLIMATE, SOIL TYPE, PLANT TYPE, AND WATER USE CLASSIFICATION (SEE WUCOLS: WWW.UCNR.EDU/SITES/WUCOLS/).

IRRIGATION

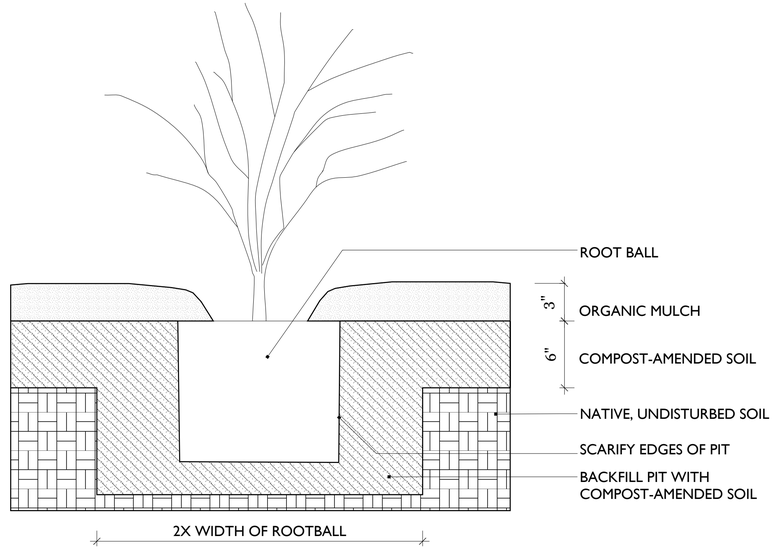
3) PRECIPITATION RATES MUST BE UNIFORM ACROSS EACH ZONE.
4) EMITTERS MUST BE FIXED RATE AND OF THE SAME TYPE WITHIN A ZONE. NO VARIABLE OR ADJUSTABLE FLOW RATE EMITTERS ARE ALLOWED. MIXING EMITTERS WITHIN A ZONE IS NOT ALLOWED.
5) OVERHEAD SPRAY IS NOT ALLOWED IN AREAS LESS THAN TEN FEET ACROSS IN ANY DIMENSION.
6) OVERHEAD SPRAY NOZZELS MUST BE SET BACK A MINIMUM OF TWO FEET FROM ADJACENT IMPERVIOUS SURFACES.

COMPOST

7) INCORPORATE COMPOST AT A RATE OF FOUR (4) CUBIC YARDS PER 1,000 SQUARE FEET INTO THE TOP SIX (6) INCHES OF SOIL OR COMPOST PER HORITICULTURAL SOIL REPORT RECOMMENDATIONS.

MULCH

8) APPLY ORGANIC MULCH TO A MINIMUM DEPTH OF THREE (3) INCHES ON ALL EXPOSED SOIL IN THE PLANTED AREA EXCEPT WHERE CONTRAINDICATED.



