

Beverly Hills Garden Handbook



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This handbook provides more than 125 water-wise plants, landscape design tips, gardening how-to, nurseries and other resources for City of Beverly Hills residents.

This book written and designed by



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Photo: Marilee Kullmann

This is a Watershed Wise landscape

Five Perfect Watershed Wise Plants



1



2



3



4



5

1 *Salvia clevelandii* 'Pozo Blue'
Cleveland Sage

2 *Verbena lilacina* 'De La Mina'
Lilac Verbena

3 *Vitis* 'Roger's Red'
Roger's Red Grape

4 *Heteromeles arbutifolia*
Toyon, Christmas Berry

5 *Galvezia speciosa* 'Firecracker'
Island Bush Snapdragon

Rainwater is a resource.

These gardens have healthy living soil and are filled with climate-appropriate plants. The combination of these elements allows you to reduce or eliminate supplemental irrigation, even in the heat of the summer. This book is intended to help you evaluate, plant, build, and maintain your garden using this watershed approach to landscaping.

The watershed approach imagines every garden as though it were a mini-watershed, holding on to or cleaning all the water that falls on it and nurturing a diverse habitat of plants and insects. Each mini-watershed can be controlled by the people who steward it. The result is that our collective actions restore our greater watersheds and cities.

In the pages that follow, we'll show you how to continue enjoying our amazing climate and outdoor lifestyle, while reducing outdoor water use, and spending less time and money taking care of your garden. We'll show you that a climate-appropriate landscape doesn't have to look like a desert; it can be beautiful, lush, and evergreen.

Each section provides different resources to help you achieve a watershed wise landscape.

Landscape Elements, such as an Estate Lawn or Rain Garden, are elements you can adapt to your home. **Planting Style Guides** are provided for four significant architectural styles. **How to Garden** provides practical information about how to make changes from selecting plants to placing them in your garden in a way that saves water. **Design It Yourself** provides a step-by-step guide through the planning and building process including a **Project Check List** and comprehensive climate-appropriate **Plant List** to help you shop for your garden and jump-start your project.

Now dig in!

Plan to work

Clean and Edit

Remove trash, weeds, dead plants, old furniture, etc. Decide which (if any) healthy plants will continue to thrive in your new landscape, and remove everything else. A clean slate will make it easier to see what's going on and help you envision the renovations to come.

Change One Section at a Time

Plan to tackle it all eventually. Home gardeners often haphazardly add a plant here and there, and end up mixing together plants with different needs. Instead pick one section (or more) of your garden that you can completely remodel. After your whole garden is converted and growing, you can fill in a few plants as needed here and there every winter, when it's cooler. Start with your front yard!

Work your plan.

Scope Your Project

If your budget is limited, you may want to make small fixes first and then bigger changes in a year or two. Follow the Project Checklist (*see pp. 61-63*) to determine the logical steps for making changes.

Get An Estate Lawn

Keep your existing lawn, but make it more climate appropriate using organic techniques and overseed with clover (*see pp. 10-11*). Or, lose the lawn! We show you how to remove your grass without chemicals and build healthy living soil for gorgeous new plants (*see pp. 36-37*).

Contour For Rain Capture

After you've started planting, you don't want to be moving soil, so first make swales and berms to capture rainfall (*see pp. 8-9*).

Select Your Plants

Use this book as a guide for selecting unthirsty plants that will thrive in your Beverly Hills garden. We show you how to figure out the water needs of plants and plan your landscape for reducing water use (*see pp. 40-41*).

Water Wisely

Much of your irrigation system is below ground, so some planning is required before installing plants and finishing your garden. If you are installing a surface drip system, put plants in the ground before completing the irrigation. If you are adjusting/updating your existing spray system, do any trenching and moving of sprinklers before you plant, and fine tune afterward (*see pp. 46-47*).

Tend With Love

Water, weed, prune and most importantly, spend some time in the garden observing it. Your new watershed wise landscape should require less care than a lawn. So, give your garden some love, but don't overwater or reach for the fertilizers and sprays (*see p. 48*)!

Compost and Mulch

Add these secret ingredients for a healthy garden (*see p. 49*).

Garden like a pro.

Lay Out Your Garden

Get all your plants together and spread them out over the garden before you start digging. It's easier on you, and the plants, if you work out the layout before anything is put in the ground (*see pp. 56-57*).

Plant In Fall

Beverly Hills climate-adapted plants, especially the natives, are much happier if you plant them between November and March. This gets them settled and watered by the rains before the summer heat convinces them to take a summer siesta.

Get Started!

Use this handbook to select the plants for your garden and figure out how many you'll need. Bring your shopping list to your local nursery, and ask them to order what they don't have in stock. Start a Garden Journal to keep track of planting. Your investment will pay off (and your plants will thrive) if you follow the How-To guidelines in this handbook (*see pp. 34-49*).

1

Moderate

Wherever we have provided plant selections, we identify them by their water requirement by placing their identification numbers on a colored background:

2

Low

Blue for **MODERATE** water use,
Yellow for **LOW** water use, and
Red for **VERY LOW** water use.

3

Very Low

You can use this color coding to help you group plants by their water requirements in your new landscape, making it easier to irrigate them properly.

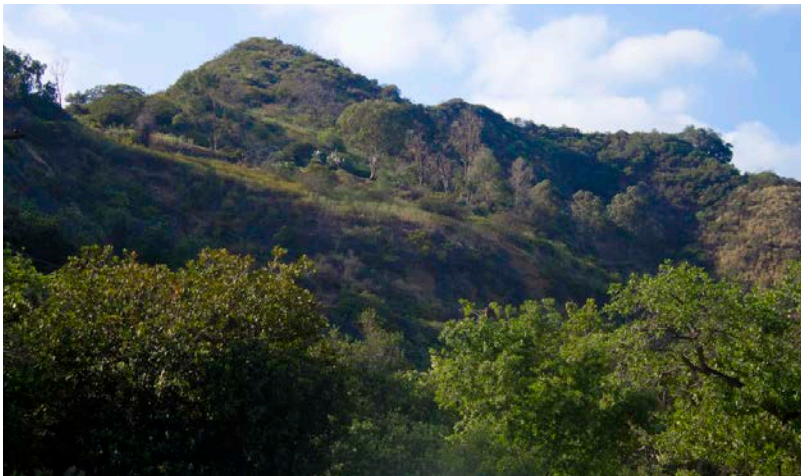


The **Butterfly** icon indicates plants that support the life cycle of butterflies.

Need help getting the job done?

Professionals are standing by, eager to help you. Landscape designers, landscape architects, landscape contractors and irrigation specialists can help redesign your garden, coach you through the process, or actually do the installation. If you work with a gardener, make sure they understand what you're doing and why. Hire a certified landscaper familiar with watershed wise, sustainable landscapes (*see pp. 70 - 71*).

Beverly Hills is a Garden City



The more you understand what makes Beverly Hills so special and use this information in your landscape plans, the more successful your garden will be.

Beverly Hills Climate is Mediterranean, characterized by long, dry summers that reach an average temperature up to 83°F and short cooler wet winters that can dip as low as 45°F and with average rainfall of approximately 15 inches. Plants from around the world are adapted to living in Beverly Hills. This is especially true for plants from the Mediterranean basin, South Africa, Australia and Chile, the four other Mediterranean climate zones of the world.

Biodiversity has long been considered important in the area now called Beverly Hills. The Tongva or Gabrielino native people, who predated Spanish explorers, led a peaceful life nourished by abundant game and meadows filled with wild oats, cucumber, buckwheat, cress and prickly pear. Their everyday lives were guided by religious practices inspired by an environment filled with color: blue lupine, orange poppies, red foxtail, wild roses, fuchsia and goldenrod. From the journal of an early explorer we learn of a magical passage through a “large vineyard of wild grapes and an infinity of rose bushes...people came into the road, greeted us and offered seeds.”

Canyon Ecosystems are natural filters, removing pollutants before they reach creeks, rivers, beaches and oceans. Healthy canyons protect against land erosion, reduce downstream flooding and provide a home to many of Beverly Hills’ native species. In the three canyons, Franklin, Coldwater and Benedict, moisture gathers on the hills and flows down to form streams that join at the nexus of Beverly Drive and Sunset Boulevard. The native people considered this a sacred site, naming it the Gathering of the Waters or, in Spanish, El Rodeo de las Aguas.

Water Resources are limited and rainfall is seasonal, but the native species have evolved to thrive in this dry climate. Beverly Hills obtains its water supply from two sources: local groundwater extracted from the Hollywood Subbasin, and imported surface water purchased from the Metropolitan Water District. However, the area gathering Beverly Hills groundwater is mostly urbanized and soil surfaces have been paved, so direct aquifer replenishment is limited. When Beverly Hills residents harvest rainfall and use climate-appropriate plants, they both increase locally available water and reduce the need for imports.

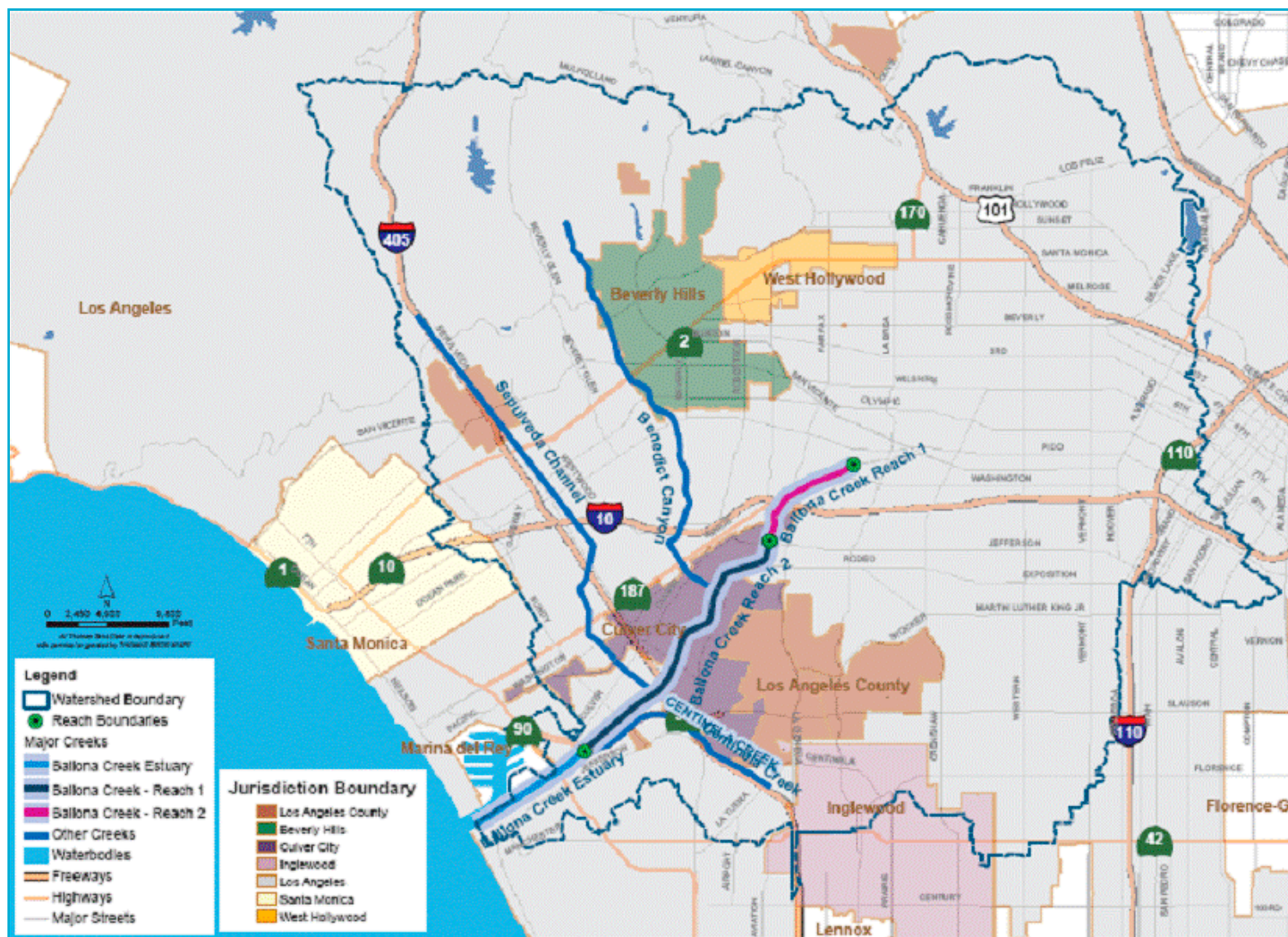
If you live in a canyon area, you have a special responsibility to:

- Manage/minimize/protect against erosion (*see p. 20*)
- Minimize pollution (trash/debris, animal waste, chemical runoff)
- Irrigate carefully, do not under water or overwater
- Select local native plants whenever possible
- Avoid planting invasive species
- Maintain your property with consideration for fire (*see p. 21*)

You live within Ballona Creek watershed

Your landscape is part of the **Ballona Creek** watershed, one of the most important watersheds in Southern California. All the rain falling on the landscapes in Beverly Hills makes its way to the Santa Monica Bay via Ballona Creek. Among the objectives for

protecting and restoring the vitality of Ballona Creek are reducing the volume of water that comes into the creek during wet weather, and eliminating the amount that comes in dry weather as a result of runoff from landscaped and hardscaped areas.



Water Quality is a concern in Ballona Creek. The land use in Ballona Creek watershed is dense and highly urbanized, with nearly 70% of runoff from the developed portion of the watershed generated from these impervious areas.

Watershed Wise landscapes become the first line of defense in treating water on site before it runs off the parcel and travels downstream. By creating healthy living soil (*see pp. 34-35*) and contouring landscapes to receive the water generated from roofs and other hard, impermeable surfaces (*see pp. 8-9*), the landscaped area becomes a sponge that reduces the effects of flooding during rain storms, cleans pollutants, and recharges the local ground water supply.

When healthy living soil is created, the land is contoured to hold on to water, and the selection of plants for the landscape are climate-appropriate, the amount of water that needs to be applied to the landscape is greatly reduced. These landscapes are great for water conservation and water quality improvement, and contribute to the health and resilience of the overall Ballona Creek watershed.



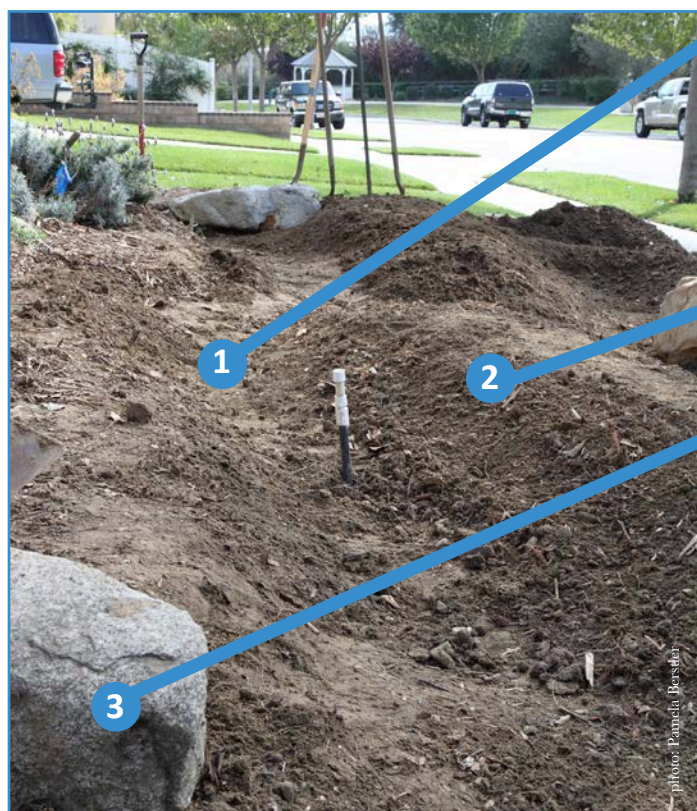


Rain Garden

Every garden can be a Sponge.

