

City of Ceres

WATER EFFICIENT LANDSCAPE GUIDELINES AND STANDARDS

Single Family Housing



Prepared by the Planning and Community Development
Department and Public Works Department - February 1994
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Single Family Housing

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City of Ceres

WATER EFFICIENT LANDSCAPE GUIDELINES AND STANDARDS

Section 1.0: Purpose and Intent

The purpose of these Guidelines is to establish landscaping regulations that are intended to:

- A. Enhance the aesthetic appearance of development by providing standards relating to quality, quantity, and functional aspects of landscaping and landscape screening.
- B. Increase compatibility between various land uses, particularly between residential and abutting commercial and industrial land uses.
- C. Reduce the heat and glare generated by development.
- D. Reduce water consumption in the landscape environment using conservation principles. Comply with State laws requiring local agencies to adopt water-conserving landscape standards.
- E. Protect public health, safety, and welfare by minimizing the impact of all forms of physical and visual pollution, controlling soil erosion, screening incompatible land uses, preserving the integrity of neighborhoods, and enhancing pedestrian and vehicular traffic and safety.
- F. Provide developers and property owners with a better understanding of the City's expectations regarding the design and installation of landscaping and irrigation systems as currently required by Code.
- G. Establish a system to insure that the City's interests in landscaping and irrigation systems are carried out are both cost-effective and flexible. The City Council recognizes that minor deviations may be granted to these Guidelines, whenever such deviations are more likely to satisfy the purpose and intent of the Guidelines.

Section 2.0: Applicability

Section 3.0 of these Guidelines shall apply to the development of a lot with a single-family dwelling (including model homes) as a permitted use where the Ceres Zoning Ordinance requires the landscaping of the front yard (front setback) and exterior side yard (side setback). Section 4.0 of these Guidelines shall apply to all development projects that consist of two or more dwelling units on a single lot or lots, or nonresidential uses that are subject to the discretionary review and approval by the City of Ceres and where landscaping and irrigation systems are required by the Zoning Ordinance. Section 5.0, Definitions, and Appendix A shall apply to all developments regulated by these Guidelines.

Section 3.0: Single-family Lots

A landscaping and irrigation plan, meeting the standards and requirements of this section of these Guidelines, shall be prepared in conjunction with an application for a building permit for the construction of a single-family dwelling, including model homes, when located on a single lot. The landscaping and irrigation plan shall be submitted with the application for a building permit.

If the builder chooses to use a pre-approved standard plan, the plan calculation sheet or checklist and list of exceptions need only be submitted. As long as the plan with the exceptions meets the intent of these regulations, no other information need be provided.

All landscaping is to be installed in accordance to the approved plans prior to final inspection. If the landscaping installed exceeds the water allocation of the approved plan, the building permit for the dwelling shall not be finalized until corrections have been made or a cashier's check is posted equal to the cost of making the corrections by an appropriately licensed contractor recognized by the State of California as competent to install landscaping.

The installation of landscaping on a single-family lot may be deferred for a period of not more than six (6) months after the final inspection has been issued by: (1) showing cause for deferring the installation of landscaping; and (2) posting with the City of Ceres a cashier's check in an amount equal to a licensed landscape contractor's estimate for the installation of the landscaping as a bond. A request to defer the installation of landscaping shall be made in writing to the Director of Public Works and shall authorize the City to use the funds deposited with the City to cause the landscaping to be installed consistent with the landscaping plans approved by the City.

Section 3.1 Landscape Design Policies for Single-family Lots

The following landscape design policies are intended to assist the landowner in understanding the City's expectations for landscaping required by the Ceres Zoning Ordinance for single-family lots.

- A. Landscaped areas should incorporate plantings utilizing a three tier system: (1) grasses and ground covers, including vines; (2) shrubs; and (3) trees.
- B. Planting masses on-site should assume a simple, non-uniform arrangement.
- C. Plants should be selected based upon their adaptability to the climate, geology, and topographic conditions of the site. The planting of trees is encouraged, especially deciduous trees planted on the south side of buildings.
- D. Plants having similar water needs should be grouped together in distinct "hydrozones" so that the irrigation system can efficiently provide adequate water supplies.

Section 3.2: General Landscape Requirements and Development Standards for Single-family Lots

The following represent the minimum requirements and development standards for landscaping single-family lots in the City of Ceres.

A. Water Conservation. The design of the landscaping shall be based on one of the three following methods:

1. *"Water Allowance" Method.* This method involves establishing a water allowance for each site, which provides the basis for the entire landscape program. A water allowance is simply the maximum amount of water that may be applied to a landscaped area (24.6 gallons per square foot of landscaped area on an annual basis). It is determined by the evapotranspiration rate for the Ceres area, adjusted to reflect both the water consumption of the plant materials involved and the efficiency of the irrigation system. This method involves designing landscapes with a mixture of low, medium, and even high water-using plants, if desired, provided that they be maintained within the water allowance determined for each site. Plants having similar water use shall be grouped together in distinct hydrozones. The principal advantage is that it permits a greater degree of flexibility in the selection and arrangement of plant materials. The methodology and forms for the single-family application of this method for the water allowance method are contained in Appendix A.
2. *"Prescriptive Format" Method.* The prescriptive format involves selecting plant materials that fit the following predetermined formula:
 - not more than 35% of the landscaped area planted with turf.
 - balance of landscaped area to consist of at least 90% drought tolerant plant materials and not more 10% plant materials with medium to high water needs.

For the prescriptive format, the developer shall submit the information required in Section 3.4. No water allowance calculations need be provided as long as the landscaping by type, meets the percentages listed above. Forms for the single-family application of this method are contained in Appendix B.

3. *Pre-approved City Standard Plans.* Pre-approved standard plans developed by the City that incorporates the appropriate mixture of plant materials and irrigation system components to meet the City's water conservation and landscaping objectives may be used. These standard plans and checklist are included in Appendix C.

While the latter two methods restrict the selection and arrangement of plant materials, their principal advantage is that they are easier to understand and to implement than the water allowance method.

B. Trees.

1. Minimum tree size shall be fifteen gallon (15) unless another size is specified in certain situations. One tree shall be planted for each residential lot. Two trees shall be planted for each corner lot. One in the front yard (front yard setback) and one in the exterior-side yard (side yard setback).
2. Trees shall be staked and planted in accordance with city standards.
3. Tree varieties shall be long-lived (minimum of 50 years), clean, require little maintenance and be structurally strong and disease and pest resistant.
4. Trees planted in turf areas should be provided with a three-foot (3') diameter clear area around the trunk.
5. Trees planted adjacent to streets, parking areas and pedestrian walkways shall have a deep rather than shallow root system and be coordinated with any street trees located within the right-of-way.