SAMPLE PLANTING DETAIL

NOT TO SCALE

DESIGNER CONTACT INFORMATION

PROJECT TITLE AND SITE ADDRESS

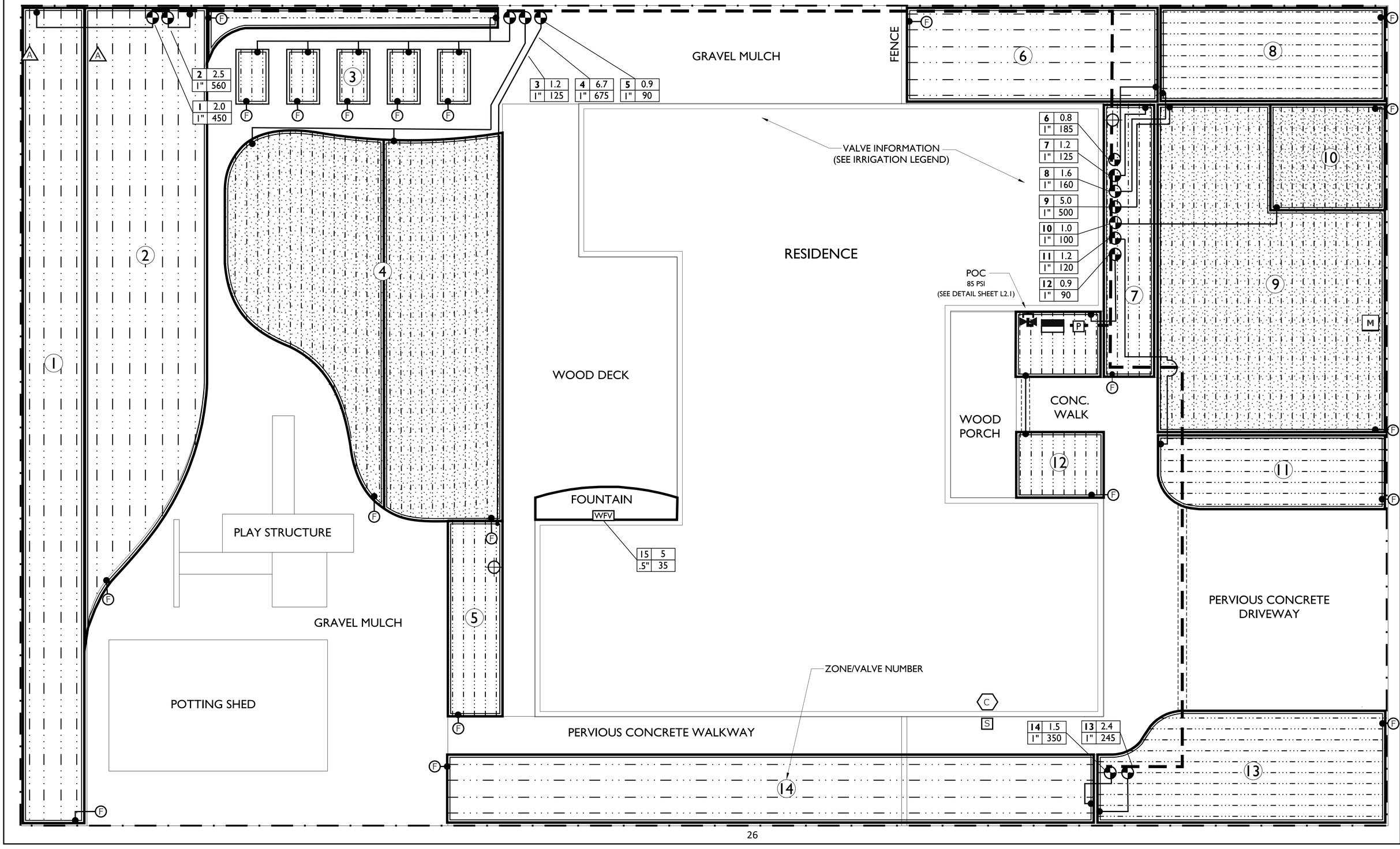
PLANT LEGEND, NOTES AND DETAILS

DATE:

REVISIONS:

L

1.1



DESIGNER CONTACT INFORMATION

ORIGINAL SCALE: 1/4" = 1'

PROJECT TITLE AND SITE ADDRESS

IRRIGATION PLAN

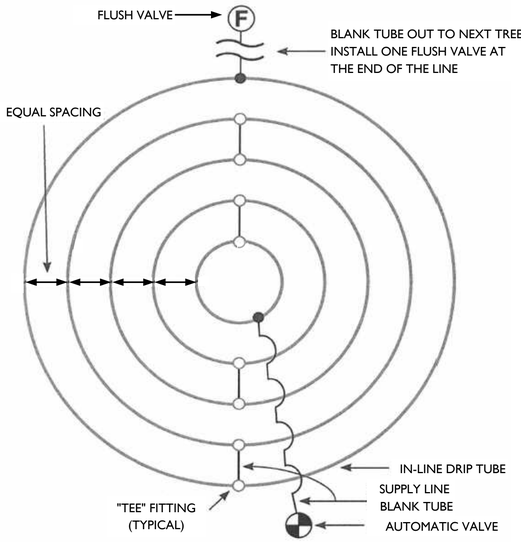
DATE:

REVISIONS:

L

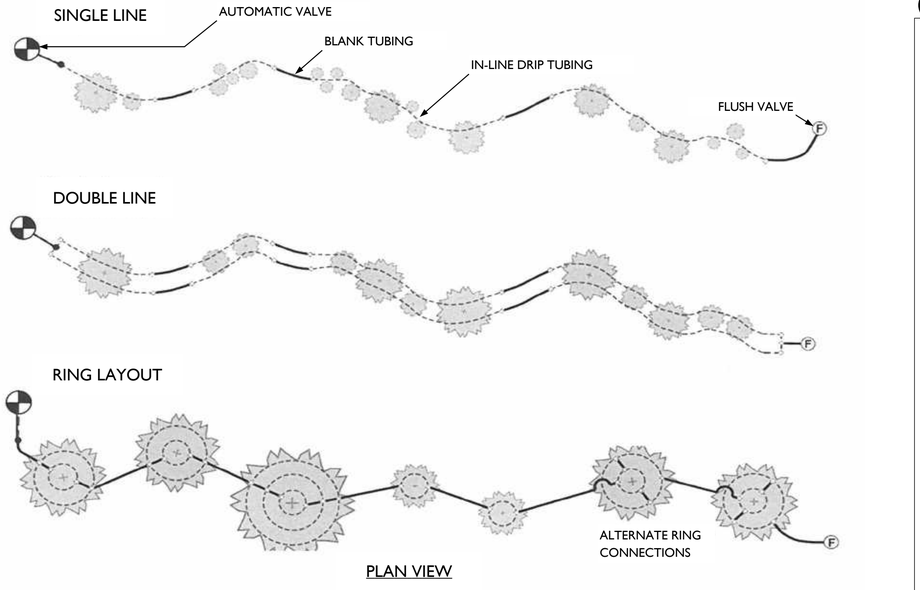
2.0

SAMPLE DRIP IRRIGATION DETAILS



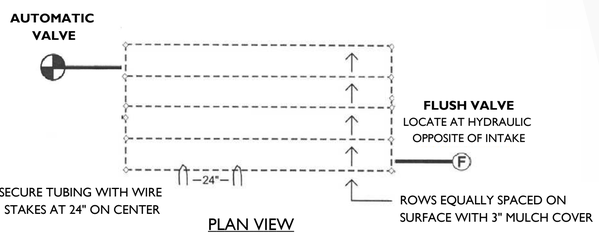
PLAN VIEW

IN-LINE DRIP RING LAYOUT



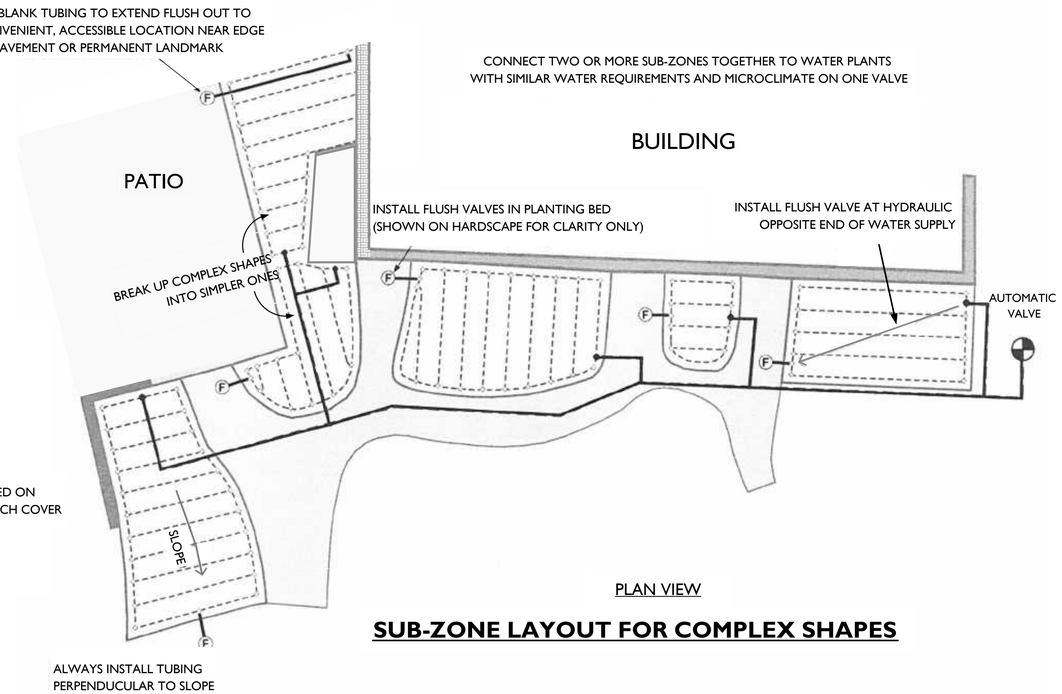
PLAN VIEW

IN-LINE DRIP SNAKE LAYOUTS



PLAN VIEW

IN-LINE DRIP TUBING ZONE LAYOUT



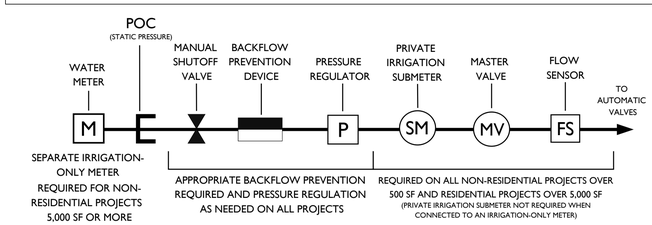
PLAN VIEW

SUB-ZONE LAYOUT FOR COMPLEX SHAPES

SAMPLE IRRIGATION LEGEND

(MAKE AND MODEL OF EACH COMPONENT REQUIRED)

SYMBOL	COMPONENT MAKE, MODEL, TYPE, AND DESCRIPTION
M	INSTALLED WATER METER
C	WEATHER-BASED, AUTOMATIC IRRIGATION CONTROLLER
S	RAIN (*OR SOIL*) SENSOR
POC (STATIC PRESSURE)	POINT OF CONNECTION AND STATIC PRESSURE
	MANUAL BALL (*OR GATE*) VALVE
	REDUCED PRESSURE BACKFLOW PREVENTION DEVICE (*ANTI-SIPHON VALVES MAY BE SUBSTITUTED IF INSTALLED PROPERLY; DOUBLE CHECK VALVES ARE NOT ALLOWED*)
P	PRESSURE REGULATOR (*IF CONDITIONS REQUIRE*)
	AUTOMATIC VALVE
6 / 1" / 1.2 / 185	VALVE/ZONE NUMBER FLOW RATE IN GALLONS PER MINUTE ZONE AREA IN SQUARE FEET VALVE SIZE