Many front yards in Beverly Hills are just yards, but this space could be a last chance to capture and filter our seasonal rain before it runs into the storm drain and right into creeks, rivers and the ocean! By contouring our land to hold on to at least the first inch of rain after a dry period (known as **First Flush**), we create landscapes that are far more interesting than flat expanses of lawn, and provide an opportunity to create conditions for some of Beverly Hill's most interesting native plants.

Meet your **Rain Garden** (aka Swale)! Sounds fancy, but really, it's very simple. Your Rain Garden is just a little soil basin to slow, spread, and sink the first inch of rain water from your roof into your front yard. Follow the simple instructions in the sidebar on the next page and direct your downspouts into the basin. Your soil and plants will be really happy that you did! It's all part of creating a truly watershed wise landscape. There are three main components of a Rain Garden: **Basins**, **Berms**, and **Boulders**.



Basins and Swales are shallow depressions, or channels no more than 12" – 24" deep, on gently sloped or nearly flat landscapes that move water around over short distances. The plants in and around the depressions capture and sink small volumes of surface water. Small, shallow depressions are best used in clay soil areas, while sandy soils may accommodate the deeper (up to 24" deep) depressions. Channels can be planted (vegetated swales) and/or lined with rocks and small boulders to resemble natural creek beds.

Berms are mounds of raised soil, usually planted, that can border basins and swales or be used alone. Berms help contain and move water around, increasing the holding capacity of basins and swales.

Boulders may be used to retain small berms or edges of swales and to create interest in the landscape.



Contour for rain

Get A Rain Garden In Six Easy Steps

Plants OK With Wet Feet (Basin Swale Plants)



1 *Hemerocallis hybrid*
Daylily



1 *Juncus patens*
CA Gray Rush



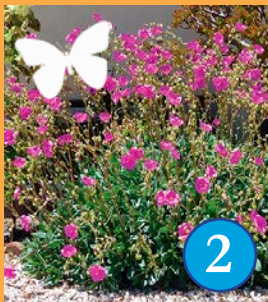
3 *Iris douglasiana*
CA Native Iris

Swale Plants Are Special. These basin plants like wet feet and can be completely submerged in rain water and still survive our hot dry Summers without extra water. They're sort of plant Super Heroes that way!

Plants That Prefer Dry Feet (Berm Plants)



1 *Epilobium canum*
'Everett's Choice'
Everett's CA Fuchsia

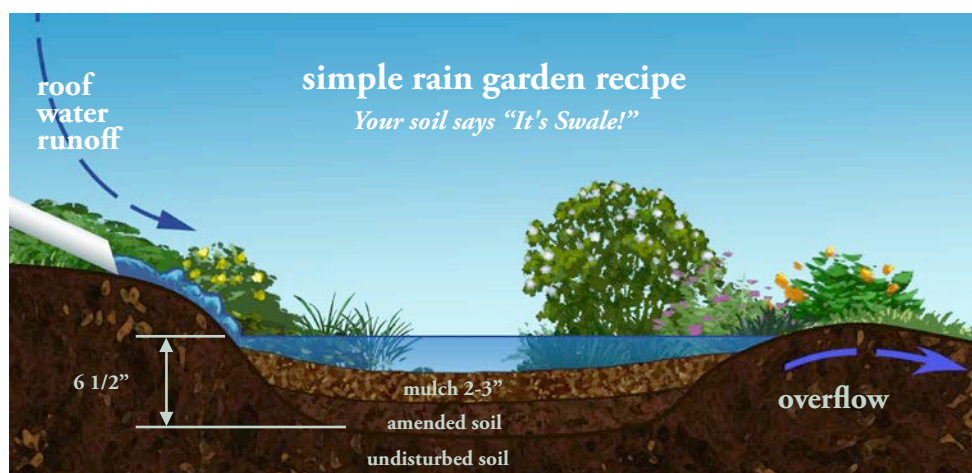


2 *Cistanthe grandiflora*
Rock Purslane



3 *Bouteloua gracilis*
'Blonde Ambition'
Blonde Ambition Blue Grama

Berm Plants Like It Dry. On the mounded side berms, choose plants that like their feet drier. Throughout the entire landscape, make sure to mulch at least 2-4" deep around all the plants (though not right up against the trunks), including those in the bottom of the swale.



1. **Make Your Site Plan** and note where rain falls and flows. Look for an open, mostly flat low spot to direct water towards in the front yard, or anywhere with the center at least 10' away from the house foundation and 3' away from the sidewalk. Calculate the best size of your Rain Garden to hold on to the First Flush (see p. 54).

2. **Lay Out Your Rain Garden.** Spread out a garden hose to outline the shape. The area must be basically flat or slightly bowl-like, and not sloping back toward the house. Be careful around trees. Don't put your rain garden under a mature tree or disturb any big roots. Remove all plants (including grass) from the area and start digging.

Do not dig without calling DIG ALERT 8-1-1!

3. **Do A Percolation Test.** If you have compaction, try to break through it with a shovel or a pitchfork (see p. 51).

4. **Dig A Basin** that is between 6" and 12" deep at the center. Slope the sides gently to make a sloping bowl, not a cylinder. Mound extra soil around the bowl to increase capacity. At the bottom of the basin, put down at least an inch of high quality compost or worm castings to activate your soil.

5. **Direct Downspouts Into The Basin** area, moving the rainwater through gravel lined ditches or above-ground drainage pipes. Also, make an overflow path so extra water has a direct channel to the street and not back towards your house.

6. **The Basin Will Fill Up** when it rains, creating a temporary pond until the water soaks into your soil. All the water should be gone within 24 hours.

TAKE ACTION if your basin is slow draining! If water in your basin is not gone within 48-72 hours maximum, then auger the basin and surrounding soil to eliminate compaction (see p. xxx). If you disturb the soil, be sure to reapply compost or worm castings when the water has drained out of the basin.



photo: Pamela Bersley

Estate Lawn



photo: Pamela Bersley

Upgrade to an Estate Lawn.

Beverly Hills can become a leader in landscape water conservation while demonstrating the unique style and beauty that people from around the world have come to appreciate, admire and adopt for their own. Historically, butterflies and birds were welcomed into Beverly Hills' low fuss, low water, evergreen open space lawns filled with clusters of tiny flowers including clover and English daisies. Without additional inputs, these lawns stood up to heavy foot traffic and animal urine. By making some changes to our existing lawns, we can recreate the beauty, diversity and toughness of the lawns of yesteryear.

Viewed from the street, the overall effect is of a restful, pleasing and green open space. It is only when invited into the home that the individuality of the lawn can be appreciated. The plants that establish in the lawn, keeping it evergreen and flowering with tiny flowers, reflect the hills, gullies, shade and sun of each individual property, making no two lawns appear exactly the same. This lawn both unifies the neighborhood and maintains the customized landscape for each individual property.

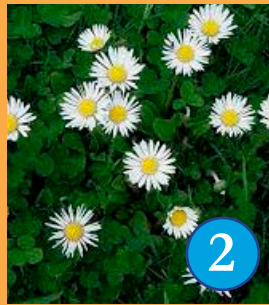
The **Estate Lawn** isn't just a pretty face; it also requires up to 50% less water than contemporary fescue lawns. An eight minute shower every two weeks can be enough water to keep it lush, depending on the irrigation system and the specific landscape conditions. No fertilizers or herbicides are needed, as it will grow less vigorously if they are applied. Less frequent mowing every few weeks keeps the lawn at 3" - 4" height. Weeding is almost completely unnecessary; we're encouraging little flowers like English Daisies (*Bellis perennis*), Dutch Clover (*Trifolium repens*) and, in low damp spots, Plantain (*Plantago major*).

The lawn naturally attracts pollinators, including butterflies, honeybees, native bees, and birds that feed on bad bugs. Control the flowers with mowing so areas that see hard play can be kept bee-free, while areas that are more decorative can support the local pollinator habitat.

Essential Estate Lawn Mix



1 *Trifolium repens*
White Dutch Clover



2 *Bellis perennis*
English Daisy



3 *Plantago major*
Plantain

Flowering Carpet Lawn Enhancement



1 *Eschscholzia californica*
California Poppies

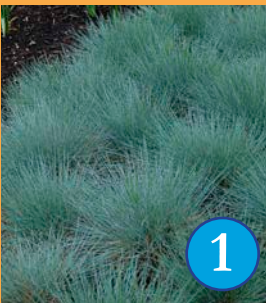


2 *Lupinus excubitus*
Grape Soda Lupine



3 *Calandrinia ciliata*
Redmaids

Plants for Lawn Tough Spots



1 *Festuca ovina*
Sheep's Fescue



2 *Festuca californica*
CA Fescue



3 *Agrostis pallens*
Bent Grass

Maintain Your Estate Lawn Apply 1/4" deep lawyer of good compost or worm castings every fall (September through November). If the compost smells of manure do not use it! It will kill the lawn. Use only well-composted materials or worm castings. There should be no noticeable foul odor (*see p. 49*).

Resist cutting the lawn on a fixed schedule. Allowing the clover and other tiny flowers to grow, ripen and set seed will perpetuate the lawn without any additional over-seeding in the Spring or Fall. This is the way nature keeps the lawn evergreen and maintenance costs down – the lawn does all of the work. If you are mowing frequently, an application of new seed may be required every Spring or Fall to keep the appearance more uniform.

Using a mulching mower is a good way to ensure that the lawn stays green and healthy. Ask your lawn care professional about their equipment and insist on a mulching mower, or purchase one to store and use exclusively on your property, keeping other's chemicals, weeds and pests away from your fabulous smart, healthy, and beautiful Estate Lawn.

Get An Estate Lawn In Seven Easy Steps

The best time to make this change is in the Fall or early Spring, when the natural rain and cool days work to your advantage. If it has rained recently, or is predicted to rain within three days, forego the irrigation. The rain will be sufficient, even if it is light (1/2" or less).

1. **Discontinue Using All Fertilizer**, "weed & feed" and any other herbicides, pesticides and fungicides, and wait two or three weeks if they have been applied recently.

2. **Aerate The Existing Lawn** with a plug aerater and water thoroughly.

3. **Mix Estate Lawn Seed**, or your own custom blend of seed (see this page for suggestions), with a bag (one cubic foot) of either worm castings or very good, dry compost. This is necessary because the seed is extremely fine and will blow away easily if not mixed with something heavier.

4. **Cast The Seed Uniformly** over the existing lawn area and water thoroughly.

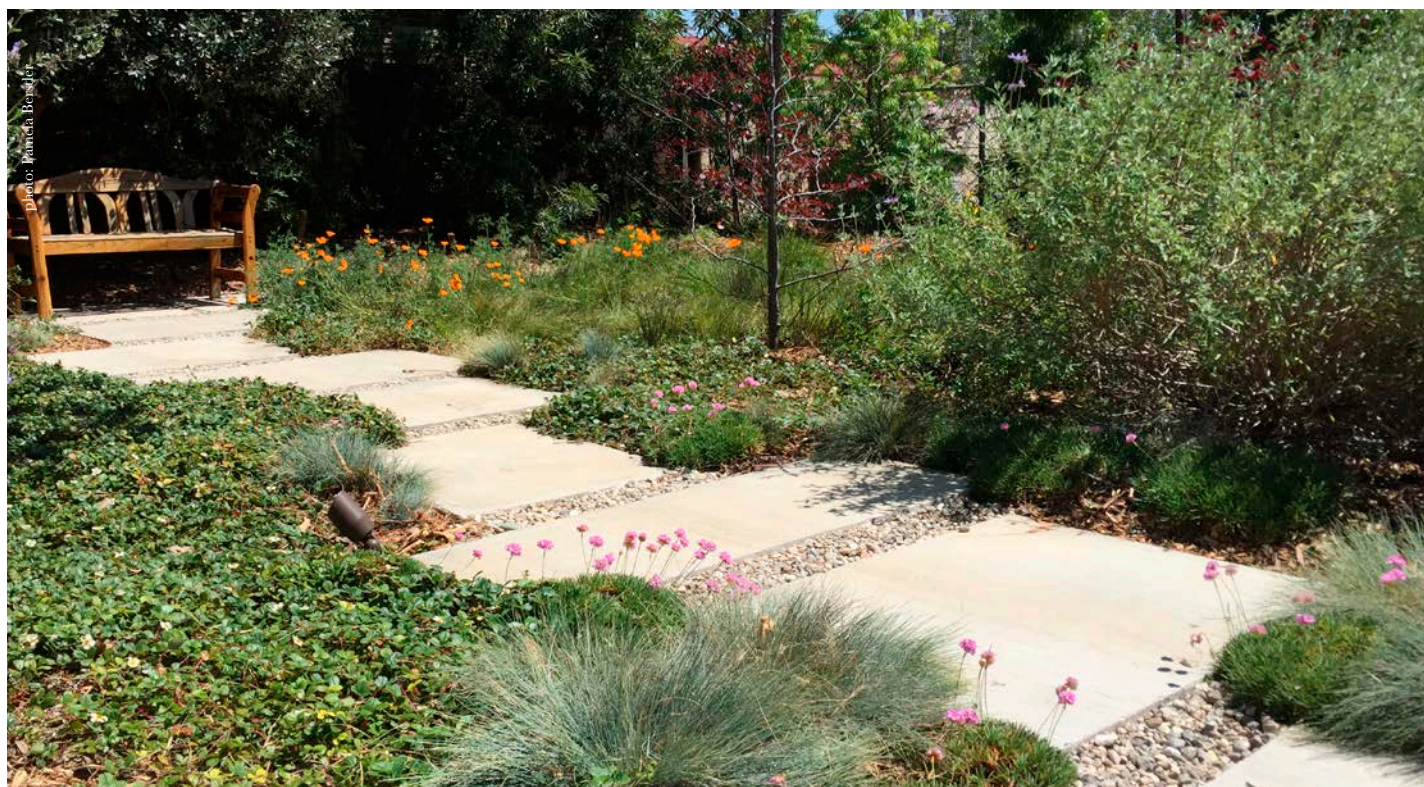
5. **Next Week, Mow The Lawn** with a mulching mower, or remove the catch-bag from a regular mower, and leave all fine grass clippings spread on the lawn as a mulch.

6. **Rake The Lawn Gently**, if needed, to spread grass clippings evenly.

7. **Water Twice Weekly**, up to 8 minutes per cycle, until the clover begins to appear. Then begin watering only once per week. If the clover is not appearing (see the images below), then cut back on the watering cycle. Clover likes things lean and clean!