C. Ground Cover/Turf.

1. The size and spacing of plants used for ground cover shall be based on the requirements for the specific plants to achieve 100 percent coverage within three years from being planted.
2. Drought tolerant grasses should be planted in turf areas unless specific conditions prevent the selection of these species.
3. When designing landscaping for a project using the "prescriptive format" method, areas devoted to turf shall not exceed 35% of the total landscaped area.
4. Turf is not permitted in narrow planting strips (areas less than eight feet (8') wide).
5. Turf is not recommended for berms and other areas with slopes in excess of 20%. The toe of turf-planted berms or sloped areas (greater than 5%) shall be located a minimum of 24 inches behind any hardscape (curb, sidewalk, driveway, or walkway).
6. Turf shall not be installed within 24 inches of driveways or sidewalks unless a three-inch (3") deep swale, measured from the top of the hardscape, is constructed at least three feet (3') back of the hardscape.

D. Rock-Stone and Mulch.

1. A minimum of three inches (3") of rock, gravel, or mulch (e.g. wood chips, bark, etc.) shall be required in conjunction with ground covers, shrubs and trees, provided that it does not become the dominant feature of the landscape program except for the few months after initial planting. Non-porous material such as impervious sheet plastic may not be placed under the mulch as it blocks the infiltration of rainwater and can cause runoff elsewhere on the site.
2. Inorganic materials such as rocks, stones, boulders and timbers may be incorporated into a landscape program only when used in conjunction with live plant materials and when limited to an accent feature.

E. Planters.

1. All planter areas shall provide positive drainage away from paved areas.
2. Planters should be separated from surrounding areas by a four inch (4") high curb of raised concrete or treated wood, or be recessed at least two inches (2") below the surrounding surface with a 4:1 slope away from any adjoining paved area.
3. All planters constructed adjacent to buildings or structures shall drain away from the building or structure.

F. Irrigation Systems

1. All landscaped areas shall be provided with an approved automatic irrigation system that meets the criteria listed below:
 - Low pressure/low precipitation rate systems (e.g. drip irrigation, etc.) shall be used where high pressure/high precipitation systems are not required and a low pressure system can provide an adequate supply of water.
 - Sprinkler heads irrigating turf or other high-water-demand landscape areas shall be circuited so that they are on a separate zone or zones from those irrigating trees, shrubbery or other reduced-water requirement areas.
 - The system shall be designed to minimize over spray onto impervious surfaces such as sidewalks, buildings, parking areas, etc., through the use of such techniques as low-trajectory spray nozzles or underground or low-volume applicators.
 - Sprinklers should not be installed immediately adjacent to sidewalks and other impervious areas but should be set inward in turf areas and other planting areas.

- Automatic irrigation controllers shall have multiple cycle capabilities; electronic controllers shall have a battery backup.
- Automatic irrigation controllers shall be programmed consistent with the days and hours established by the water conservation program adopted by the City of Ceres.
- Serviceable check valves are required where elevation differences may cause low head drainage.

Section 3.3: Specific Landscape Requirements and Development Standards Single-family Lots

- A. Yards, Setbacks and Open Spaces. All front yards (front setbacks) and exterior sideyards (side setbacks) not otherwise devoted to driveways or walkways shall be landscaped in accordance with the minimum standards described below. Landscaping along street frontages shall be extended into the right-of-way and/or public utility easement to the sidewalk. Parkway strips, if any, shall also be landscaped. Street trees shall be consistent with the Ceres Street Tree Program.
- B. Model Homes. In each residential project that consists of eight (8) or more detached single-family home, at least one model home shall demonstrate by signs (maximum four (4) square feet) or drawings, and informational brochures, the principles and benefits of water efficient landscaping techniques. The sign and brochure shall focus on specific water efficient features, such as drip irrigation, hydrozones, and drought tolerant plants, etc. and may list the designers and suppliers.

Section 3.4: Landscape and Irrigation Plan Requirements for Single-family Lots

All Landscape and Irrigation Plans and associated construction documents shall indicate the information listed below, except that only the plan type, calculation sheet or checklist and exception list need be submitted if a pre-approved standard plan is used.

Plans shall be drafted at a scale sufficient to adequately show plant and irrigation detail and shall not exceed 30" x 42", or be less than 8 1/2" x 11". The landscape plan plant symbols shall reflect the size of plants three (3) to four (4) years after planting. Landscape and Irrigation Plans must be prepared by a licensed landscape architect, landscaped contractor, or other competently trained professional recognized by the State of California to prepare landscape and irrigation plans. State regulations permit a property owner to prepare a landscape and irrigation plan for his or her own property.

Site plan drawings used to obtain a building permit may be used as the base for the plans.

A. Project Information.

1. Project name and file number.
2. Landscape designer's name, address, phone number, and professional credentials (license, etc.).
3. North arrow and scale.
4. Site plan drawn to scale indicating:
 - property lines, right-of-way line(s) and easements.
 - buildings (proposed and/or existing).
 - driveways, patios, and walkways.
 - existing trees and significant vegetation stands.
 - all proposed hardscape.

B. Landscape Plan and Planting Program.

1. All landscape plans shall include, at a minimum, the following information:
 - turf and/or ground cover areas and number and location of shrubs.
 - tree locations; trees are to be identified by general description (i.e., (tall, vertical, broad, accent, evergreen, deciduous, etc.).
 - proposed plant palette with botanical and common name, sizes, and total number proposed.
 - staking and/or guying for trees.
 - raised planters, including drains.
2. A tabulation of landscape square footage and percentage of landscaping devoted to:
 - net lot area.
 - area occupied by buildings and structures.
 - driveways.
 - turf areas.
 - other landscaped areas.
3. An identification of the method used to insure water efficient landscaping (water allocation or prescriptive formula, See Section 3.2, General Requirements and Minimum Development Standards).
 - water allowance - annual water use requirement with calculations (within 0.8 of adjusted ETo, include data to document water use).
 - prescriptive format - list percentages of landscaped area with plants in common water consumption category.

C. Irrigation Plan.

1. The type and location of all equipment, heads, valves, backflow-preventer(s), etc., including:
 - location and size and type of all non-pressure and pressure lines.
 - location of connections.
 - water service line, size and location.
 - system design water pressure and existing static water pressure (40 PSI).
 - site grading showing finished configurations, slopes, elevations and drainage patterns of the landscaped area.
2. All equipment is to be identified by manufacturer's name, model number and size if applicable.
3. All heads and/or emitters are to be identified by manufacturer, model number, pattern, radius, and GPM or GPH demand.
4. All control valves are to indicate manufacturer, model number, size and estimate GPM demand at each valve.
5. An irrigation schedule for an entire year, organized by season, that shows the estimated annual water consumption.

D. Maintenance and Fertilization Schedule.

1. All landscape plans shall include the landscape designer's annual maintenance and fertilization recommendations.

E. Designer's Certification. The individual preparing the Comprehensive Landscape and Irrigation Plan shall sign and certify that the plans submitted to the City of Ceres meet the city's Water Efficient Landscape Guidelines and Standards.