	MAIN LINE DIAMETER AND TYPE
	LATERAL LINE DIAMETER AND TYPE
	SLEEVE DIAMETER AND TYPE
	SURFACE 1/2" IN-LINE DRIP TUBING 0.6 GPH, 12" EMITTER SPACING, 12" ROW SPACING (*MINIMUM SPACING RECOMMENDED FOR WELL DRAINED SOIL, RAISED BEDS AND STORMWATER TREATMENT FACILITIES*)
	SUB-SURFACE 1/2" IN-LINE DRIP TUBING 0.6 GPH, 12" EMITTER SPACING, 12" ROW SPACING (*MINIMUM SPACING RECOMMENDED FOR WELL DRAINED SOIL, RAISED BEDS AND STORMWATER TREATMENT FACILITIES*)
	SURFACE 1/2" IN-LINE DRIP TUBING 0.6 GPH, 18" EMITTER SPACING, 18" ROW SPACING (*MINIMUM SPACING RECOMMENDED FOR WELL DRAINED SOIL, RAISED BEDS AND STORMWATER TREATMENT FACILITIES*)
F	FLUSH VALVE AND POP-UP DRIP ZONE INDICATOR
A	AIR VACUUM RELIEVE VALVE (*IF CONDITIONS REQUIRE*)
WFV	WATER FEATURE VALVE TYPE (*I.E. FLOAT VALVE*) AND FLOW RATE
	HOSE BIB



TYPICAL IRRIGATION POINT OF CONNECTION

DESIGNER CONTACT INFORMATION

PROJECT TITLE AND SITE ADDRESS

IRRIGATION LEGEND, NOTES AND DETAILS

DATE:

REVISIONS:

L

2.1