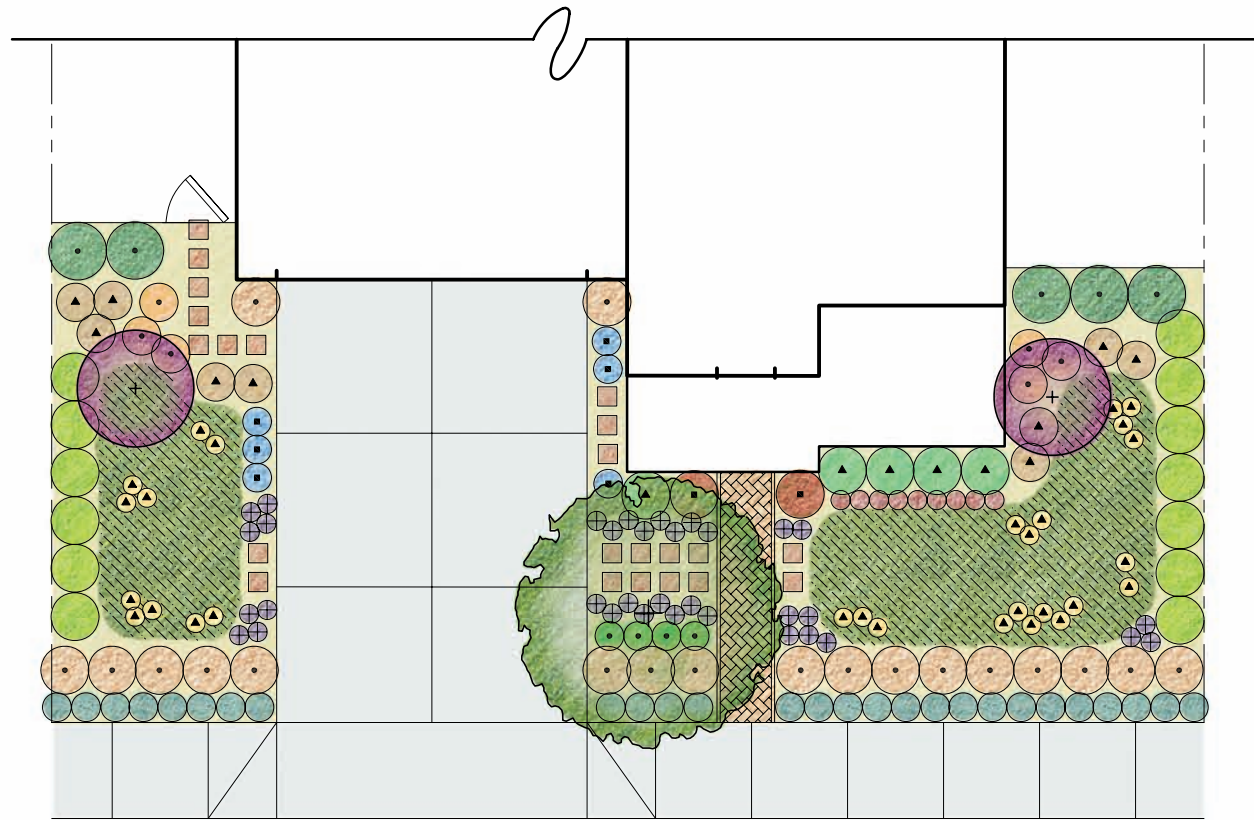


"TYPICAL" SIZED LOT HOUSE
SOUTH FACING FRONT GARDEN, TYPICAL

60'x80' LOT



Plant Count
TREES 3
SHRUBS 167

GROUNDCOVER 250 SF

PLANT CLIMATE:

Bay Area summers are hot and dry inland with minimal marine layer influence and mostly cool and foggy near the coast. Winters are milder at the coast and some freeze occurs in the inland valleys.

DESIGN:

The Water Efficient Landscape Ordinance allows drip, drip line, or other low-flow, non-spray irrigation within two feet of any non-permeable surface; it does not allow spray irrigation in these areas. There are no restrictions on the irrigation system if the landscaped area is adjacent to permeable surfacing. Planting and irrigation must be designed appropriately adjacent to non-permeable paving to meet this Ordinance.