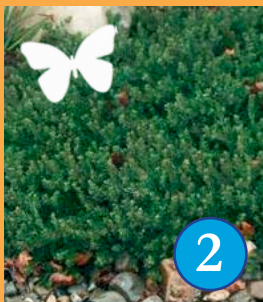
Groundcovers and lawn substitutes



Great Groundcovers



1 *Asteriscus maritimus*
Gold Coin Plant



2 *Arctostaphylos edmundsii* 'Carmel Sur'
Creeping Manzanita



3 *Lomandra longifolia*
'Breeze'
Dwarf Mat Rush



4 *Senecio serpens*
Blue Chalksticks



5 *Salvia* 'Bee's Bliss'
Bee's Bliss Sage

Walkable Turf Alternatives



1 *Achillea millefolium*
rosea 'Island Pink'
Pink Yarrow



2 *Fragaria chiloensis*
Beach Strawberry



3 *Dymondia margaretae*
Silver Carpet



4 *Thymus*
pseudolanguinosus
Wooly Thyme



5 *Bouteloua dactyloides*
Buffalo Grass

Traditional lawn: Cool or Warm?



Cool Season Grass grows best in cooler periods of the year.

This grass will require water in the hot summer if it is not to go dormant (brown).

Typically these grasses grow as bunch grasses and propagate by seed or weak stolons. Cool season grasses are smothered easily by sheet mulching (see pp. 36-37).

Varieties include: Bent Grass (*Agrostis*), Fescue varieties (*Festuca* varieties), Kentucky Bluegrass (*Poa pratensis*), Perennial Ryegrass (*Lolium perenne*).

Cool season grass needs more water than warm season grass and is considered a HIGH water use plant.



Warm Season Grass grows best in warmer periods of the year.

This grass hits its stride when temperatures exceed 80°F, but will go dormant (golden brown) in the winter time when rainy and cool.

Typically these grasses grow from sturdy rhizomes extending deep underground. Warm season grasses require physical removal and/or intensive sheet mulching using at least 6" - 12" of mulch.

Varieties include Bermuda Grass (*Cynodon dactylan*), Blue Grama (*Bouteloua gracilis*), Buffalo Grass (*Buchloe dactyloides*), St. Augustine Grass (*Stenotaphrum secundatum*), Zoysia, and Seashore Paspalum.

Warm season grass is a MODERATE water use plant.



Cook It if you have cool season grass.

If your lawn is a cool season turf, you can leave it in place and sheet mulch following the Soil Lasagna Recipe (see pp. 36-37) to cook your grass away. But, if you want to speed things up a bit, cut out the grass with a sod cutter and then sheet mulch.

Use A Sod Cutter

If you want to get rid of lawn, cut it out! Most large box stores or hardware stores have sod cutters available for rent.



Cut It if you have warm season grass.

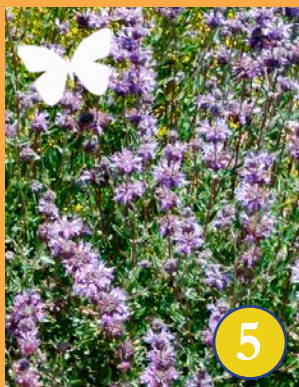
If you have any combination of the warm season grasses, you have a bigger project ahead of you, and you'll need to remove the grass, as much of the roots as you can, and perhaps even the top few inches of soil as you try to get rid of the roots.

The best way to do this is with a sod cutter. A sod cutter, dumpster to remove the cut sod, and other equipment can be rented. Once you've cut it out and disposed of it properly, you can get cooking using the Soil Lasagna Recipe to build the healthy soil.

Beautiful Estate Borders



Five Essential Estate Border Plants



1 *Abutilon palmeri*
Indian Mallow

2 *Achillea* 'Moonshine'
Moonshine Yarrow

3 *Diets bicolor*
Fortnight Lily

4 *Pittosporum tobira*
'Variegata'
Variegated Mock Orange

5 *Salvia clevelandii*
'Winifred Gilman'
Cleveland Sage

Plant Lush and Evergreen borders.

Estate Borders display large flowering shrubs, including California lilacs and sunflowers, behind colorful beds full of blooming sages, tufted grasses and edged with colorful, small daisies. Full of color or monochromatic, graphic or blousy, big or small, borders can contrast or harmonize with the homes they surround.

Pick Your Palette

Select the trees and shrubs that will be the backbone plants of the large borders. Repeat, mass, mix and fill large spaces with flowering evergreen shrubs. Select smaller perennials, grasses, native bulbs, ground covers and annual wildflowers to fill in between shrubs, and where they can be both admired and tended, usually near the front edges of borders and flanking paths. Pay attention to mature plant sizes, bloom seasons, foliage texture and flower colors. Mass groups of smaller plants to simplify maintenance (both weeding and pruning), and mix plants that bloom at different seasons to maintain year-round interest. Always group plants with similar water and light exposure needs (*see p. 42*).

Plant A Community

Make Estate Borders easier by selecting plants that evolved together in the conditions that best match your landscape. Whether under shady, mature woodland canopies (Central Oak Woodland), in damp, sheltered canyons (Sycamore/Riparian), or on windy, sun-baked hillsides (Chaparral and Coastal Sage Scrub Communities), these plants evolved in our climate, growing together without human help and providing year-round habitat (aka flowers!) for our native pollinator species. When planted with their friends, plants will be happier, healthier, require less care, and stagger bloom times naturally, for year-round color.

The big screen: Hedges

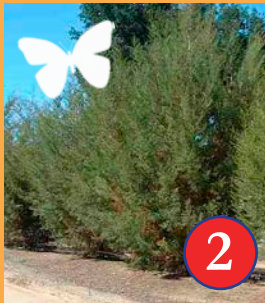


Consider columnar trees like the Italian Cypress (*Cupressus sempervirens*) pictured above, Torrey Pine (*Pinus torreyana*) or Santa Cruz Island Ironwood (*Lyonothamnus floribundus*) to create colonnades and windbreaks taller than 30' with a more formal aesthetic.

Medium Hedges (6-15 Feet Tall)



1 *Ceanothus 'Concha'*
California Lilac

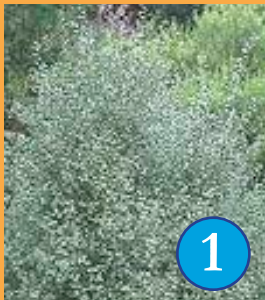


2 *Cupressus forbesii*
Tecate Cypress



3 *Rhus integrifolia*
Lemonade Berry

Large hedges (15-30 Feet Tall)



1 *Pittosporum tenuifolium*
'Silver Sheen'
Silver Sheen



2 *Prunus illicifolia*
Catalina Cherry



3 *Myrica californica*
Pacific Wax Myrtle

Fences and Walls: Mind The Heights & Setbacks

No Hillside Area: single family and multi-family zones, the maximum allowable fence height is:

Eight feet tall in the rear yard,

Seven feet tall in the side yard (does not apply to street side yard),

Three feet tall within the first 20% of the front yard and

Six feet tall anywhere after 20%.

Hillside Area: In the single family (R1) area, the front and street side yard allowable fence or wall height is:

Six feet tall maximum total height with the portion over 3 feet high being open to public view if located more than 10 feet away from the property line,

Three feet tall between 3 feet and 10 feet from property line and

No wall allowed within 3 feet of property line.

Commercial Zone: There is no specific limitation, but an Architectural Commission approval is required. Please contact a planner to learn more about the exceptions and restrictions on above requirements.

Important: Fence and wall heights restrictions vary based on the location of fences and walls on private property.

For specific project requirements and entire specifications visit the Beverly Hills Municipal Code, Title 10, Chapter 3.

Plant Selection: Species should be selected that will grow to the desired, maintainable height and width of the mature hedge. Large trees are not appropriate for short hedges, though some species can be maintained this way. Perimeter hedges should be planted with trees that naturally grow to the height of the surrounding structure rooflines, and no taller. Hedging in front yards, either formal or informal, also should follow the rules for fencing within the dominant setback.

Plant Maintenance: Hand pruning to remove dead wood and shape hedges, hedgerows and large shrubs, mainly to provide safe access for people and vehicles, is preferable to shearing with electric hedge trimmers. Where formal, shaped hedges are stylistically appropriate, plant species should be selected to minimize the need for pruning.



photo: Marilee Kullmann

More Trees, please!

Trees are Priceless.

While planting trees means improved water quality, resulting in less runoff and erosion, it's also good for the pocketbook. Healthy, mature trees add an average of 10% to a property's value. Trees properly placed around buildings also can reduce air conditioning needs by 30% by providing shade. Trees are living solar powered air conditioning, actively cooling the air under their canopy through evaporative cooling. Healthy, mature trees can be individually worth tens of thousands of dollars, each. Protect your investment by hiring licensed arborists to keep your trees healthy and beautiful with annual assessments and pruning only when necessary.

Choose the Right Tree

Trees are both slow-growing and long lived, so planting a tree is a big investment in both time and money. Consider the mature size

of the tree when you plant it. At the nursery it's short and cute, like a puppy, but a small tree can quickly grow into a 30 foot tall tree with a 30 foot wide canopy of branches, or bigger. If you've selected a large tree species, it can top 70 feet tall and wide at maturity. Select a tree that will best fill the space you have, not one that will need annual pruning to keep it small.

Consider litter and allergen issues - some people are particularly allergic to specific tree species, and some fruit (olives, persimmons, etc.) will stain patios and can make sidewalks slippery. Think about whether to use evergreen or deciduous species. Hot summer patios are perfect places to add leafy shade trees, while extra light on cloudy, shorter winter days will be appreciated, making deciduous trees, that lose their leaves in Winter, the perfect choice. Evergreen trees and shrubs are better for privacy screening and year-round tidiness. Fruit, flowers and fall color also should be considered.

Lower Water Landscape Trees



1

1 *Chilopsis linearis*
Desert Willow



2

2 *Quercus agrifolia*
Coast Live Oak



3

3 *Platanus racemosa*
California Sycamore



4

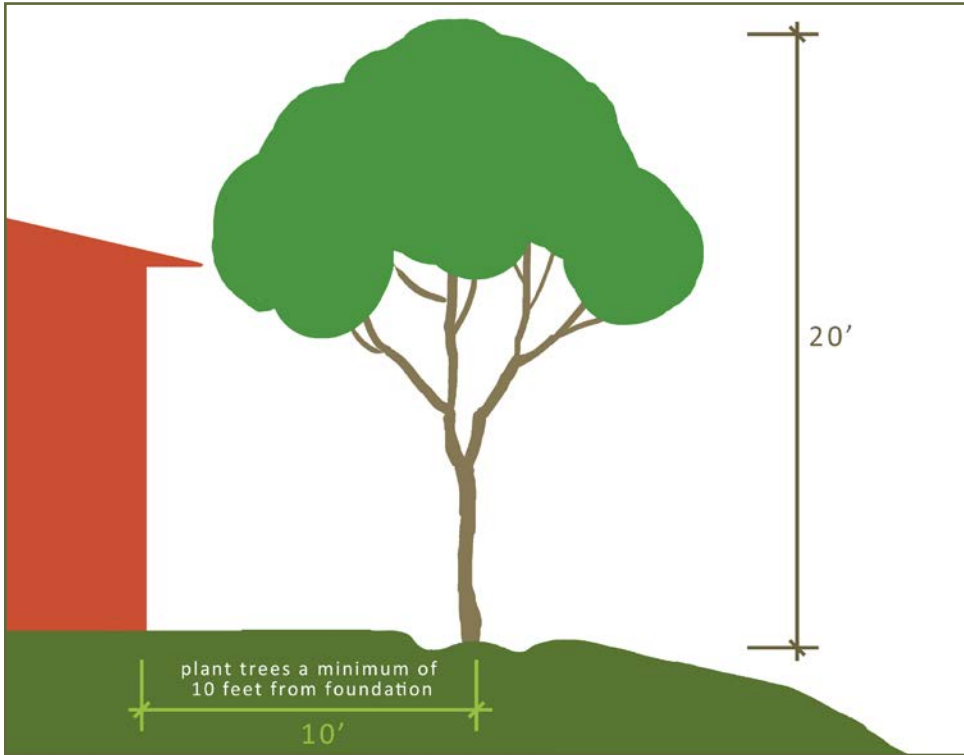
4 *Arbutus 'Marina'*
Strawberry Tree



5

5 *Lyonothamnus floribundus*
Catalina Iron Bark

Keep trees Happy



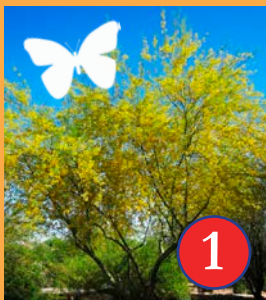
Right Tree, Right Place

Place your trees carefully. Make sure the placement of the tree is sufficiently far away from the house. Small trees (30' wide or less) should be no closer than 10 feet. And large trees (70' wide or more) should be planted no closer than 20 feet from the house. Also consider nearby trees, other structures (like power and phone lines), views and where shade will fall at different times of the day, in different seasons.

On the ground, pay attention to water, sewer, septic and other utilities, as well as patios, sidewalks and driveways. If you will be planting near any of these, choose trees with low root-damage potential. If you are in a windy area, near the top of a bluff or hillside for example, select trees with strong branches and small leaves, so wind will easily pass through their canopy and gusts won't topple trees or shear branches off.

Small trees are like living umbrellas, adding dappled shade, habitat and color to smaller planting areas without taking over.

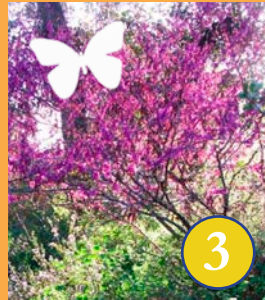
Perfect Patio Trees



1 *Parkinsonia* 'Desert Museum'
Palo Verde



2 *Olea europaea*
Olive



3 *Cercis occidentalis*
Western Redbud



Protect Roots, Save Trees

Trees depend on their roots for survival. Roots anchor tree trunks and canopies against strong winds and earth movement. They absorb water and nutrients, and connect trees to the soil and plant communities that surround them. Landscape and construction projects easily can damage tree roots, killing trees, unless the roots are respected and protected.

Heavy construction equipment can break branches, compact soil and damage tree roots, and should not be used near trunks or under tree canopies. Paints, solvents, cleaners and other chemicals can poison soil and kill roots, too.

When removing existing plant material, especially grass, minimize root shock by keeping the trees well-watered.

Many trees will go into shock when water is reduced, so water them regularly during construction and landscape renovation, especially for the first year after turf or other high-water plant material is removed, even if you remove surrounding irrigation. Weekly slow and deep watering under their canopy, by using tree bags or soaker hoses, is best.

Plan for trees to be on their own irrigation hydrozone in renovated landscapes (*see p. 42*).



photo: Pamela Bersler

Parkways

Parkway Plants



1



2



3



4



5

1 *Arctotis*
African Daisy

2 *Erigeron glaucus*
'Wayne Roderick'
Seaside Daisy

3 *Lessingia flaginifolia*
var. californica
Silver Carpet

4 *Phyla nodiflora*
Lippia Repens

5 *Calylophus hartwegii*
Sundrops

Start Your Project at the Parkway strip.

Parkways are public property maintained by private property owners – so while you don't own your parkway, you are responsible for maintaining it. Even though they're small, parkways present some particular challenges.