Section 5.0: Definitions

"Estimated applied water use" means the amount of the water recommended (based upon the irrigation schedule.)

"ET adjustment factor" is the plant factor divided by irrigation efficiency. This factor is used to calculate the maximum water allowance. The plant factor is based on a site-wide average of 0.5. The irrigation efficiency factor for the ET Adjustment Factor is 0.625. Therefore, the ET Adjustment Factor $(0.8) = (0.5 / 0.625)$.

"Hydrozone" means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule.

"Irrigation efficiency" means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency being used is 0.625. Greater irrigation efficiency can be expected from well designed and maintained systems.

"Landscaped area" means the entire parcel including water features such as ponds, fountains, swimming pools, and spas; less the building footprint, driveways, non-irrigated portions of parking lots, hardscapes- such as decks and patios, and other non-porous areas.

"Maximum applied water allowance" means, for design purposes, 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 landscaped area. The "estimated applied water use" shall not exceed the "maximum applied water allowance."

"Plant factor" means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. The average plant factor of low water using plants ranges from 0 to 0.3; for medium water using plants, the range is 0.4 to 0.6; and for high water using plants, the range is 0.7 to 1.0.

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

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7

"Turf" means single bladed grass or sod. Bermuda grass, Kikyu grass, Seashore paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses.

APPENDIX A WATER ALLOWANCE METHOD

PURPOSE

This method allows the greatest flexibility, but requires the most work and a good understanding of plant and irrigation systems.

Method:

If the landscape design of a project is based upon establishing a water allowance, rather than a prescriptive format, then a "maximum applied water allowance" must be calculated as well as a "total estimated applied water use".

A project's "maximum applied water allowance" shall be calculated utilizing the State's formula.

MAWA = $(ET_o) \cdot (0.8) \cdot (LA) \cdot (0.62)$ where:

MAWA =	Maximum Applied Water Allowance (gallons per year)
ET _o	= Reference Evaporation (inches per year) 49.7
0.8	= ET Adjustment Factor (0.5 site wide average plant factor/0.625 irrigation efficiency).
LA	= Landscaped Area
0.62	= Conversion Factor (to gallons per square foot)

The "total estimated applied water use" may be calculated by summing the estimated water use of all hydrozones in the landscaped area.

$$EWU \text{ (hydrozone)} = \frac{(ET_o) \cdot (PF) \cdot (HA) \cdot (.62)}{(IE)}$$

EWU (hydrozone)	= Total Estimated Water Use (gallons per year)
ET _o	= Reference Evapotranspiration
PF	= Plant Factor
HA	= Hydrozone Area (square feet)
(.62)	= Conversion Factor
IE	= Irrigation Efficiency

The "total estimated applied water use" may not exceed the "maximum applied water allowance." An exception to this is where turf areas may serve as recreational purposes and may require water in addition to the "maximum applied water allowance." Portions of landscaped areas in public and private projects such as parks, playgrounds, sports fields, or golf courses where turf provides a playing surface or serves other recreational purposes are considered recreational areas. A statement shall be included with the landscape design plan, designating recreational areas to be used for such purposes and specifying any needed amount of additional water above the maximum applied water allowance.

APPENDIX A

CITY OF CERES

LANDSCAPE AND IRRIGATION PLAN

(address)

WATER ALLOWANCE CALCULATION SHEET

1. Square footage of lot = _____ sq. ft.
2. Square footage of house
(garage included) = _____ sq. ft.
3. Square footage of driveways, patios,
decks, walkways = _____ sq. ft.

LANDSCAPE AREA 1 - 2 - 3 = _____ sq. ft.

Lawn Area _____ sq.ft. ÷ Landscape Area = _____

High Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = _____

Medium Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = _____

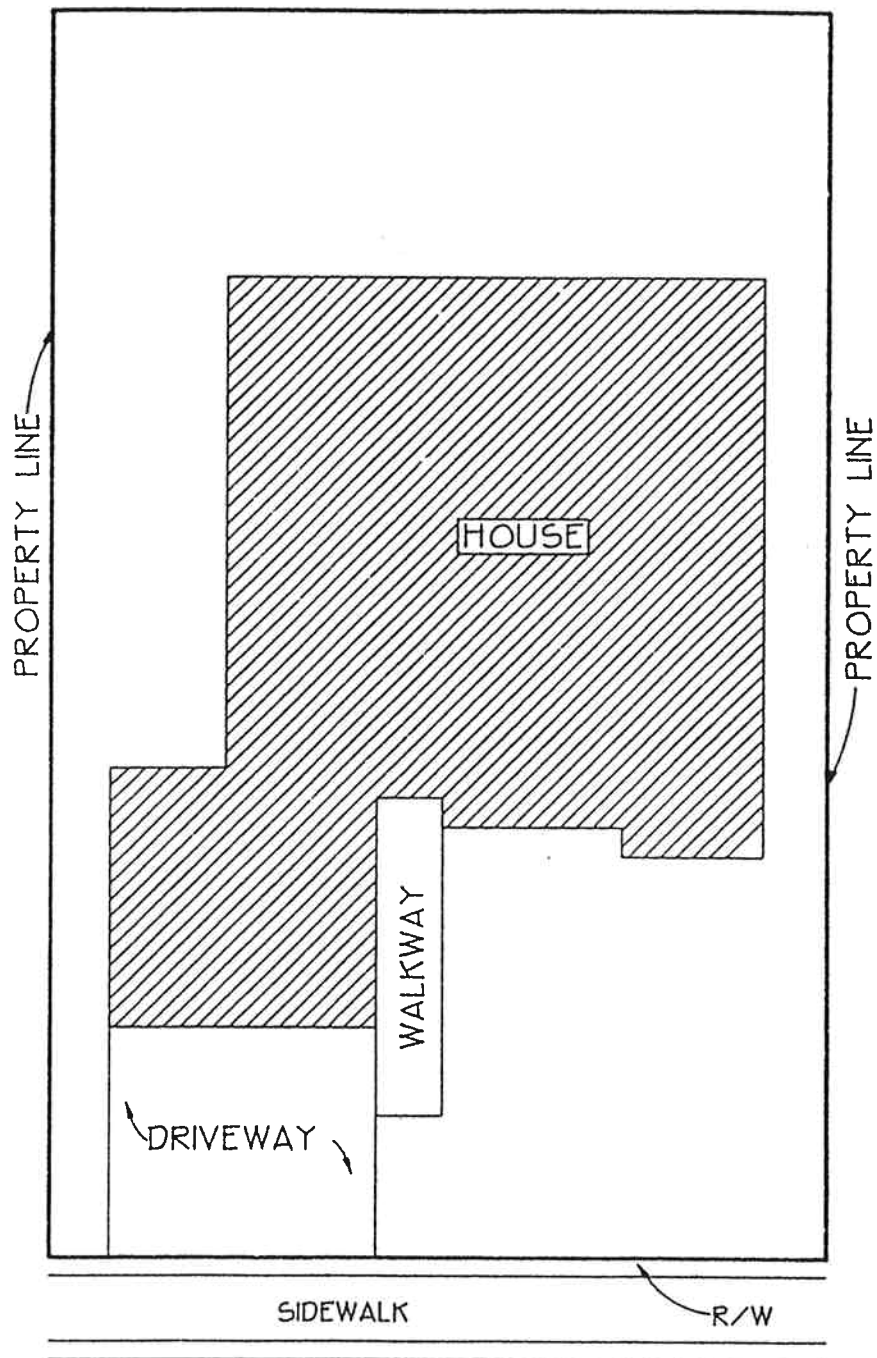
Low Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = _____