PAVING:

Entry and side walkway to be sand-set permeable unit pavers, decomposed granite, pebbles or other surface light in color for low heat emission. Driveway to be permeable concrete, permeable asphalt or upgraded to sand-set permeable paver units. Impervious surface should be minimized.

MULCH:

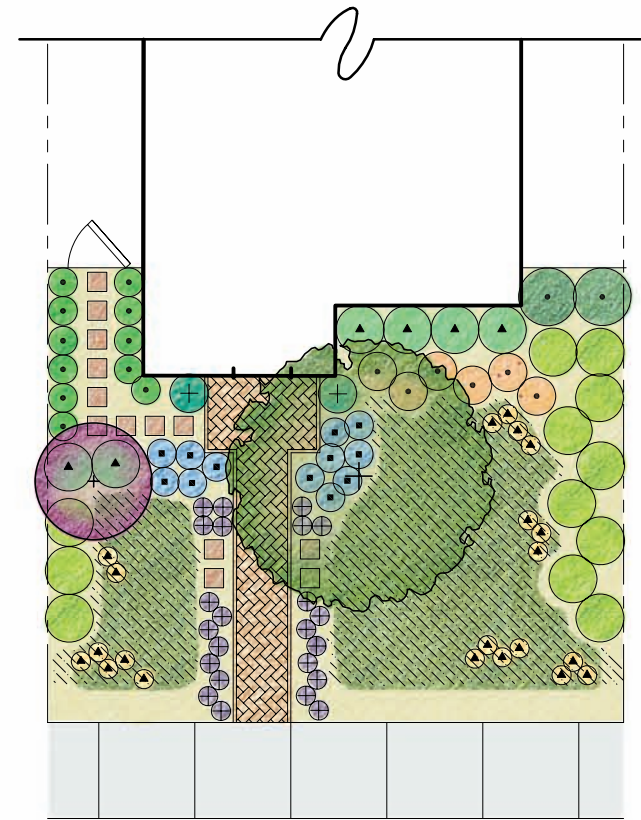
Two (2) inches of mulch in all areas. Sheet mulching and recycled green waste mulch are recommended.

FIRE:

Templates are based on individual lots within a subdivision. When developing up against wildlands or other fire sensitive areas for an individual parcel or a project, a fire management plan should be created.

ZERO-LOT LINE HOUSE
SOUTH FACING FRONT GARDEN, TYPICAL

30'x80' LOT



Plant Count
TREES 2
SHRUBS 95

GROUNDCOVER 250 SF

DRAINAGE:

Downspouts should be directed into landscape with grading for proper drainage away from house. Runoff during plant establishment must be accommodated on-site.

PLANT RESOURCES:

The sample plant legend above provides guidance for appropriate plant selection. Selections should be modified to address different solar orientations, soil conditions, and other micro-climatic factors of a particular building site. Resources for additional plant selections and substitutions include Sunset's Western Garden Book, edited by Kathleen Norris Brenzel; Water Use Classification of Landscape Species (WUCOLS), <http://www-facilities.stanford.edu/environment/landscape.pdf> and your local chapter of the California Native Plant Society (www.cnps.org).