Cars! Unless you live on a no-parking street, car doors will open onto the curb and into your parkway strip. People need some space to get out and walk around their cars. However you decide to plant your parkway strip, be sure to leave at least 18" (or more) as a step-out area that is clear from the edge of the curb for those doors to swing open and allow people to move. Consider placing bricks, pavers, gravel or decomposed granite in this area; or just spread mulch. Try not to plant in this step-out area. Keep your plants back from this edge to protect them from the damaging foot traffic.

Trees. If your parkway already has nice big street trees, then you also have nice big roots. Those roots may even be above ground, moving the concrete and otherwise causing trouble. Respect the roots – don't dig around them, cut them or otherwise bother them. Plant only in areas where the roots are not visible, and never closer than 24" from the trunk of the tree (*see p. 17*).

Utilities and Irrigation. Your water meter and other pipes and utilities are often found in the parkway. **Be sure to CALL DIG ALERT (Dial 8-1-1)** at least two days before you dig so marks can be made to avoid underground cables and pipes.

Many parkways are mere strips. If the area is less than 10 feet wide, you should not be using spray irrigation because it is too difficult to keep water off the street or sidewalk when they are in use. Consider hand watering or connecting your parkway to the closest drip irrigation line in the front yard. If your front yard and parkway are sharing irrigation, make sure your plants in both sections have similar water and sun needs.

Low water Parkway



A parkway covered in uniform and low water-use *Festuca californica* (*California Fescue*).



Carpet-like *Dymondia margaretae* (*Silver Carpet*) makes a clean and walkable parkway surface.



Ceanothus 'Yankee Point' (*California Lilac*) quickly covers this parkway, but is not walkable.

Planting A Parkway In Six Easy Steps

1. **Call Dig Alert (Dial 8-1-1)** to mark any utility lines, underground cables, and pipes.

2. **Protect Your Trees** by respecting, and protecting their roots

3. **Contour For Water Capture.** Gently contour the parkway area into a shallow bowl, capturing water that may run off adjacent sidewalks and driveways.

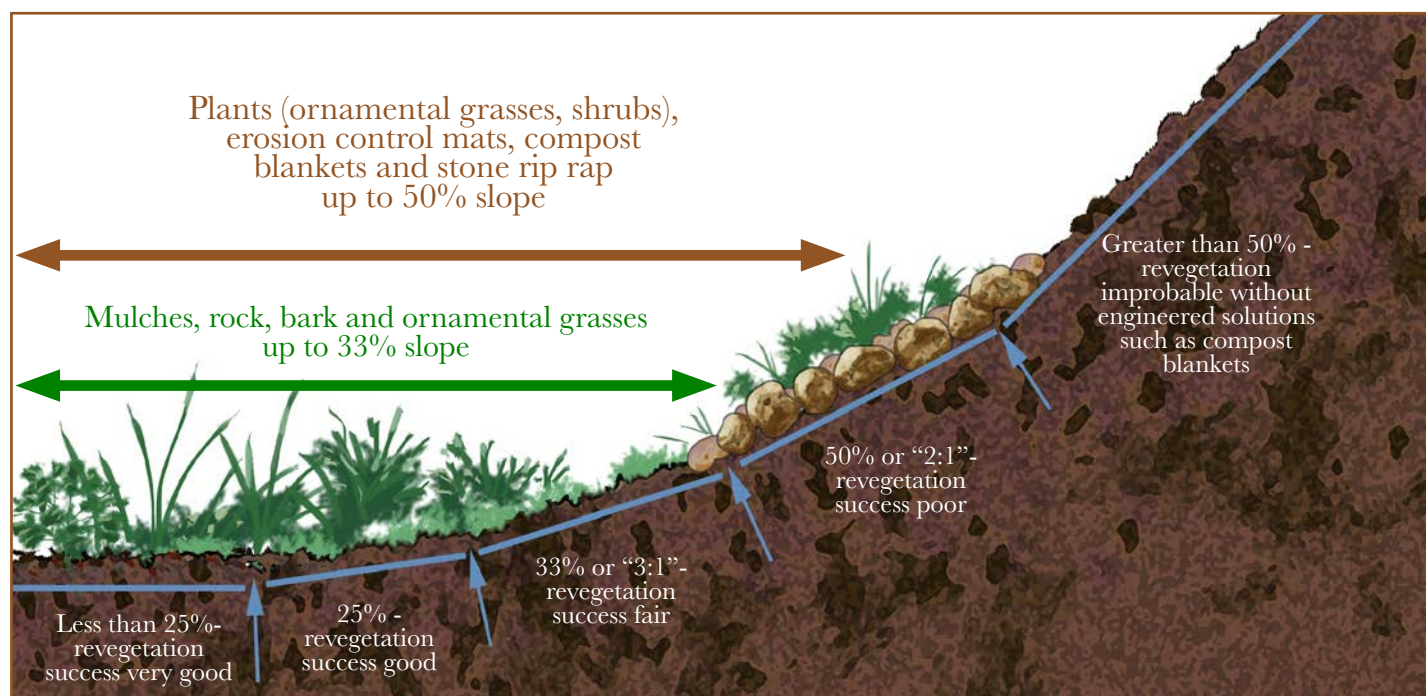
4. **Select Plants** that can be maintained at 6" tall, or shorter, allowing both access to parked cars and visibility, to see oncoming traffic (both people and cars).

5. **No Thorns!** Consider the parkway a high-traffic area and avoid unfriendly plants (like prickly cactus). Don't leave big holes open overnight, avoid creating tripping hazards, and help keep everyone safe!

6. **Cover The Ground** with mulch, gravel or decomposed granite, especially under mature street trees with surface roots, where digging holes to plant ground cover may damage the trees. These walkable materials should be contained by curbs, concrete sidewalks and/or landscape edging, and maintained at a finished height below the surrounding sidewalk and curb grade so they don't spread out over paved areas and become tripping hazards.

In parkway on the opposite page, *Fragaria chiloensis* (*Beach Strawberry*) creates a walkable, very low water and resilient groundcover.

Slopes and Hillsides are special



Hardy Hillside Holders



1 *Romneya coulteri*
Matilija Poppy

2 *Ceanothus 'Yankee Point'*
California Lilac

3 *Isomeris arborea*
Bladderpod

4 *Atriplex lentiformis*
Coastal Quail Bush

5 *Baccharis pilularis*
'Pigeon Point'
Coyote Bush

Whenever possible, do not disturb canyon hillsides. Low water use plants, trees, deep-rooted native plant species, and climate appropriate plants with strong root structures, should be selected for disturbed or built slopes and hillsides, as these root systems can help hold soil together.

If your slope is gentle, 3:1 or less (33% grade) coarse compost and mulch can be applied directly to hillside and slope surfaces, providing surface protection from the force of falling rain and shading exposed soils. With occasional and gentle irrigation, mulch will "knit" together.

Compost blankets are a kind of erosion control mat applied to the soil surface to protect and preserve it, and can be used either alone or with coir mats or other organic engineered material with biodegradable grids for stabilization. Mats allow water to penetrate through to underlying soils while retaining loose soil and debris and preventing erosion. You can plant right through them or use pre-seeded products.

Hillside Irrigation Considerations

When preparing a hillside for planting, determine how you are going to irrigate before doing any work. Low-volume rotating spray heads are ideal for sloped areas, if the space is large and the groundcover is uniform. Drip tubing also can be effective, especially for wider-spaced shrubs and trees.

Water can be applied in shorter durations, so that it can be fully absorbed between application times. Runoff, erosion and efficient deep watering are important issues to keep in mind always, but especially on hillsides (*see p. 47*).

Please note that emitters on drip systems should be placed above the plant basin, and spray systems should have check valves in all lower heads to avoid low point runoff. Irrigation for the top of the slope and the bottom of the slope should be on separate valves.

Keep cool in a Fire zone



Use Plants That Resist Ignition

These are less likely to produce airborne plant embers. These plants include those with a high water, high salt, or low volatile oil content in their leaves, like succulents. Agaves, aloes, crassulas and other succulents store extra water in their fleshy leaves.

Messy, oily trees and shrubs, like eucalyptus, and junipers, do the opposite – igniting quickly, burning hot and long, and releasing copious embers into the air, which may further spread the fire.

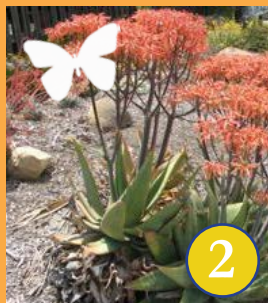
Preventative maintenance includes regularly removing dry grass, thatch, brush, weeds, litter, waste and dead and dying vegetation. Trees should be properly pruned. Shrubs and perennials should be kept thinned, with dead branches and leaves removed. Unwanted vegetation must be regularly mown, cut or grazed, while root structures must be left intact to avoid erosion. Dead leaves and branches are particularly flammable, especially on evergreen shrubs or vines like bougainvillea, and these must not be planted close to structures.

Many of Beverly Hills' native plant communities, like chaparral, are able to survive and recover from infrequent fire. Some plants use fire to signal available space to grow and thus start the germination process. But when fires are too frequent, even the most well adapted plants' ability to survive is disrupted. Invasive species have made fires more frequent, with longer duration and hotter intensity, so it is even more important to avoid invasive plants in fire-prone zones.

Three Fire Fighters



1 *Mimulus*
Monkey Flower



2 *Aloe striata*
Coral Aloe



3 *Convolvulus cneorum*
Bush Morning Glory

Fire Is A Real and Constant Threat

This is especially true in wild land interface areas. Plant selection, design and consistent maintenance all must be in accordance with fire safe guidelines.

Landscapes should resist ignition and provide 35 ft. of actively maintained defensible space around structures and access zones (Zone 1), maximizing fire prevention and also allowing for access by fire crews, if necessary.

Beyond Zone 1, the landscape should reduce the chance of potential airborne embers through careful thinning of native vegetation for another 65 ft. (Zone 2).

Avoid Invasive Plants

Invasive non-native plants, especially grasses and groundcovers, contribute to fire risk by spreading the fire from woody plant to woody plant. Remove these plants from your garden. Check out these websites for guidance on lists of invasive plants to avoid that are causing problems throughout the state.

Plant Right, www.plantright.org

California Invasive Plant Council, www.cal-ipc.org

The Fire Prone Four:



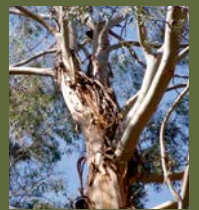
Pennisetum setaceum
African Fountain Grass



Nassella tenuissima
Mexican Feather Grass



Cytisus scoparius
Scotch Broom



Eucalyptus (various)

Eat your yard



Group Edibles together for irrigation.

You don't have to become a farmer to enjoy edibles in the landscape because many native plants, vegetables and herbs have fruit and leaves you can harvest, and they can be mixed into any climate-appropriate planting scheme. During winter, it's easy to add lettuce and other leafy greens to your landscape while they are being irrigated for free from the sky.

During summer, however, vegetable plants work hard to make tomatoes and squash, and they need extra food and water so they can feed you! It's best to give veggies a special place where they can get all the extras they need without over-watering the rest of your garden. Raised beds, simple boxes made of untreated wood filled with at least 50% organic compost mixed with 50% garden soil, or large pots with dwarf fruit trees and flowers, are great edible garden solutions and keep your landscape looking tidy.

However you decide to grow, make sure your vegetables are placed where they receive at least six hours of direct sunlight and have their own irrigation valve so you can give them the water they need without drowning your low water use plants. Be sure to check Beverly Hills watering restrictions to confirm watering schedules permitted for edibles.



Edible Perennials & Fruiting Shrubs



1 *Salvia elegans*
Pineapple Sage



2 *Ribes aureum*
Golden Currant



3 *Allium schoenoprasum*
Chives

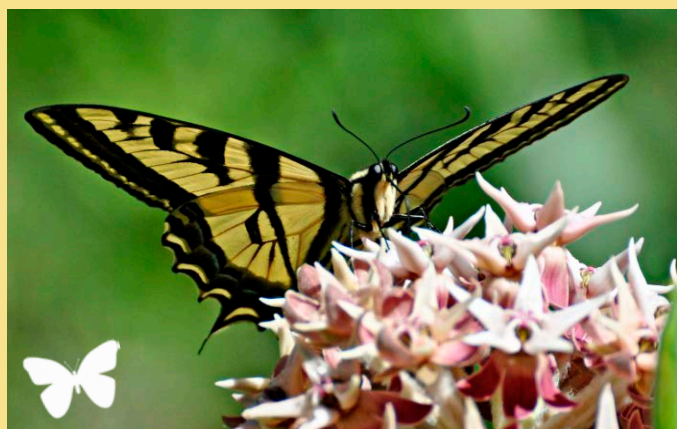


4 *Sambucus mexicana*
Mexican Elderberry



5 *Aloysia citriodora*
Lemon Verbena

Plant for Pollinators



Plant A Butterfly Garden

Look for the Butterfly icon on pictures of certain plants throughout this book. These are plants that support the life cycle of butterflies. Try to get several in your garden so you help the larvae and caterpillars as well as the full grown nectar-seeking showstopper.



Gotta Get Bees

Not every bit of ground needs to be covered in mulch. Try designating a 5 - 10 square foot patch of open ground for solitary ground nesting bees and insects, especially if you have planted California native plants. Mason bees will show up if you hang some nesting boxes.

Plants and Bugs need each other to survive.

Nature provides checks and balances in a garden, and you can attract insects and creatures that will help you maintain your garden without pesticides. Flowering plant species rely on insects for pollination and thus reproduction. In turn, plants feed and house insects. Some bugs eat too much, destroying plants and spreading diseases. Beneficial insects, fight off the bad guys, eating them or disrupting their reproductive process. Birds, bats and lizards help out too, consuming pests both big and tiny.

By actively cultivating a diversity of plants in our landscapes that flower at different times of the year to attract good bugs and predators, we are improving the resilience of our gardens and reducing the need for chemical inputs. To attract more garden-helpers, like mason bees and lizards, create habitat specifically for them. Consider getting a man-made nesting box for bees, leave a small rock pile for lizards, or put a large tree branch in the garden and let it decompose naturally.



Integrated Pest Management will reduce the ill effects of chemicals (see p. 48).

Consider getting a **National Wildlife Federation Habitat Garden** sign to tell your neighbors about the abundance in your landscape.

www.nwf.org

Pollinator Attractors



1 *Asclepias californica*
CA Milkweed

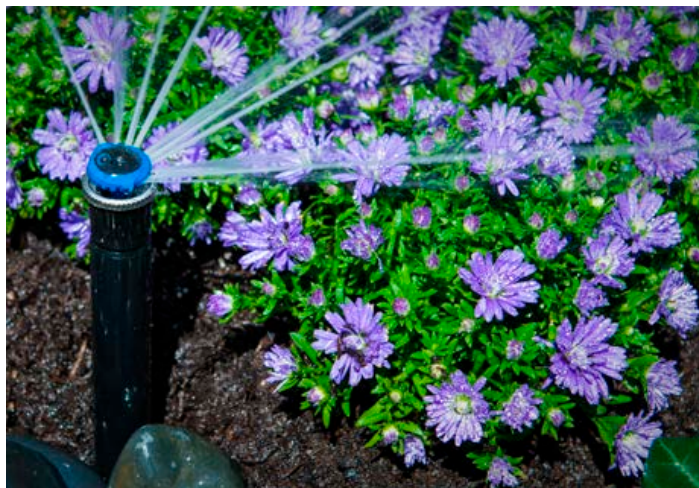
2 *Heuchera maxima*
Island Alum Root

3 *Eriogonum grande* var. *rubescens*
San Miguel Island Buckwheat

4 *Verbena lilacina* 'De la Mina'
Cedros Island Verbena

5 *Galvezia speciosa* 'Firecracker'
Island Bush Snapdragon

Showers or Drips?