Non-Plant Area _____ sq.ft. ÷ Landscape Area = _____

MAXIMUM APPLIED WATER ALLOWANCE
(See Appendix A) = _____

TOTAL ESTIMATED WATER USE
(See Appendix A) = _____

APPENDIX A



SITE PLAN
1"=20'



APPENDIX B PRESCRIPTIVE METHOD

PURPOSE

This method can be used when a person wishes to do something other than the standard plans and does not wish to use a full order allocation method.

Method:

1. A plot plan needs to be completed. A copy of the plot plan submitted with the building permit showing the areas to be landscaped the type of landscaping is acceptable. For rectangular lots, a plan such as attached hereto can be used.
2. The calculation sheet needs to be completed. When calculating the percentages of the various water use landscape areas, it is important to use the landscaped area not the total lot area.
3. Verify that the landscape area is less than the percentages shown on the right of the calculation sheet. If they are, then the plan will meet the requirements of this policy. If not, the areas must be readjusted and recalculated until they do.

APPENDIX B

CITY OF CERES

LANDSCAPE AND IRRIGATION PLAN

(address)

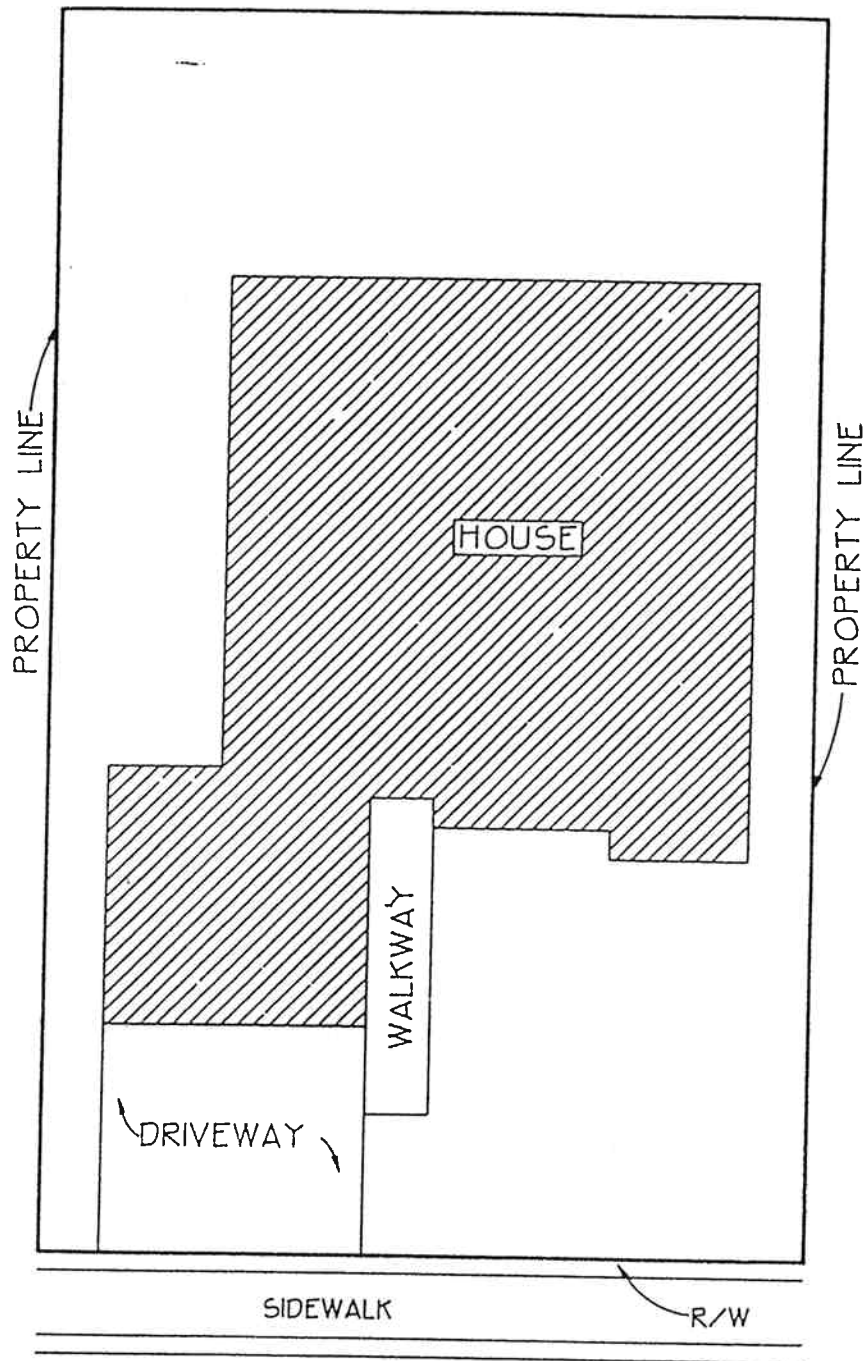
PRESCRIPTIVE METHOD CALCULATION SHEET

1. Square footage of lot = _____ sq. ft.
2. Square footage of house
(garage included) = _____ sq. ft.
3. Square footage of driveways, patios,
decks, walkways = _____ sq. ft.

LANDSCAPE AREA 1 - 2 - 3 = _____ sq. ft.

1. Lawn Area _____sq.ft. ÷ Landscape Area = _____ ≤ 35.0%
2. Balance of Landscaped Area
 - a. Medium and High Water Use Landscaped Area
_____sq.ft. ÷ Landscape Area = _____ ≤ 6.5%
 - b. Low Water Use Landscaped Area
_____sq.ft. ÷ Landscape Area = _____ ≤ 58.5%
3. a. Non-Plant Area
_____sq.ft. ÷ Landscape Area = _____

APPENDIX B



SITE PLAN

1"=20'



APPENDIX C STANDARD PLANS - CHECK LIST METHOD

PURPOSE

This is the simplest method to comply with the landscape guidelines for single family residential parcels. The check list is the simplest method.