BAY AREA FRONT YARD

June 2009

SAMPLE PLANT LEGEND

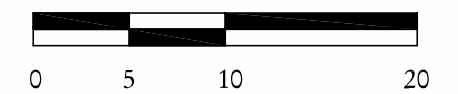
SYMBOL	BOTANICAL NAME	COMMON NAME
LARGE TREES		
	xChitalpa T. 'Morning Cloud'	NCN
	Pistache chinensis	Chinese Pistache
	Quercus suber	Cork Oak
SMALL TREES		
	Arbutus unedo 'Elfin King'	Dwarf Strawberry Tree
	Cotinus coggygria	Smoke Tree
	Lagerstroemia 'Natchez'	Crape Myrtle
	Leptospermum l. 'Compacta'	Dwarf Tea Tree
	Luma apiculata	NCN
LARGE SHRUBS		
	Myrtus communis	Myrtle
	Rosmarinus 'Collingwood Ingram'	Rosemary
	Berberis l. 'Maria'	Gold Pillar
	Cistus 'Victor Reiter'	Rockrose
	Rhamnus C. 'MSB'	Dwarf Coffeeberry
	Ribes sanguineum**	Currant**
MEDIUM SHRUBS		
	Arctostaphylos purissima	Lompoc Manzanita
	Santolina C. 'Nana'	Dwarf Lavender Cotton
SMALL SHRUBS & PERRENIALS		
	Polystichum californicum**	Sword fern**
	Helictotrichon sempervirens	Blue Oat Grass
	Lavandula a. 'Munstead'	Lavender
	Aristida purpurea	Purple Three-Awn
	Armeria maritima	Common Thrift
	Penstemon h. 'Purdyi'	Purple Beard Tongue
GROUNDCOVER		
	Arctostaphylos 'Emerald Carpet'	Emerald Carpet
	Thymus serpyllum*	Creeping Thyme*
	Rubus pentalobus*	Bramble*
HARDSCAPE		
	Pavers	
	Sand-set Brick	
	Mulch	

* Can tolerate light traffic
** Can tolerate shade

SUNSET ZONES - 15, 16, 17



NORTH



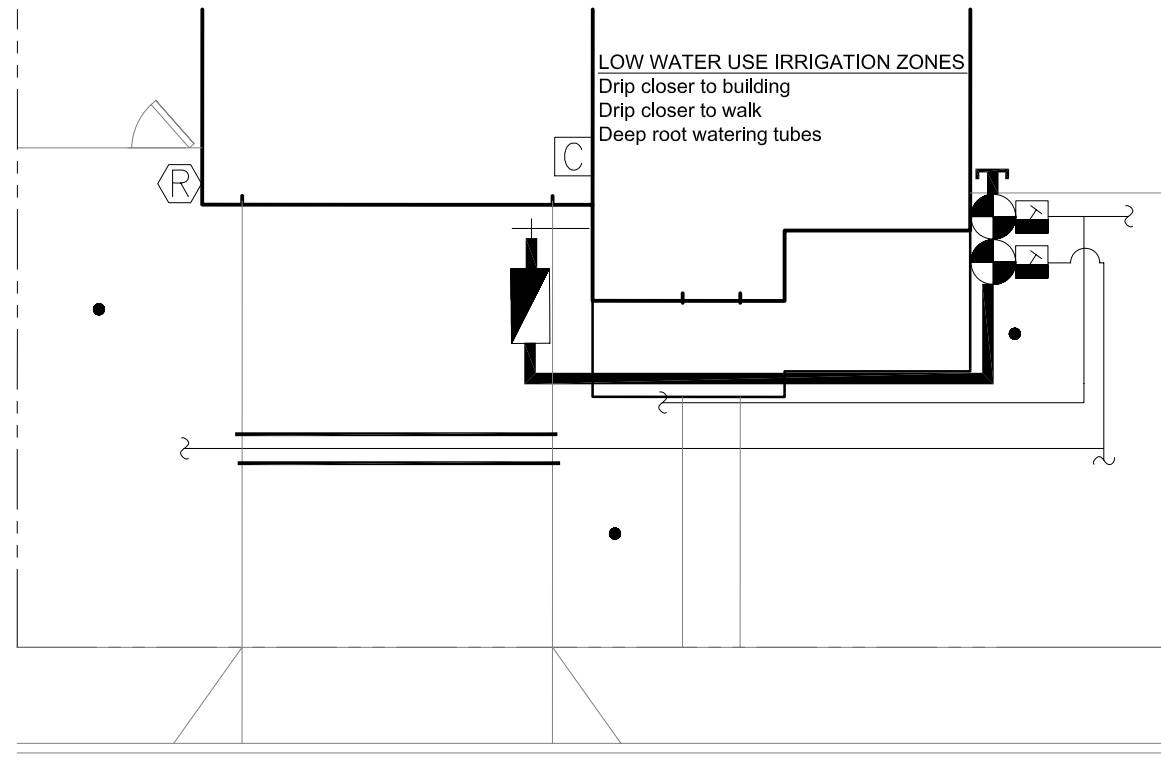
1" = 10'-0"

Note: For additional information regarding design and installation, please see back yard template and CUWCC's Water Smart Landscape Checklist at www.cuwcc.org.
Funded by the U.S. Bureau of Reclamation, Lower Colorado Region, Southern California Office.