Spray Irrigation emits water in an overlapping (head-to-head) pattern.

This can be an efficient way to irrigate large landscapes with groundcover or uniform plant material like lawns or meadows.

Gallons Per Minute (GPM) Spray systems apply water in GPM, so if you know the application rate of each spray head, the distance between heads, and the pressure of your system, it is relatively easy to figure out how much water is applied every time you run your irrigation.

Challenges include irrigating very narrow areas surrounded by hardscape, or irregular patterns. Irregular patterns are particularly challenging because spray irrigation requires head-to-head coverage to be efficient and odd-shaped areas may be under or over watered. High-volume spray heads that emit water at a much higher rate than the soil can absorb should be replaced.

Positives include low volume spray heads that, when properly installed, apply water at about 1/3 the rate of conventional spray heads. The newer spray irrigation heads also have improved the spray itself, with heavier droplets that are more resistant to wind. Landscapes with grade changes using spray heads should have check valves installed to prevent water from flowing out of the low point heads.



Drip Irrigation delivers water directly to roots.

Since drip irrigation is covered with soil or mulch, the water does not evaporate as quickly as it might if it were applied at the surface by spray.

Gallons Per Hour (GPH) Drip systems apply water in GPH, so they need to run for longer periods of time than spray systems. However, the actual run time must always account for precipitation rate and runoff.

Challenges include the possibility that drip systems could apply water too quickly for the soil to absorb, so careful consideration is required especially when dripline grids are installed. Drip irrigation operates most efficiently at low pressure (between 15 and 30 psi). To achieve optimal performance and avoid breakage, pressure regulation either at the valve or at the point of connection of the dripline to the buried lateral lines must be used. Also, it is essential to install some kind of filtering system to keep the emitters from becoming clogged.

Positives include the fact that installations of subsurface (or under at least 2 inches of mulch) systems may be the most efficient way to irrigate nearly every type of garden area. Since the tubing is flexible, it can be made to accommodate a wide variety of irregular shaped areas or rectangular areas when laid in a grid pattern, and in rings that are easily expanded as trees or large shrubs grow.



What is a Tattle-Tale?

Screw a white cap (replacing the nozzle) on to the pop-up riser of one sprinkler head on each line when converting to drip.

When the drip irrigation is running below the mulch, the tattle-tale will pop up and let you know that the irrigation is on.

What is a Low Flow Valve?

Irrigation valves are designed to work within a certain pressure range (pounds per square inch or psi) and flow range (gallons per minute or GPM). If you redesign your system and use low flow irrigation, the flow through the valve may be so low that your existing valve will not operate effectively and may get stuck in the "open" position, wasting water.

If you have flow lower than 5 GPM per valve, check your valve specifications for flow range. Replace all valves that are not specified for low flow systems.

Irrigation System overview

Basic Components of Most Irrigation Systems



1 Shutoff valve (ball valve)



2 Anti-siphon valve



3 PVC pipe



4 Sprinkler head



5 Irrigation controller

Conventional Irrigation Systems are notoriously inefficient.

This is due to a variety of factors, including poor design, inadequate maintenance, and improper management. Well-designed and operated systems can reliably deliver the necessary water to sustain our landscapes without waste or excess.

A **Shutoff Valve (Ball Valve)** can be manually operated to cut off the water supply in the event of a leak, malfunction, or major repair.

The **Anti-siphon Valve**, when activated by an **Irrigation Controller**, delivers water through a **PVC Pipe** lateral irrigation line, ultimately reaching the **Sprinkler Head**, which applies water to the landscape.

Key Components of A Watershed Wise Irrigation System



1 Pressure regulator



2 Submeter



3 Rotary nozzle



4 Drip irrigation



5 Smart controller

Wise Irrigation Systems operate efficiently.

These irrigation components are designed to operate at lower pressure levels, as specified by the product manufacturer. When devices operate with excess pressure, damage, and even failure can occur, not to mention water waste.

A **Pressure Regulator** will eliminate excess pressure.

A **Submeter** is located where the irrigation system tees off of the mainline to the house and is a recommended option to keep track of the actual volume of water being applied to the landscape. Single family homes typically have a single meter that does not distinguish between indoor and outdoor water use.

Low-volume irrigation devices, like **Rotary Nozzles** and **Drip Irrigation** are designed to deliver water to the landscape at a slower rate that better approximates the infiltration rate of the soil. This reduces the likelihood of runoff.

Smart Controllers automatically adjust irrigation schedules in response to changing site and/or weather conditions. These come in two varieties. ET controllers monitor weather conditions, while soil moisture-based controllers directly sample moisture in the ground. These devices also have features like “cycle-and-soak” functions that can help eliminate runoff (*see p.47*). When selecting a controller, look for brands with the **EPA WaterSense®** label.





photo: Marilee Kuhlmann

Mediterranean Style

French Farmhouse Border



- 1 *Lavandula* (various)
Lavender
- 2 *Rosmarinus officinalis prostratus*
Creeping Rosemary
- 3 *Teucrium chamaedrys*
Germander
- 4 *Cistus skanbergii*
Pink Rockrose
- 5 *Salvia greggii*
Autumn Sage

Mediterranean Style gardens grace the many architectural styles inspired by this region. They are filled with colorful California native, Mediterranean and sub-tropical plants. Flowering and fruiting plants include herbs, vines, shrubs and shade trees.

Large outdoor patios and furnished garden rooms are carpeted with brick, tile, gravel, decomposed granite or fine wood mulch. Generous tree canopies provide cooling shade. Patios should be permeable where appropriate, to allow direct rainwater infiltration, or contoured to capture all run-off in adjacent rain gardens, swales and/or infiltration basins.



photo: Laura Morton

Colorful Containers



1 Citrus 'Improved Meyer'
Improved Meyer Lemon



2 Pelargonium sidoides
Geranium



3 Citrus 'Nagami'
Semi-Dwarf Kumquat

Planted in brightly glazed pots or elegant terra cotta urns, these evergreen plants require little care or water. Give them occasional dead-heading to remove spent flowers and gentle pruning to keep them in shape.

Vines for Arbors



1 Vigna caracalla
Snail Vine



2 Clytostoma callistegioides
Lavender Trumpet Vine



3 Rosa 'Climbing Cecile Brunner'
Climbing Rose

Plant colorful, flowering vines on arbors, trellises, bare walls and fences to shade garden rooms, patios and add privacy.

Edible Fruit Trees



1 Punica granatum
Pomegranate



2 Acca sellowiana
Pineapple Guava



3 Prunus salicina
'Santa Rosa'
Santa Rosa Plum

Many beautiful fruit trees thrive in Beverly Hills, creating bountiful orchards and singular patio trees.

Mediterranean Style Gardens Appropriate For These Architectural Styles:

RURAL EUROPEAN REVIVAL (French Normandy Farmhouse)

Asymmetrical layouts, stone veneer and wrought iron details grace these homes. Gardens, too, can be formal or casual, linear or curvy, but always full of flowers and fragrance.

SPANISH COLONIAL (Spanish Mission Revival and Monterey Style)

Walkways, patio, and garden bed layouts are different for each style. Spanish Mission Revival garden layout is asymmetrical and curvilinear while Monterey is rectilinear, geometric and symmetrical. Spanish Mission Revival homes favor earth tones (mustard yellow, olive green, light brown, etc.), while Monterey walls are usually white, cream, pale yellows or blues.

Both styles have painted black or white decorative iron work for fencing, gates and railings. Large picture windows, patios and balconies encourage careful shade tree, evergreen shrub and hedge placement to maximize both view and privacy.

PERIOD REVIVAL

The Mediterranean roots of these styles work well with the California landscape. Large shade trees, windbreaks, colonnades of Italian Cypress and Junipers dominate the landscape, while linear paths lead to patios designed for outdoor living.

CLASSICAL REVIVAL (Greek Revival)

Symmetry and geometry dominate this state-style, framing grand, colonnaded porches. Exterior walls of wood clapboard or smooth stucco are painted white, cream, or very, very pale blues or grays, with polished brass, dark bronze, or black wrought iron hardware and lighting.

ITALIANATE (California Style)

Typically symmetrical, these homes feature wide, shading eaves and decorative porches, commonly with supporting square posts. Stucco and wood exterior walls are covered with white, cream, or earth tone paint, though accents and garden wall paint can be pastel and sometimes playful. Tile and brick usually is used on patios, steps and walkways.

ITALIAN RENAISSANCE REVIVAL (Tuscan Villa, Palladian)

Garden layouts are generally symmetrical and balanced, primarily organized in rectangular shapes. Exterior and garden walls are covered with smooth, light earth-toned stucco.



photo: Tom Kau

Woodland Style

Woodland Border



1



2



3



4



5

1 *Arctostaphylos 'Sunset'*
Manzanita

2 *Woodwardia fimbriata*
Giant Chain Fern

3 *Salvia spathacea*
Hummingbird Sage

4 *Iris douglasiana 'Canyon Snow'*
Douglas Iris

5 *Heuchera 'Santa Ana Cardinal'*
Santa Ana Coral Bells

Shady and cool, **Woodland Style** gardens compliment many different architectural styles. Brick and stone walkways, patios and garden walls are common elements. Formal, symmetrical, clipped and hedged or curvy, loose, and growing natural, Woodland gardens can be all, or none, of the above.

Woodland Style gardens are dominated by large, stately trees which provide valuable shade, privacy and beauty. Trees are underplanted with lush, evergreen, shade-tolerant flower borders, formally clipped or natural hedges, and with Estate Lawns. Trees and plants should be selected from California's temperate woodland plant communities, primarily Live Oak and Coastal Sage Scrub.



photo: Alex Stevens

Window Boxes and Containers



1

1 Aeonium 'Zwartkop'
Purple Aeonium



2

2 Vriesea
Bromeliad



3

3 Begonia rex
Begonia

These plants will thrive in partially or fully shaded window boxes, under trees and along North-facing walls. For sunny window boxes, mix native Dudleya, Echeverias, Sedums and Senecios. Both mixes will create living, sculptural, colorful plantings that require minimal water or care but look beautiful year-round.

Formal Options



1

1 Ceanothus
California Lilac



2

2 Nandina domestica
Heavenly Bamboo



3

3 Westringia fruticosa
'Morning Light'
Coast Rosemary

Shrubs can be trained and pruned into formal hedges and geometric shapes or left to grow naturally and massed to create hedges, for privacy and to define views.

Deep Shade Brighteners



1

1 Carpenteria
californica
Bush Anemone



2

2 Crassula ovata
Jade Plant



3

3 Philadelphus lewisii
Mock Orange

Brightening dark corners with glossy green leaves, and seasonal flowers, these plants look good combined with bright green ferns, even in full shade under dense tree canopy.

Woodland Style Gardens Appropriate For These Architectural Styles:

AMERICAN COLONIAL

Landscape and architectural layouts should compliment each other, as should materials. Garden features include generous flower borders, hedges, and estate lawns planted under mature shade trees.

NEO CLASSICAL REVIVAL

Symmetrical layouts and walls of brick, painted wood and stucco combinations are commonly embellished with brass hardware, exterior lamps, address appointments, etc.

GEORGIAN and FEDERAL REVIVAL

Georgian layouts have asymmetrical balance, while Federal is symmetrical. Brick or flagstone cladding on first floor entries dictate matching garden wall, path and paving materials.

NEW ENGLAND REVIVAL (Cape Cod Style)

Front porches are featured, and wood siding is painted in pale colors or earth tones.

RURAL EUROPEAN REVIVAL

Rustic and informal or geometric and well-pruned, both styles are generously planted with flowers, and evergreen shrubs.

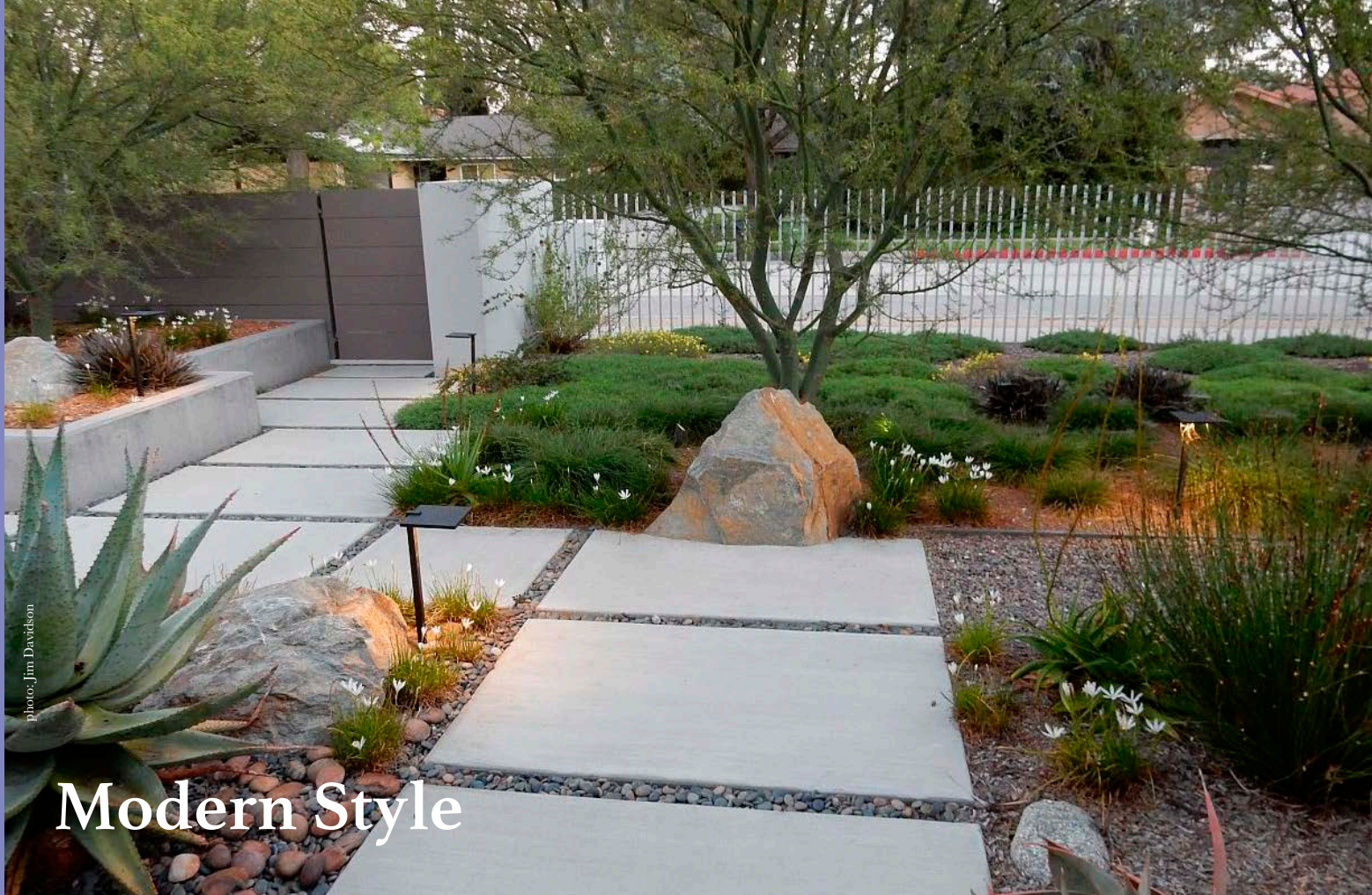
ENGLISH COTTAGE

English Cottage gardens typically have curvilinear pathways leading to an entrance courtyard, often behind a low garden wall. Stone veneer and stucco with stone details are common. Plants are maintained closer to natural forms.