Method - Check List:

1. Complete the check list for the property. Please note that for Question 13, the method used should be indicated; i.e., turf at least (2') two feet from the sidewalk, use of a swale, or use of low trajectory large drop type sprinklers.
2. Attach the appropriate standard plan, either A, B, C, or D, to the check list.
3. The site will be checked for its conformance to the standard plan prior to final of the house.

Method - Standard Plans:

1. Determine which standard plan will be used, either A, B, C, or D.
2. Complete the calculation sheet.
3. Compare the percentages calculated against those given under the specific plan chosen; i.e., for plan A the lawn area maximum is 65%. The amount calculated for the property needs to be equal to or less than that percentage. The only area where the percentage should be equal to or higher than what is shown in the column is for low water use and/or non-landscaped areas.
4. Submit the calculation sheet and the specific standard plan with the building permit application.
5. At final inspection, the landscaping will be checked against the standard plan submitted.

APPENDIX C

CITY OF CERES

LANDSCAPE AND IRRIGATION PLAN

(address)

STANDARD PLANS CALCULATION SHEET

1. Square footage of lot = _____ sq. ft.
2. Square footage of house
(garage included) = _____ sq. ft.
3. Square footage of driveways, patios,
decks, walkways (FRONTYARD) = _____ sq. ft.
4. SIDE + BACK YARD = _____

LANDSCAPE AREA 1 - 2 - 3 - 4 = _____ sq. ft.

Maximum Percent
Plan

Circle One: A B C D

Lawn Area _____ sq.ft. ÷ Landscape Area = 65 45 64 48

High Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = 0 0 0 0

Medium Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = 0 5 0 0

Low Water Use
Landscaped Area _____ sq.ft. ÷ Landscape Area = 21 20 18 43

Non-Plant Area _____ sq.ft. ÷ Landscape Area = 14 30 18 9

waterlow

APPENDIX C
CITY OF CERES SINGLE FAMILY CHECKLIST
PRE-APPROVED WATER EFFICIENT STANDARD LANDSCAPE PLANS

(Rev. 12/5/94)

CONTRACTOR _____

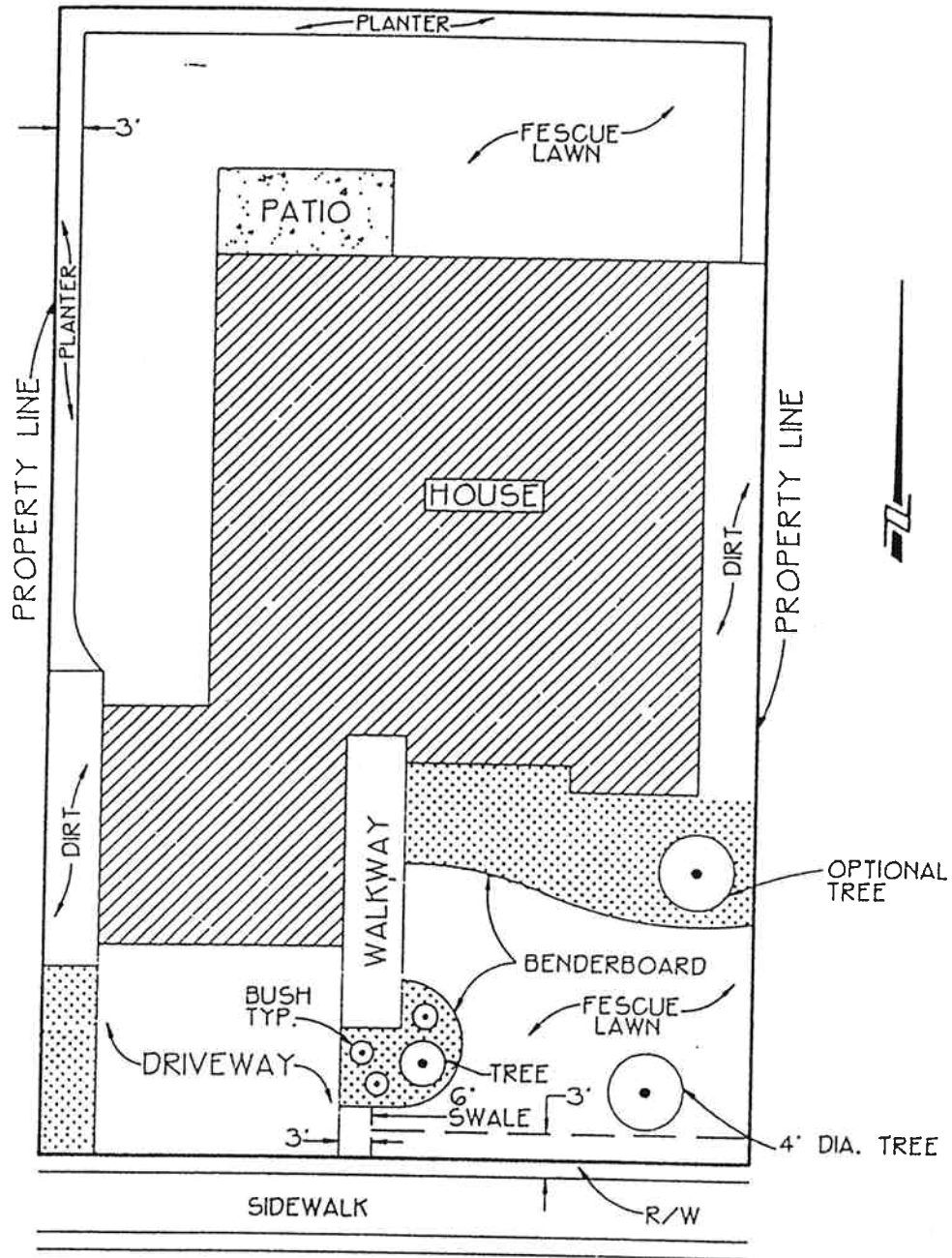
DATE: _____ **ADDRESS:** _____

**PROVIDED
YES NO**

INDICATE PLAN SELECTED : A B C D

- | | | | |
|-----|--|--------------------------|--------------------------|
| 1. | One street tree per interior lot, two street trees per corner lot. Tree and planting conforms to City street tree standard and is a fifteen (15) gallon tree. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Turf is of drought tolerant variety. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | No turf is in a planting strip of less than eight feet (8') in width. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Selection of plants is listed on drawing or elsewhere. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Planting areas have a minimum of three inches (3") of rock, gravel, or mulch (e.g., wood chips, bark, etc.) | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Planters provide positive drainage away from paved areas, buildings, or structures. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Planters are recessed at least two inches (2") below surrounding surface or are separated from surrounding areas with a four inch (4") high curb of raised concrete or treated wood. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | Sprinkler heads irrigating turf or other high-water-demand areas are on a separate zone/circuit from those irrigating reduced-water requirement areas (e.g., trees, shrubbery, etc.) | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | System designed to minimize overspray onto impervious surfaces such as sidewalk, drives. Sprinklers set inward from impervious surfaces where necessary to minimize overspray. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | Low pressure/low precipitation rate system (e.g., drip irrigation, bubblers etc.) provided where a low pressure system can provide an adequate supply of water (i.e., trees shrubbery, etc.) | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | Irrigation system incorporates automatic irrigation controllers with battery backup and multiple cycle capability. Units must have 24 hour/7 day controls. | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | Irrigation controller programmed consistent with water conservation program established by the City. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | Turf areas are: a.) at least two feet (2') from sidewalk or driveway; b.) there is a swaled area that provides drainage away from sidewalk or driveway; <u>or</u> c.) sprinkler devices are equivalent to or equal to Rainjet 8800 or Rainjet RS series (Indicate choice.) | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | Serviceable check valves provided where elevation differences may cause low head drainage. | <input type="checkbox"/> | <input type="checkbox"/> |