"TYPICAL" SIZED LOT HOUSE

SOUTH FACING FRONT GARDEN, TYPICAL

60'x80' LOT

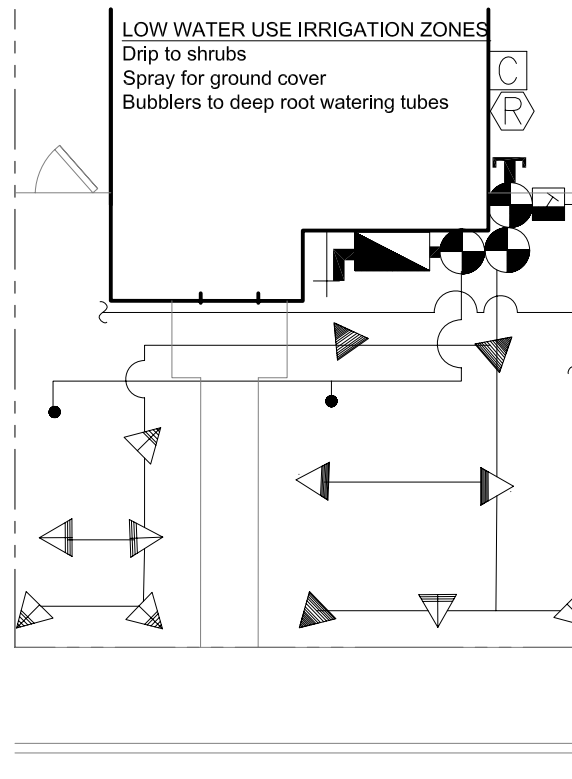


Refer to back yard templates for back yard examples

ZERO-LOT LINE HOUSE

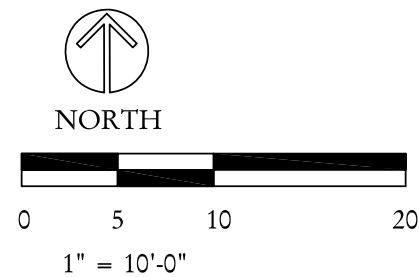
SOUTH FACING FRONT GARDEN, TYPICAL

30'x80' LOT



BAY AREA FRONT YARD

June 2009



SAMPLE WATER USE PROJECTIONS FOR TEMPLATE PLANTING/IRRIGATION

Estimated Water Use-San Francisco - Zero Lot Line														
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Spray Ground Cover	265	0	0	80	156	248	325	347	340	290	164	11	0	1960
Drip Ground Cover	300	0	0	70	137	218	287	305	299	255	145	9	0	1726
TOTAL	565	0	0	150	293	466	612	652	639	546	309	20	0	3686
Estimated water use 3,686 gal/yr; MAWA = 8,649 gal/yr, projected use = 43% of MAWA														
Estimated Water Use-San Francisco - Typical Lot														
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Drip Ground Cover	808	0	0	190	369	587	772	822	805	688	389	25	0	4,648
TOTAL	808	0	0	190	369	587	772	822	805	688	389	25	0	4,648
Estimated water use 4,648 gal/yr; MAWA = 12,368 gal/yr, projected use = 38% of MAWA														
Rainwater potential for 980 sq ft roof 9,539 gal/yr														
Greywater Potential for 2 showers/day 17,800 gal/yr														