TUDOR STYLE

Tudor Style is more geometric, with plants often pruned and clipped into traditional hedges and topiary forms.





Modern Style

Modern Landscape Architectural Plants



1



2



3



4



5

1 *Eragrostis elephantina*
Large Cape Rush

2 *Leymus condensatus* 'Canyon Prince'
Clumping Wild Rye

3 *Muhlenbergia rigens*
Deer Grass

4 *Beschornaria yuccoides*
Mexican Lily

5 *Sedum nussbaumerianum*
Orange Sedum

Bold Modern and Contemporary architectural styles dramatically contrast or gently compliment the gardens that surround them. Either way, **Modern Style** landscapes are both beautiful and functional.

Uniform, geometric plantings of architecturally bold plants surrounded by monochromatic groundcovers can compliment more refined Moderne styles, or contrast with exuberant Post Modern homes.

Billowy meadows of native grasses and flowering perennials can both soften and contrast effectively with the architecture's clean, modern lines. Structural succulents, bold shrubs, and dramatic trees compliment them all.



photo: Alex Stevens

Bold Container Plants



1 *Asparagus densiflorus* 'Myers'
Myers Asparagus Fern



2 *Sansevieria*
Snake Plant



3 *Agave attenuata* 'Variegata'
Variegated Agave

Dramatic succulent and sculptural plants add form and color to minimal styles. Plant single plant species in each beautiful container, then group pots or use alone, as focal points.

Sedge Lawns



1 *Carex pansa*
California Meadow Sedge



2 *Sisyrinchium bellum*
Blue-eyed Grass



3 *Zephyranthes*
Fairy Lily

Softened bold contemporary architecture with gently undulating Sedge Lawns, marked seasonally with flowering bulbs. As with the Estate Lawn, evergreen Sedge Lawns can be mown regularly, or left wild and raked annually to freshen/dethatch.

Stunning Succulents



1 *Aloe vera*
Medicinal Aloe



2 *Agave vilmoriniana*
Octopus Agave



3 *Kalanchoe beharensis*
Felt Plant

Sculptural plants look stunning year-round, alone or massed. Surround sculptural plants with smaller succulent varieties and evergreen or flowering ground covers.

Modern Style Gardens Appropriate For These Architectural Styles:

CONTEMPORARY STYLES

(**Moderne, Modernistic, Modernism**)

Moderne style is clean and volumetric. Homes usually are covered with smooth white stucco but no decorative flourishes. Tubular, metal hand railings, fences and gates also are common. Gardens can be similarly monochromatic, spare and elegant, or create contrast with bold colors, forms and masses of large, naturally pruned shrubs and trees.

INTERNATIONAL STYLE

Here, concrete, steel and glass are arranged asymmetrically, in bold, cubic shapes. Smooth walls are painted white, with occasional use of contrasting natural materials such as stone and wood. Garden walkways and patios can be concrete with walls of smooth stucco, painted or colored in darker, contrasting earth tones. Natural wood or stone also work. Exterior lighting fixtures and hardware are usually stainless steel or white powder-coated metal. Landscaping can be bold, dramatic and colorful, or spare, restrained and evergreen. Simple Estate Lawns, yarrow or sedge meadows, with carefully placed shade trees can suffice.

POST MODERN STYLE

Whimsical geometrical shapes and pastel colors mixed with a variety of materials define the style. Garden and building walls usually are stucco, painted white or pastel, and with darker pastel colors used for contrast. Decoration and details are also whimsical, mixing styles and materials. Gardens should continue the fun, with color, detail, layout and whimsy.

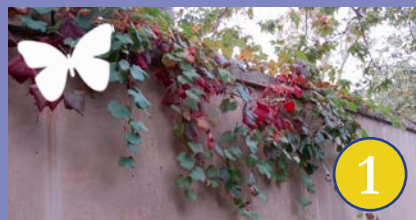


California Chaparral Style



photo: Marianne Simon

California Chaparral Borders



1



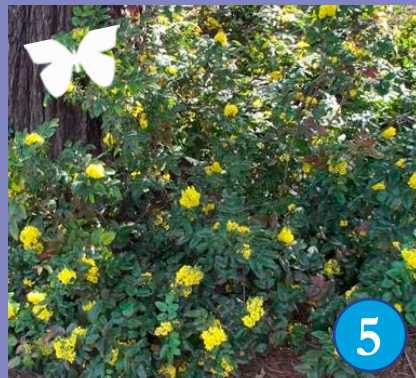
2



3



4



5

1 *Vitis 'Rogers Red'*
California Red Grape

2 *Salvia clevelandii 'Pozo Blue'*
Cleveland Sage

3 *Muhlenbergia rigens*
Deer Grass

4 *Verbena lilacina 'De La Mina'*
Cedros Island Verbena

5 *Mahonia repens*
Creeping Barberry

All Beverly Hill architectural styles will look beautiful surrounded by lush native California gardens. These **California Chaparral Style** gardens thrive mostly on rainwater, some gentle pruning, and occasional light weeding (both while new plants get established and after annual rains).

Though Mediterranean plants are climate adapted for Beverly Hills, every plant grows best in its native place. Local native plants have co-evolved with the specific climate, geology, soils, insects, birds, animals and other members of the plant community of a particular region. When we want to create landscapes that require the least amount of work after establishment and the most value for endangered insects like butterflies and bees, we reach for local native plants first, and Mediterranean or other climate-appropriate plants second.



photo: Stephanie Barron

California Containers



1 Abutilon palmeri
Indian Mallow



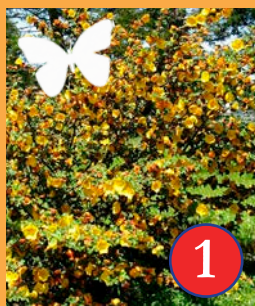
2 Sphaeralcea ambigua
Desert Mallow



3 Dudleya pulverulenta
Live Forever

Blooming all summer, and repeatedly throughout the year, bushy perennial plants will bring flowers, butterflies and hummingbirds to sunny patio containers with just weekly water and a gentle annual haircut.

Dramatic, Bold, Beautiful Background Shrubs



1 Fremontodendron
Flannel Bush



2 Dendromecon
Bush Poppy



**3 Lavatera
assurgentiflora**
Malva Rose

Native shrubs fill large gardens with color and drama and with spectacular spring and summer flowers. They make great background plants, love growing in community with other natives (including Ceanothus, Ribes, Salvias, Galvezias, Buckwheats), and can be mixed, matched, or massed for different effects. These require minimal maintenance or applied water, especially during warm summer months when they prefer completely dry feet.

Yarrow Meadow



1 Achillea millefolium
Yarrow/various



Muhlenbergia capillaris
'White Cloud'
Hairy Awn Muhly



Aesclepias fascicularis
Narrow Leaf Milkweed

Mown yearly, to remove dead flowers, this walkable Yarrow Meadow dances with every gentle breeze and is visited regularly by butterflies.

California Chaparral Gardens Appropriate For These Architectural Styles:

CHAPARRAL STYLES

Patios, paths, garden walls, decorative details and outdoor art all can be customized to best match individual homes and architectural styles. Plants should be combined with others from their Plant Community, and also can be selected for specific color palettes, seasonal shows, and special features, like edible fruit. Landscapes should be designed in formal or informal layouts, as best suits the home's architecture.

Trees, Lawns, Meadows and Borders should all work together in the garden's overall design. Each home's specific architecture and garden styles should harmonize to create both beauty and habitat for all the residents, of Beverly Hills.

PRAIRIE homes are beautiful with yarrow meadows surrounded by billowing, open shrubs.

ASIAN styles look lovely with rain gardens, pruned evergreen shrubs, raked gravel patios, and sculptural accents.

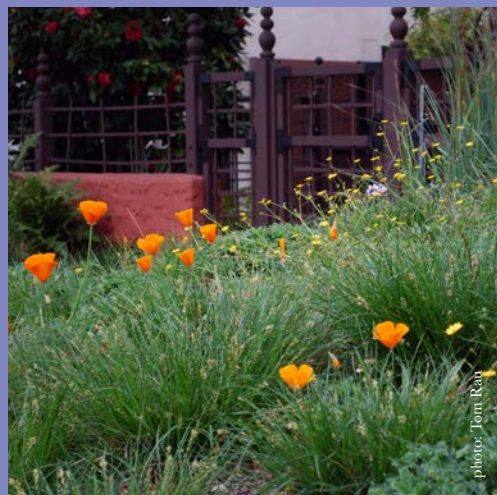
CRAFTSMAN & BUNGALOW

Cozy or grand, natural or geometric, craft practical and comfortable gardens around these homes.

RANCH HOMES embrace indoor/outdoor California living with generous patios and arbors, rolling meadows and sheltering shade trees.

ART DECO

Flowery, curvaceous and lush gardens echo deco's love of natural form.





The living Soil Party

OWL (Oxygen, Water and Life) makes Living Soil.

Living soil is alive. A teaspoon of good garden soil contains billions of invisible bacteria, several yards of equally invisible fungal hyphae, several thousand protozoa and a few dozen beneficial nematodes. Microbes bind soil together and, when OWL is balanced, and the Soil Party is happening, these billions of microbes can transform brick-like dirt into healthy, Living Soil sponges.

Oxygen is needed by healthy plant roots and soil organisms. Healthy soil has lots of tiny little pockets of air.

When soils are eroded, graded or disturbed, their structure becomes compacted. Compaction is caused when the tiny air and water bubbles are squeezed out of the soil and the microbes are killed. Microbes can be killed by fertilizer and pesticide use or even heavy traffic (foot or vehicular).



photo: Pamela Forster

Water is needed by both plants and microbes. But too much water in the soil will displace the oxygen, saturating the soil and creating an anaerobic condition. Pathogenic microbes prefer anaerobic soil, and if this condition persists, diseases may develop, endangering the health of your garden.

Water is constantly moving through the soil. Any water in the soil needs to be replenished as the plants use it, as it evaporates from the soil surface, and as gravity pulls it down past the root zone.

Use a soil probe to help manage the oxygen and water balance in soil. This is critical for maintaining plant health, so take note of your Soil Moisture Account (*see p. 46*).

Life in the soil includes all of the bacteria, protozoa, nematodes and fungi, the food they eat, the excretions they make, and the root systems they sustain. Living microbes most quickly can be incorporated into soil by adding really good quality compost.

Plants attract microbes to their roots by feeding them carbon. Bacteria and fungi hold the soil together with microscopic glues and binders. The microbes consume organic matter and are then consumed themselves by larger creatures (worms, ants, slugs, centipedes, insect larvae, etc.) In turn, these creatures are consumed by creatures further up the food chain. Carbon and other nutrients are cycled through these many life forms, creating healthy, living, well-structured soil, no matter what the soil type.



Use a Soil Probe

A soil probe allows you to determine a lot of information about your soil. It will come in handy when you are trying to figure out whether water is reaching the plant roots or even goes too deep beyond the roots' reach.

Take multiple samples from around your garden.

How deep are your plants' roots?

Build a great soil Sponge

Try to avoid excessive disturbance of the soil. But, if it happens, make sure you add Oxygen, Water and Life as soon as possible to get the Soil Party started again. A rockin' Soil Party turns dirt into a great living soil **Sponge**.



Eliminate Compaction by loosening soil.

If you can press a pitchfork into the soil, that is all you need to do to create air holes.

If the soil is heavy clay, then augering or tilling may be necessary. Immediately after augering heavily compacted areas, fill the holes with good compost or earthworm castings. Then water the whole thing thoroughly to get the biology processes kickstarted. Remember that augering and tilling destroy the Soil Party already existing in the soil, so they should be employed only when absolutely necessary.

Two essential practices for getting and maintaining soil oxygen are:

- 1) Feed the microbes organic matter so they continue making the little air pockets.
- 2) Manage water so things don't get too saturated or too dry.

Water Wisely, first with rainwater.

Rainwater provides the perfect chemistry for both plants and microbes, and should be provided as much as possible when it is available.

Irrigate only to maintain the water balance in soil. Too much water saturates soil and results in the anaerobic conditions that promote disease. Too little might result in microbes drying up and going to sleep. When microbes are no longer cycling nutrients for the plants, the roots will die and the plant might too.

Feed your soil.

Organic matter is the only food for the Soil Party that improves water holding capacity of soil. You can get organic matter from a wide variety of sources. Dead organisms and plant material are combined with the sugars and other compounds secreted by living plants and creatures.

Mulch, compost and compost tea can be applied to the surface of the soil and used as amendments during planting and soil preparation.

Plants do not need to be fed with fertilizers (even organic ones) if you maintain OWL. Avoid applying any fertilizers, but especially chemical ones, and any other chemical inputs.

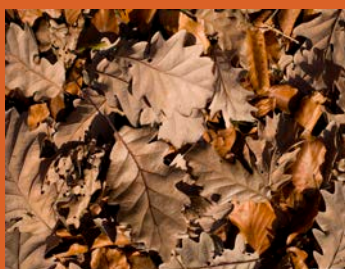
Weed Barrier?



photo: Jodie Cook

It looks like weeds grow right through weed barrier and it keeps OWL from happening.

Leaf It in Place



Leaf litter and grass clippings should be allowed to remain on the soil surface, under the plants from which they fall, instead of being removed during maintenance.

Be careful not to pile up leaves or mulch against the trunk of the plant. Try to keep them a minimum of 5" away from the trunk.

Tea for Two



Compost tea and worm castings offer a microbe jump start, providing many benefits of compost in an easily-digestible aerated liquid (compost tea) or dry form (worm castings), already teeming with life.



Lose your lawn Without Killing your soil

Build living soil with Sheet Mulching (aka Soil Lasagna).

We call this process Sheet Mulching, or **Soil Lasagna**, because it boosts microbes so much, they actually cook down the organic matter and start eating up the grass as food. Once you've made the Soil Lasagna, all you need to do is keep the system wet so the microbes can stay awake and cooking. How long this will take depends upon the kind of grass you have (*see p. 13*). When you're ready, just dig a hole right into it, cutting through paper/cardboard (if it's still there) and plant into the yummy living soil beneath.



You Will Need:

Shovels and Rakes
Bins for removed grass and soil
Landscape flags
Compost, Worm Castings, or Compost Tea

Wheelbarrow(s)
Mulch
Painters' Paper or big sheets of Cardboard
Hose with shut off nozzle at end
Water (LOTS!)

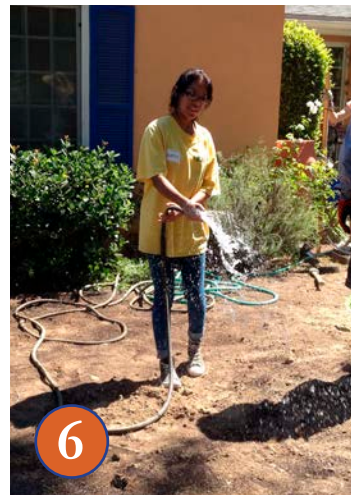
Secure Your Permits

Call DIG ALERT (8-1-1) two days in advance, and check with www.BeverlyHills.org for any water use restrictions.