APPENDIX C

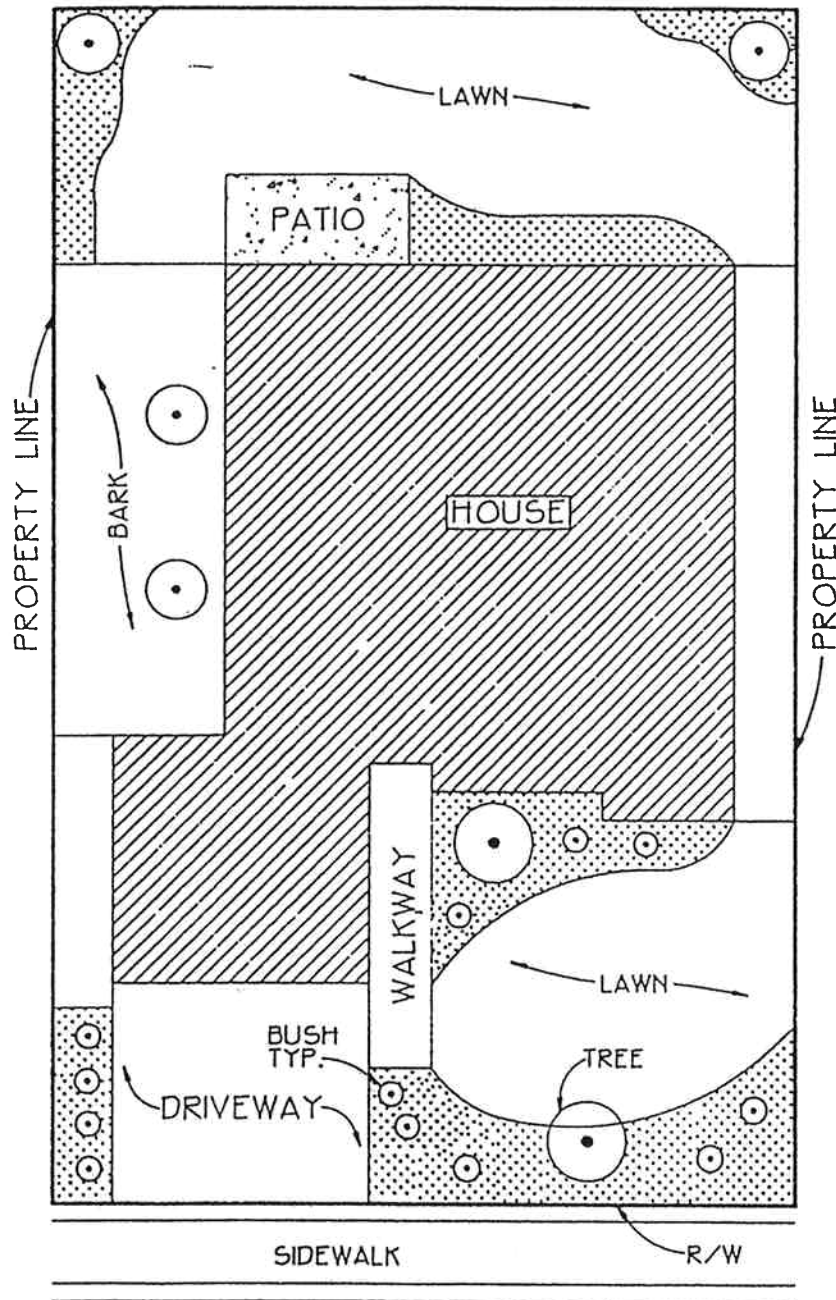


 = SHRUBS + MULCH
OR GROUND COVER

PLAN A
1"=20'