SAMPLE BASE SCHEDULES FOR ESTABLISHED LOW WATER USING PLANT MATERIAL

San Francisco Base Schedule (San Francisco County)																
STA	PRECIP	RUN TIME	CYC	CYC TIME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Spray Ground Cover	1.8	48	10	5	0	0	0	.7	1.1	1.4	1.5	1.4	1.2	.7	0	0
Drip Shrub	0.4	267	12	23	0	0	0	.4	.7	.9	.9	.9	.9	.4	0	0
Subsurface Drip - Ground Cover	1.1	61	7	8	0	0	0	.7	1.1	1.4	1.5	1.4	1.2	.7	0	0
Drip Ground Cover	0.4	167	7	23	0	0	0	.7	1.1	1.4	1.5	1.4	1.2	.7	0	0
Deep root watering-Trees in planting	8	35	31	1	0	0	0	.2	.3	.3	.4	.4	.3	.2	0	0

PRECIP = Precipitation Rate is the application rate of irrigation in inches per hour

Assumed precip: Spray heads -1.8, Drip -.4, Subsurface drip - 1.1, Deep root watering -8

MAWA = Maximum Annual Water Allotment (in gallons and based upon 70% of area historical annual ET)

ETo = Reference evapotranspiration is the quantity of water evaporated from the soil and transpired by the planting and is measured in inches per month

ANN GAL = Annual gallons

RUNTIME = Total amount of minutes required for planting root depth in native soil

CYC = Total number of repeat cycles required for native soil

CYC TIME = Rounded minutes of each cycle to be repeated by "CYC allowing infiltration monthly number = number of times/month to apply runtime (refer to example below)

SPRAY HEAD = Spray head with one of the following: standard matched precipitation spray nozzles - 1.8"/hr, low precipitation nozzles - 1"/hr, or mini rotor nozzles - .4"/hr

During establishment period, root depth is shallower, thus requiring more frequent irrigation with shorter run times, stretching out the frequency and extending the total runtimes as the planting matures and roots penetrate into native soil conditions over a 3-5 year span. Establishment irrigation frequency depends upon the time of year initial planting takes place.

BASE SCHEDULE for established plant material with historical weather data (10 year average) and assumed precip. Note, if low precipitation heads or mini rotors are used in lieu of conventional spray heads, then the base run times will need to be extended to provide water down to the planting root zones.

Monthly example:

The number under the month indicates the number of times that zone needs to be irrigated during that month. For fractions of runtimes per month, multiply the # of CYC by the decimal (example: drip/ground cover requires .6 runtimes per month of March = .6 X 7(# of CYC)= 4 cycles of 23 minutes each (CYC). This would equate to 92 minutes total runtime one time during the month of March.

Front Yards: Refer to front yard design templates for layout ideas.

Note: Some plants respond better to overhead spray while many others do better with drip. The irrigation design will need not only to take into consideration plant preferences, but also runoff and potential blockage where the planting grows in front of the spray heads. Drip and spray are both shown on the templates to show differences in system costs and projected water use.

Also see back yard templates.

IRRIGATION SYSTEM LEGEND

	1" Shut-off valve-domestic supply	-By other section of contract-providing 12 gpm at 55 psi min.
	Irrigation backflow prevention device-1"	-12" Above grade to protect domestic supply
	Rain sensor	-Smart technology indoor or exterior mount
	Remote Control Valves	-Adjustable rain shut-off device with unobstructed installation
	Drip control assembly	-Below grade in valve box with 2 cu feet of gravel below
	Irrigation main stub-out-1"	-120 Mesh filter and 40 psi regulator where psi is excessive
		-Provide all spare station wires and common in valve box
	12" Spray heads (24" from walks)	-Matched precip with check valves-10H,T,Q -10' radius
	12" Spray heads (12" from walks)	-Matched precip with check valves-8H,T,Q -8' radius
	Deep root watering tube	-Use 1 GPM bubbler as alternate to hand watering
	Irrigation main-1"	-1120/Schedule 40 PVC pipe -18" Cover
	Irrigation lateral	-1120/Class 200 PVC pipe -12" Cover
	Electrical conduit-1"	-1120/Schedule 40 PVC pipe -24" Cover
	Sleeving-3"	-1120/Schedule 40 PVC pipe -24" Cover
	To drip irrigation	-Point source or multi-outlet emitters -6" Cover

NOTE: 6" Spray head body is to be used where mature plant material is less than 5" height.

All spray heads to be installed 24" from hardscape and 12" from permeable surfaces and fences.