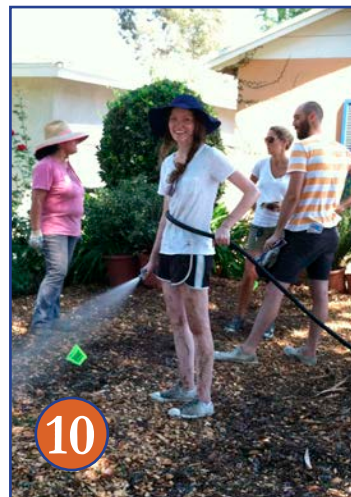
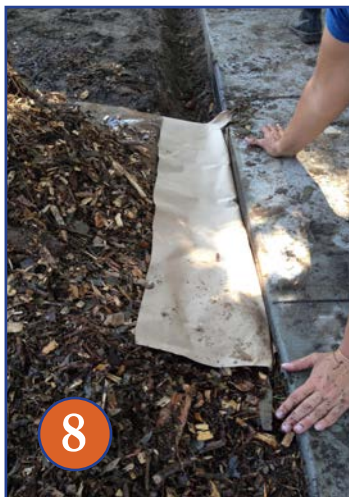
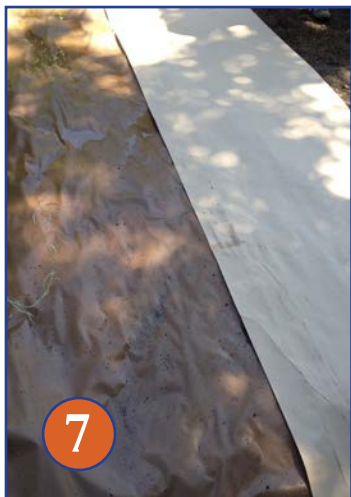
Rent A Dumpster

For every 1,000 sq. ft. of turf removed you will need 1 low-boy (10 yard capacity) dumpster.

- 1 After you have checked for permits and any local water use restrictions, deal with the lawn you have. If it's cool season, mow it to about 1/2" height, say goodbye and soak it thoroughly with water. Then go to #3. If you want to cut out cool season grass, go to #2.
- 2 If you have warm season grass, rent a sod cutter and remove the grass and 2-3" of roots beneath. The result is that you will be removing about 6" of grass and soil. Unfortunately, this must be hauled away, so you will need to rent a dumpster.



- 3 Dig a trench 8-12" deep (about 1 shovel depth) and at least 12-24" wide around all hard surfaces and building foundations (less deep here). **Before moving on, complete your contouring for rainwater absorption and retention and any landscape adjustments such as paths, patios, other features** (see pp. 54-55).
- 4 Flag your sprinkler heads so you can find and adjust them later.
- 5 Add a (1/2" to 1" deep) layer of compost on top of the graded soil. Alternatively, use humates, a sort of freeze-dried compost available at some landscape supply stores, or spray with compost or worm tea. You are adding good instant food and some microbes to the soil!



- 6 Water everything well. Wake up, microbes and get the party started!
- 7 Roll out painters' paper, cardboard or other paper. Overlap at the seams by at least 6". No naked soil!
- 8 On the hardscape edges, make a "burrito" of rolled paper and mulch to keep grass from resprouting immediately.
- 9 The paper is watered again and add another layer of compost here, if you'd like. Rake a thick blanket 4-6" deep of mulch over the paper or compost.
- 10 Water the mulch thoroughly. This mulch layer will absorb more water than you ever thought possible to become soaked through. Don't despair; just keep watering!
- 11 Plant right through the layers. The longer you wait to plant, the tastier the lasagna will be for the new plants, but you can plant right away if you removed the grass. If you kept your cool season grass in place, count on waiting 3-4 months before planting.
- 12 Step back and admire your work!

photo: John Huber

Catch the rain: Slow, Spread, Sink and Store



Slow It! Replace downspouts with rainchains to slow down the water, so it is more easily absorbed when it reaches landscaped areas. Add a rain barrel or cistern at the bottom of the downspout or rainchain and allow it to overflow into the garden.

Don't Have Gutters? Cover areas under eaves with permeable groundcover such as pea gravel, mulch, or rock to reduce the compacting force of water falling on bare soil. Spreading fresh leaf and wood chip mulch throughout the garden will slow down water. Healthy soil, bound together by the structures its life creates, can withstand even the strongest rains.

Spread It! Water needs to be spread around to spend some time in your landscape. For new construction, always specify permeable hardscape. Consider breaking or cutting up impervious surfaces like patios and walkways and rearranging the concrete with gaps between the concrete or puncturing it to create planting areas. Paved area drains also can be redirected from storm drains into the garden.

Sink It! Trust the soil sponge to do its job. Existing impermeable surfaces that cannot be transformed should be treated as water capture areas, where water is collected before it is guided to the garden. If you are not able to capture and hold the water on site, then concentrate on making sure that it passes through as much of the natural landscape as possible before it moves off your yard and becomes runoff.

Store It! Rainwater also can be directly harvested and stored. Storage vessels include rain barrels and cisterns directly connected to downspouts. Stored water gradually can be released into the landscape between winter rains. Properly sited trees are an excellent landscape feature for holding rain and allowing it to be released slowly over time.





photo: Alex Stevens

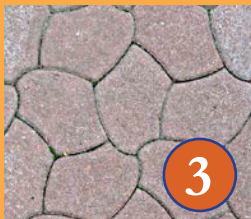
Five Great Permeable Surfaces



1



2



3



4



5

1 Sand set pavers

2 Porous concrete paving

3 Interlocking pavers

4 Gravel

5 Sand set flagstones

photos 1,3,5: Pamela Bersler

Rain can be used Before irrigation.

During the rainy season, run off from hard surfaces (roofs and patios) can be directed to the landscape. By capturing rainwater in soil we may be able to build an ecosystem that can go through the dry summer months with minimal or no additional water. Our whole built environment can be transformed into a living sponge and a giant rain barrel. Or, if there's more rainwater than we can absorb, or the soil is particularly impermeable, then we can allow it to flow-through our gardens, removing pollution before sending it along its way.

In order to capture rainwater you will have to take a serious look at your roof, do some basic math, make choices about when and where to hold the water, and contour the garden so the garden makes the grade. You also need to figure out whether or not your soil needs help to become a better sponge (*see p. 51*).

Some Rainwater Capture Rules

- Always check with local building regulations before altering your drainage.
- Redirect downspouts from hard surfaces into landscaped areas or other permeable surfaces.
- Use rain barrels or cisterns and direct the overflow into landscaped or permeable areas.
- Choose permeable hardscape for new patios, walkways and driveways.
- Break up impermeable surfaces like walkways and patios or cut 4" gaps in driveways.
- Keep all soil on the property and use it for creating contours throughout the landscape.
- Make sure you have turned your soil into a sponge by adding organic matter or Sheet Mulching.

Do some water Homework

Evapotranspiration (ET) is the key to watering plants.

Evapotranspiration (ET) is the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants. ET is a quick way for plant people to explain environmental conditions, especially solar radiation (sunshine or cloud cover). The stronger the sunshine, the higher the ET.

Plant leaves are like giant solar panels, gathering energy to enable the plant to transform water and carbon dioxide from the air

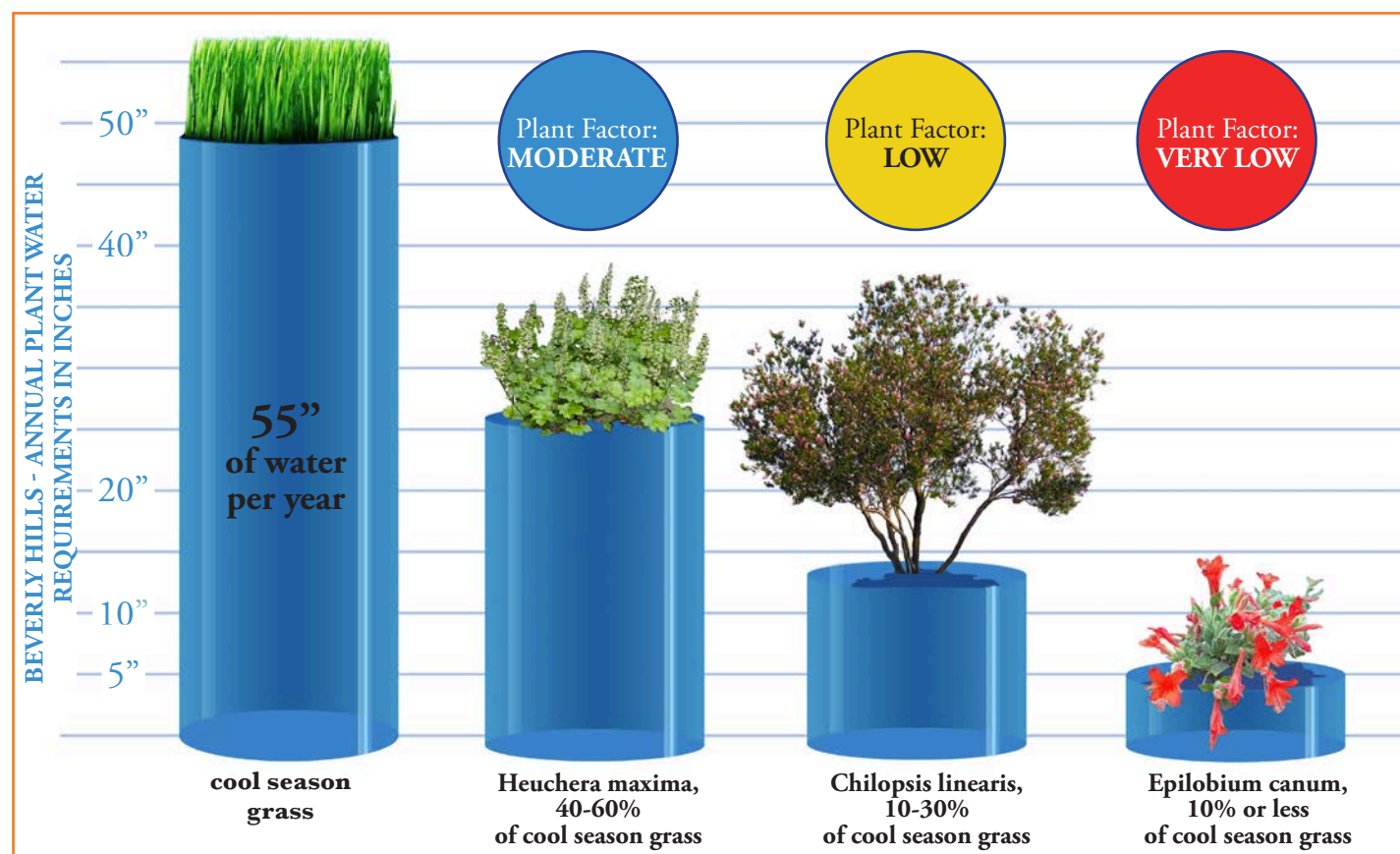
into oxygen and sugars for building their bodies and feeding soil microbes. Transpiration is like plant sweat. It cools down the solar panel leaves.

ET therefore, explains how much water plants really need and when they need it. It is helpful to understand water loss in terms of evapotranspiration when selecting plants for the lowest landscape water needs and maximum savings (*see p. 41*), planning irrigation and managing the **Soil Moisture Account** (*see p. 46*).

Plant Factors (PF) categorize each plant's water requirement.

The Water Use Classification of Landscape Species (WUCOLS) is a resource used by professionals to classify plants according to their water requirement. The water requirement of each plant in your landscape can be determined by gathering information about that plant and then comparing it to the amount of water

needed by cool season grass growing in your climate zone. These water requirement categories, or Plant Factors, include **VERY LOW**, **LOW**, **MODERATE** and **HIGH**. Once we select our plants, we can figure out the water use of the entire irrigated landscaped area.



- **HIGH** Plant Factor plants need 70-100% of the water needed for grass lawn
- **MODERATE** Plant Factor plants need 40-60% of the water needed for grass lawn
- **LOW** Plant Factor plants need 10-30% of the water needed for grass lawn
- **VERY LOW** Plant Factor plants need 10% or less of the water needed for grass lawn



1 Moderate

2 Low

3 Very Low

Notice that wherever we have provided plant selections or lists in this book, we have identified the plants by their water needs by placing their identification numbers on a colored background (*see pp. 66-69*). You can use this color coding to help you group plants by their water requirements in your new landscape, so they may be irrigated more efficiently. The **Butterfly** icon indicates plants that support the life cycle of butterflies.

Determine landscape Water Savings

How LOW can you go?

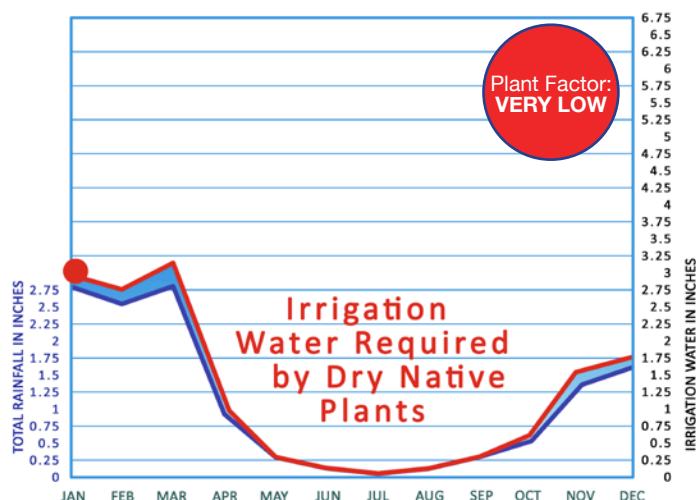
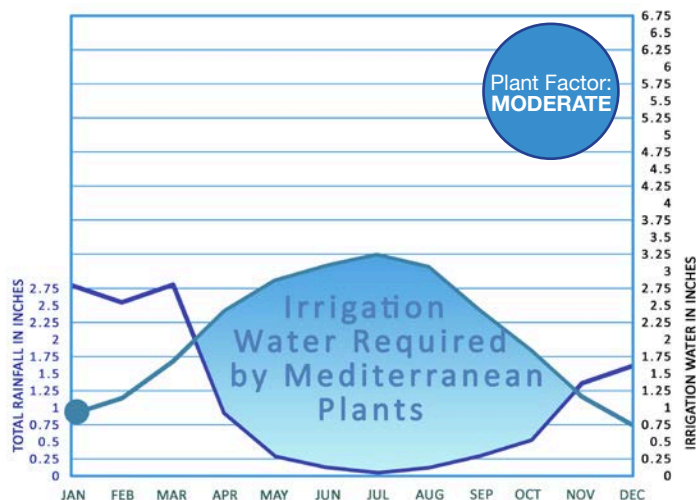
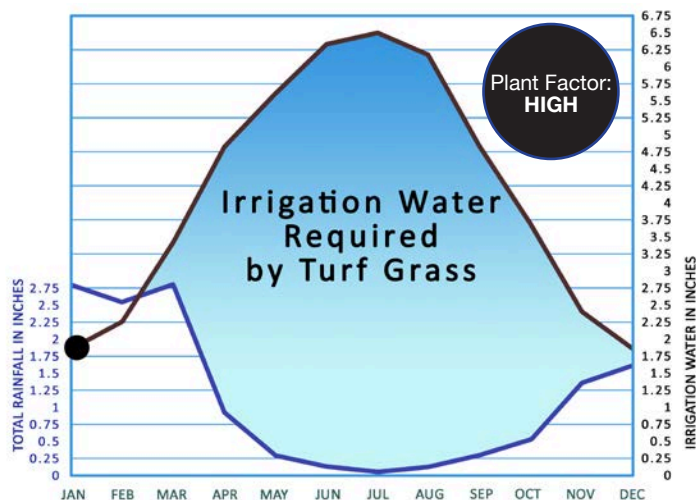
We encourage landscape designs that use the least amount of potable water necessary. As a general rule, we will want to maximize our capture and use of rainwater and to reduce, if not eliminate, our reliance on potable water for irrigation. Since cool season turf is among the highest water-use plants, when we replace turf areas with climate-appropriate plants that have lower water requirements, and irrigate them with more efficient updated systems, we create a great water saving potential. When we compare how much water our new landscape design will need with our existing landscape water use, we can determine our total estimated water savings.