	PLANT FACTOR	PERCENT
LOW-	0.3	21% MIN.
MED-	0.4	0 MAX.
GRASS-	0.75	65% MAX.
BARE AREA- 14.00%		

APPENDIX C

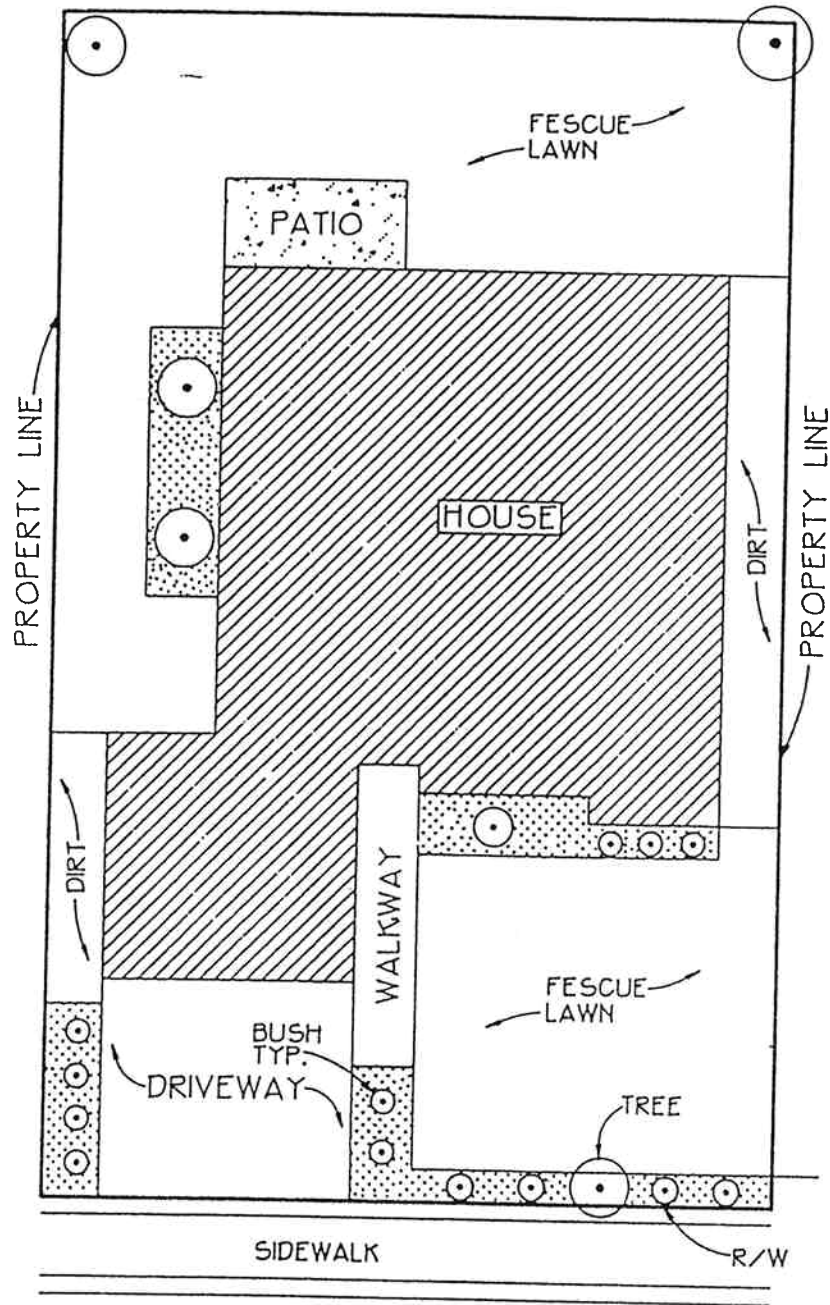


	PLANT FACTOR	PERCENT
LOW-	0.3	20% MIN.
MED-	0.4	5% MAX.
GRASS-	0.75	MAX. 45%
BARE AREA-		MIN. 30%

 = SHRUBS + MULCH
OR GROUND COVER

PLAN B
1"=20'

APPENDIX C



	PLANT FACTOR	PERCENT	
LOW-	0.3	18%	MIN.
HIGH-	0.4	0	MAX.
GRASS-	0.75	64%	MAX.
BARE AREA-		18%	MIN.

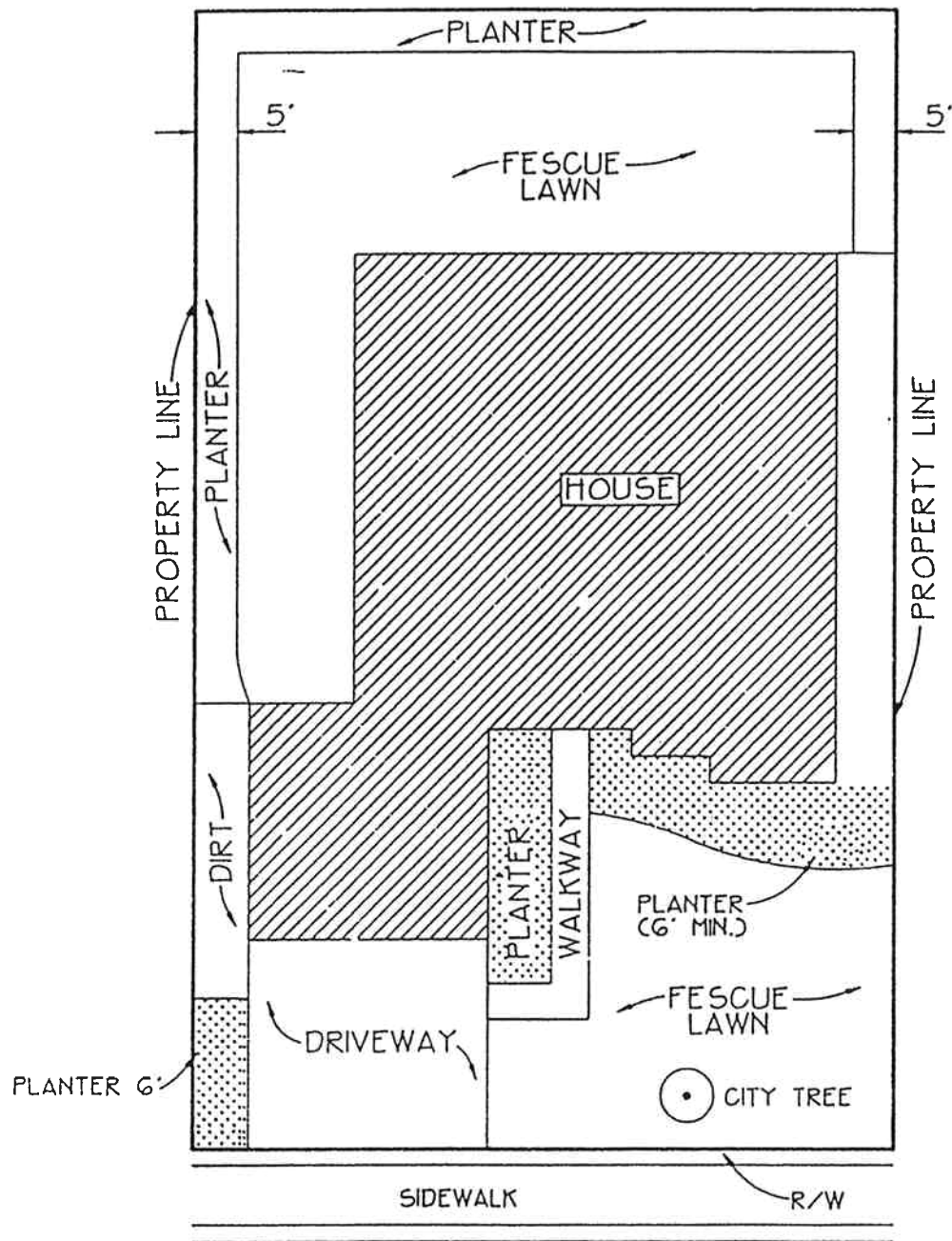
 = SHRUBS + MULCH
OR GROUND COVER

PLAN C

1"=20'

C-6

APPENDIX C



SITE PLAN D

1"=20'

	PLANT FACTOR	PERCENT
LOW-	0.3	43% MIN.
HIGH-	0.4	0 MAX.
GRASS-	0.75	48% MAX.
BARE AREA-		9% MIN.

 = SHRUBS + MULCH
OR GROUND COVER

APPENDIX D PLANT LIST

Information Compiled From the Wucols Project:
Water Use Classification of Landscape Species

The list of landscape plants are identified by both botanical name and common name.
It is divided into five vegetation types:

- Trees
- Shrubs
- Groundcovers
- Vines
- Perennials, Ferns, Grasses, and Bulbs

Water need evaluations are listed for each species. Symbols are defined as follows:

- H = High
- M = Moderate
- L = Low
- VL= Very Low

The species are grouped according to water use needs.

CITY OF CERES

The species listed tend to do well in the Ceres area.
Most of the species are readily available from local suppliers.

TREES

COMMON NAME	BOTANICAL NAME	WATER REQUIREMENT
Desert Willow	Chilopsis linearis	VL
Madrone	Arbutus menziesii	VL
Oleander	Nerium oleander	VL
Bottle Brush	Callistemon citrinus	L
California Black Walnut	Juglans hindsii	L
Carob	Ceratonia siliqua	L
Chinese Pistache	Pistacia chinensis	L
Cork Oak	Quercus suber	L
Crape Myrtle	Lagerstroemia indica	L
Glossy Privet	Ligustrum fucidum	L
Hopseed Bush	Dodonaea viscosa	L
Italian Stone Pine	Pinus pinea	L
Majestic Beauty	Raphiolepis "Majestic Beauty"	L
Russian Olive	Elaeagnus angustifolia	L
Saw Leaf Zelkova	Zelkova serrata	L
Strawberry Tree	Arbutus unedo	L
California Sycamore	Platanus racemosa	M
Camphor Tree	Cinnamomum camphora	M
Chinese Hackberry	Celtis sinensis	M
Chinese Tallow Tree	Sapium sebiferum	M
Deodar Cedar	Cedrus deodora	M
Eastern Redbud	Cercis canadensis	M
Fraser Photinia	Photinia X fraseri	M
Holly Oak	Quercus ilex	M
Incense Cedar	Calocedrus decurrens	M
Japanese Black Pine	Pinus thunbergiana	M
Maiden Hair Tree	Ginkgo biloba	M
Mayten tree	Maytenus boaria	M
Monkey Puzzle Tree	Araucana araucana	M
Moraine Ash	Fraxinus "Moraine"	M
Pin Oak	Quercus palustris	M
Podocarpus	Podocarpus latifolius	M
Raywood Ash	Fraxinus oxycarpa "Raywood"	M
Yew Pine	Podocarpus macrophyllus	M
Southern Magnolia	Magnolia grandiflora	H

SHRUBS

COMMON NAME	BOTANICAL NAME	WATER REQUIREMENT
Oleander	Nerim oleander	VL
Western Redbud	Cer̄is occidentalis	VL
Bush Anemone	Carpenteria californica	L
Ceanothus	Ceanothus cuitivars	L
Cotoneaster	Cotoneaster spp.	L
Coyote Brush	Baccharis pilularis consanguinea	L
Crape Myrtle	Lagerstroemia indica (dwarfs)	L
Evergreen Euonymus	Euonymus japonica	L
Fortnight Lily	Dietes bicolor	L
Heavenly Bamboo	Nadina domestica	L
Lily-of-the-Nile	Agapanthus africanus	L
Manzanita	Arctostaphylos spp.	L
Manzanita cuitivars	Arctostaphylos cuitivars	L
Mediterranean Fan Palm	Chamaerops humilis	L
Pampas Grass	Cortaderia sellowana cvs.	L
Pineapple Guava	Feijoa sellowiana	L
Rosemary	Rosmarinus officinalis	L
Russian Olive	Elaeagnus angustifolia	L
Shiny Xylosma	Xylosma congestum	L
Angel Wing Jasmine	Jasminum nitidum	M
Bougainvillea	Bougainvillea (shrub cvs.)	M
Burford Holly	Ilex conuta "Burfordii"	M
Camellia	Camellia japonica	M
Double Mock Orange	Phildelphus X virginicus	M
Dwarf Pittosporum	Pittosporum tobira "Wheeler's Dwarf"	M
Escatonia	Escatonia spp.	M
Evergreen Mock Orange	Phildelphus mexicanus	M
Evergreen Pittosporum	Pittosporum crassifolium	M
Gardenia	Gardenia spp. -	M
Heavenly Bamboo (Nana)	Nadina domestica 'Purpurea'	M
Italian Jasmine	Jasminum humile	M
Lantana	Lantana camara	M
Mock Orange	Pittosporum tobira	M
Photinia	Photinia X fraseri	M
Primrose Jasmine	Jasminum mesnyi	M
Rose	Rosa hybrids	M
Wilson Holly	Ilex X altaclarensis "Wilsonii"	M
Yew Pine	Podocarpus macrophyllus	M
Bog Rosemary	Andromeda polifolia	H
Hydrangea	Hydrangea macrophylla	H

GROUND COVERS

COMMON NAME	BOTANICAL NAME	WATER REQUIREMENT
African Daisy	Osteospermum spp.	L
Ceanothus	Ceanothus cuitvars	L
Cotoneaster	Cotoneaster spp.	L
Dwarf Coyote Brush	Baccharis pilularis cvs.	L
Gazania	Gazania spp.	L
Ice Plant (Lampranthus)	Aptenia Cordifolia - Lampranthus	L
Lantana	Lantana montevidensis	L
Manzanita	Arctostaphylos spp.	L
Manzanita (cvs)	Arctostaphylos cuitivars	L
Rockrose	Cistus spp.	L
Trailing Rosemary	Rosemannus prostratus	L
Boston Ivy	Parthenocissus tricuspidata	M
Bougainvillea	Bougainvillea spp.	M
Ice Plant (Carpobrotus)	Aptenia Cordifolia - carpobrotus	M
Mondo Grass	Ophiopogon japonicum	M
Periwinkle	Vinca minor	M
Periwinkle	Vinca major	M
Star Jasmine	Trachelospermum jasminoides	M
Virginia Creeper	Parthenocissus quinquefolia	M

VINES

COMMON NAME	BOTANICAL NAME	WATER REQUIREMENT
Cat's Claw	Mactadyena unguis-cati	L
Trumpet Creepers	Campsis spp.	L
Wisteria	Wisteria spp.	L
Blood Red Trumpet Vine	Distictis buccinatona	M
Boston Ivy	Parthenocissus tricuspidata	M
Bougainvillea	Bougainvillea spp.	M
Climbing Roses	Rosa other-climbing spp.	M
Creeping Fig	Ficus pumila	M
English Ivy	Hedera nelix	M
Star Jasmine	Trachelospermum jasminoides	M
Virginia Creeper	Parthenocissus quinquefolia	M

PERENNIALS, FERNS, GRASSES, AND BULBS

COMMON NAME	BOTANICAL NAME	WATER
Daffodil	Narcissus spp.	VL
Bearded Iris	Iris spp.	L
California Poppy	Eschschnoizia californica	L
Dusty Miller		
(Gymoncarpa)	Centaurea gymnocarpa	L
Fortnight Lily	Dietes vegeta	L
Gazania	Gazania spp.	L
Lantana	Lantana montevidensis	L
Lily-of-the-Nile	Agapanthus africanus	L
Verbena	Verbena hybirds	L
African Daisy	Arctotis hybirds	M
Mondo Grass	Ophiopogan japornicum	M
Society Garlic	Tulbagnia violacea	M