Beverly Hills Water Efficient Landscape Ordinance (WELO) www.bhsaves.org

Beverly Hills' Water Efficient Landscape ordinance requires new commercial and residential projects to create water budgets for their landscaping and reviews design documents to ensure that new landscape designs comply with the budget. It ensures that new construction uses the latest irrigation technology to irrigate without wasting water like older, outdated methods and equipment.

Water Use Classifications of Landscape Species (WUCOLS) www.ucanr.edu/sites/WUCOLS/

WUCOLS IV provides evaluations of the irrigation water needs for over 3,500 taxonomic plant groups used in California landscapes.



Group plants by Hydrozones



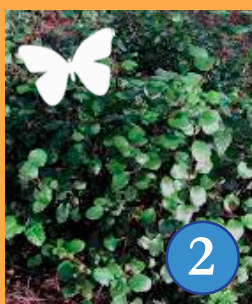
Hydrozone Rules

- Plants with similar needs are planted together so water can be applied as efficiently as possible through rainwater catchment and irrigation.
- Sun exposure, slope, and plant root depth should be considered so that full sun areas are one hydrozone, shade areas are another, and mixed exposure areas are yet another.
- Each irrigation valve should irrigate a separate hydrozone containing plants with similar water needs, living conditions, and root depths.
- Plants with high water needs (vegetables, lawn) must be on their own hydrozone and the sprinklers/emitters on that zone must not water anything else.
- Each hydrozone must be able to handle enough water volume for every emitter to work properly.
- Each hydrozone should have sprinklers or emitters that emit the same amount of water and they should be spaced so that every plant in the zone gets the same amount of water (pros call this matched precipitation).

Five Sun Lovers With Moderate Water Needs



1 *Pittosporum tobira*
'Creme de Mint'
Japanese Mock Orange



2 *Ribes viburnifolium*
Evergreen Currant



3 *Caesalpinia mexicana*
Mexican Bird of Paradise



4 *Melica californica*
California Melic Grass



5 *Callistemon 'Little John'*
Dwarf Bottlebrush

Five Sun Lovers With Low Water Needs



1 *Leucadendron 'Safari Sunset'*
Cone Bush



2 *Correa 'Dusky Bells'*
Red Australian Fuchsia



3 *Eriogonum parvifolium*
Cliff Buckwheat



4 *Muhlenbergia capillaris*
'Regal Mist'
Pink Muhly



5 *Sedum spurium*
'Dragon's Blood'
Dragon's Blood Stonecrop

Stop and Group the Roses



Best Friends, Good Rose Companions



1 *Salvia leucantha*
Mexican Sage

2 *Melampodium leucanthum*
Black-foot Daisy

3 *Nepeta 'Blue Wonder'*
Catmint

4 *Allium schoenoprasum*
Chives

5 *Artemisia californica 'Canyon Gray'*
Coastal Sagebrush

Long-lived, long-blooming, easily transplanted, and low-water too? **Roses** are well-loved for many reasons, and with proper care they will continue to add beauty to many Beverly Hills gardens. Generally, roses can be great MODERATE or LOW water use plants. Planting and maintaining roses properly includes smart companion planting, drip irrigation, and regular pruning. Healthy soil, amended with compost and mulched, along with adequate sunlight keep roses healthy and blooming year-round.

Drip irrigation is ideal for roses. Efficiently watering the roots, while keeping the leaves and flowers dry, drip irrigation minimizes powdery mildew and other diseases. Roses also should be regularly pruned, at least annually, to keep an open form, allowing air to flow freely and limit pests and disease. Limit evaporation and water use by keeping them tucked neatly in their beds with a heavy blanket of mulch covering their roots. If any problems occur, apply liberal amounts of worm castings or really good compost around the base of the plants.

Roses should be grouped together in a rose garden bed or border planting where they can be properly tended. Make sure you hydrozone by combining roses with other low-water friends such as California lilacs (*Ceanothus*), Sages, Alliums, Wormwoods and Yarrow, properly spaced for good air circulation and overall plant health.



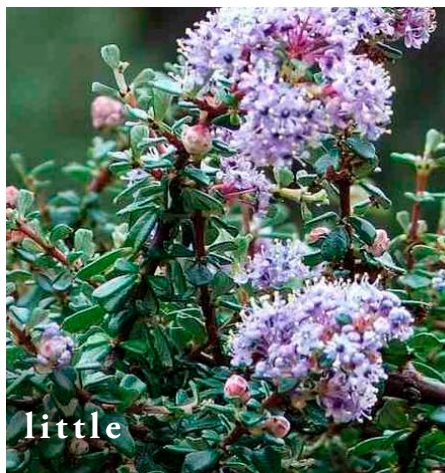


Photo: Pamela Kessler

Use Climate-appropriate plants



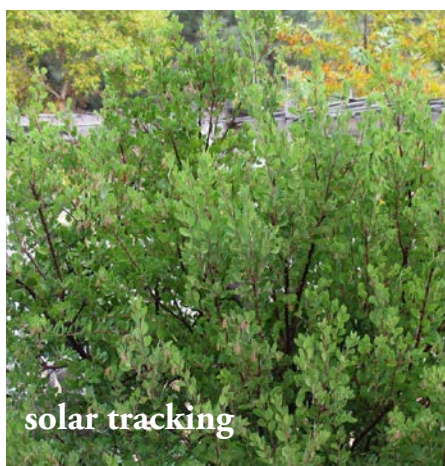
leathery



little



silvery



solar tracking

California native plants have evolved over time in our unique climate conditions. By learning to recognize their adaptation tricks, you can identify climate-appropriate plants wherever you are. There are four leaf characteristics shared by many climate-appropriate plants that will allow you to find them in a crowded nursery.

Stiff, Leathery

These hold on to water and stay evergreen for most of the year.

Silver or Hairy

Light colored leaves reflect sunlight, cooling the plant. Hairy back sides of leaves hold moisture longer, cooling them off.

Tiny or Little

Small leaves are like tiny solar panels that are easier to keep cool than one large hot surface.

Solar Tracking

Leaves that appear to be standing at attention, straight up and down in the middle of the day. As the day progresses, or if you see the same plant in the early morning, you will find that the leaves are more horizontally oriented. This plant is moving its solar panels to minimize the hottest sun exposure. Many of the California native manzanitas utilize this adaptation.

Plant with Confidence

Now you are ready to Install plants!

It's almost as easy as digging a hole, but a little extra love will help. By following these simple steps, you will get your plants' roots growing properly, quickly spreading into the living soil and making friends with the other drought tolerant plants. Strong roots make strong plants, and this is especially important in dry environments.

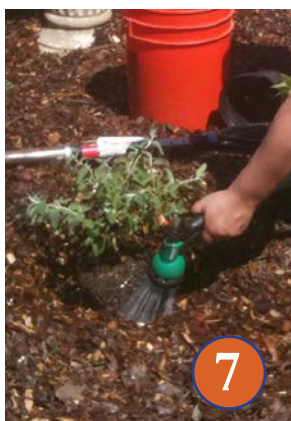
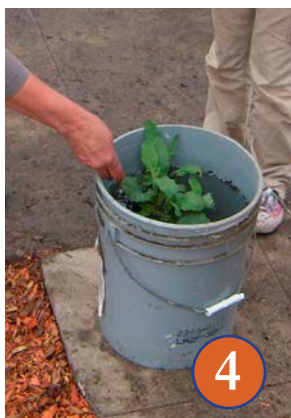
You Will Need:

- Tools: shovel, hand trowel, hose
- Plants
- Compost
- Mulch

Add these to your list for more advanced planting:

- Mycorrhizae (not for grasses)
- Fish Emulsion or Water Soluble Humates

"Hey, where's the fertilizer?" you may ask. **Watershed Wise** gardens don't want nutrient rich (i.e. fertilized) soil, so don't use it!



What's with all the Water?

Drainage. If the water does not drain within an hour or so, it's probably not a good place to plant a climate-appropriate plant until you fix the compaction.

Awaken Microbes. By watering so thoroughly, you are waking up any microbes that might be in the surrounding soil.

Plant Shock. The major reason plants suffer from planting shock is that the dry soil around the new plants wicks water away from their rootball, sending the plant into shock from which they never recover. By watering the surrounding soil, you reduce the probability of plant shock.

Successful Planting In Ten Easy Steps

1. **Dig A Hole!** Don't dig it any deeper than the rootball of the plant. Do dig at least a little bit wider than the plant to loosen the surrounding soil. If you accidentally dig too deep, be sure to put the soil back in and tamp it down firmly before moving on, to give your plant a solid base.

2. **Throw In Some Compost** or worm castings no more than 1" deep - along the bottom of the hole. Never put mulch in a hole! And don't bother with fertilizers either (*see p. 35*).

3. **Fill The Hole With Water TWICE**, and allow it to drain completely each time. This will take a long time, unless your soil is really sandy. Start digging the next hole, or take a break.

4. **Submerge The Rootball** in a bucket of water until air bubbles stop bubbling up. Keep the plant in its container but ok if you take it out - just be careful with the delicate roots.

5. **Add Fish Emulsion** or soluble humate to the water (follow label directions). Dust the rootball with a mycorrhizae inoculant (only if the plants are woody, so don't bother with the grasses).

6. **Place Plant In Hole**, make sure the root collar (that's where the roots join the stem or trunk) is a bit (1/2" - 1") higher than the surrounding soil/ existing grade. This is super important because we don't want the plant to get choked by the surrounding soil.

7. **Fill The Hole With Water** one more time (this time with the plant in it) and let it drain completely.

8. **Now Fill The Hole With The Soil** you dug out (not with fancy potting soil!), making sure the soil slopes away from the root collar. Tamp the soil down (use your feet, but be gentle) so the plant doesn't move around.

9. **Don't Create A Bowl** around the plant. Really! Your plant doesn't need it and it might make a moat that would drown your climate-appropriate plant.

10. **Water The Soil All Around The Plant** one more time, and deeply. And have a drink yourself!



Water Wisely

photo: Alex Stevens

Manage Water to keep OWL alive!

The objective of managing water wisely in the landscape is to keep just the right balance of oxygen and water so that plants look great and stay healthy, and the soil microbes are kept awake to cycle nutrients.

Approximately half of the water coming into an average Beverly Hills household is used outdoors, the majority of which is irrigation. Additionally, according to USEPA experts, up to 50% of commercial and residential irrigation water used is lost due to evaporation, wind, improper system design, or overwatering. So, we always want to be sure to use water as efficiently as possible for our gardens.

Healthy soil, full of life, absorbs water like a sponge and shares it with plants as needed. It also releases any excess water once the sponge is saturated. During the traditionally wet Beverly Hills winters, a healthy soil sponge can absorb water, in surprisingly large quantities, to be released slowly to plants as they need it in the drier months. Shading the soil surface, with plant material and mulch, protects soil water by slowing evaporation.

Balance Your Soil Moisture Account.

When oxygen and water are in balance within the soil, the amount of water that is lost through evapotranspiration (ET) is just like writing a check for water out of the soil bank account.

The water that enters the soil reservoir as rain or irrigation is just like making a deposit into a soil checking account. By keeping records of these transactions (water in and water out), it is possible to know how much water in the soil reservoir is available in the landscape at any given time for the plants to spend.

The initial soil bank balance is determined by direct observation or is assessed after a thorough wetting of the soil by irrigation or winter rains. Every day, plants take small amounts of water out of the soil through ET and then when it rains or an irrigation event occurs, the soil bank is filled up again. The trick is to make sure that you don't overdraft your account.

How do we tell when our account is depleted? Smart irrigation controllers and landscape professionals are able to calculate this OR you can rely on probing with your fingers or using a soil probe.



Wet or Dry?

Use "digital" technology! Soil may appear dry on the surface, so stick your finger into the soil and make sure it's wet below. If it's wet up to your second knuckle, it doesn't need any more water, so wait another day or two. Alternatively, if you use a soil probe, you can feel the moisture in the soil and make a determination yourself (*see p. 34*). You can look at plant health to determine water need, but sometimes overwatering and underwatering will produce similar results in plants.

Underwatering Symptoms

- Soil is bone dry
- Older leaves turn yellow or brown or drop
- Leaves are wilted
- Leaves curl and become brittle
- Stunted growth
- Plant is dead!

Overwatering Symptoms

- Soil is constantly saturated
- Leaves turn a lighter shade of green or turn yellow
- Young shoots are wilted
- Leaves are green yet brittle
- Algae and mushrooms are present
- Growth is excessive
- Plant is dead!

Wise irrigation Management

Keep Water on the landscape.

Observe the irrigation while running and check to make sure that sprinkler heads are not spraying water onto sidewalks, patios or structures. If the water is being applied too fast for the soil to absorb it, runoff will occur. Puddling and pooling also may be an indication that water is applied too fast or too often. Repairs to broken pipes and heads should be made immediately, or the system should be turned off until repairs can be made.

Cycle and Soak Programming eliminates dry weather runoff. Observe how quickly runoff occurs when you are running your irrigation. This is the **MAXIMUM** run time for your irrigation controller in this hydrozone. So, to cycle and soak your irrigation, you divide up the total minutes required by the hydrozone into blocks of time **NO LONGER** than the observed runoff time and allow a 30 minute rest period in between the irrigation cycles.

For example, if we need 12 minutes of water in a certain hydrozone, but we observe runoff after 4 minutes, we break down the 12 minute total into three 4 minute cycles with 30 minutes between each cycle.

Hand Watering is especially good for getting a garden established when you are going to want to spend more time looking at the plants to make sure nothing is amiss. During establishment you may need to water every week or two weeks because roots are only 4" - 10" deep on a newly-planted one gallon plant. (That's why it's great to try to plant during the rainy season!)

Really look at your plants. Are they appearing droopy or sad? Is the soil very dry? If so, then give the plants a good drink and watch. Don't water more than two days in a row, and let the soil dry out completely before watering again. Remember the symptoms of overwatering and underwatering are very similar (*see p. 46*).

After the first year or two, once your plants are settled, your sustainable garden will not need water more than once or twice a month, if at all. Stop watering after the first seasonal rains begin, and let nature do its thing.

Observe Your Irrigation System

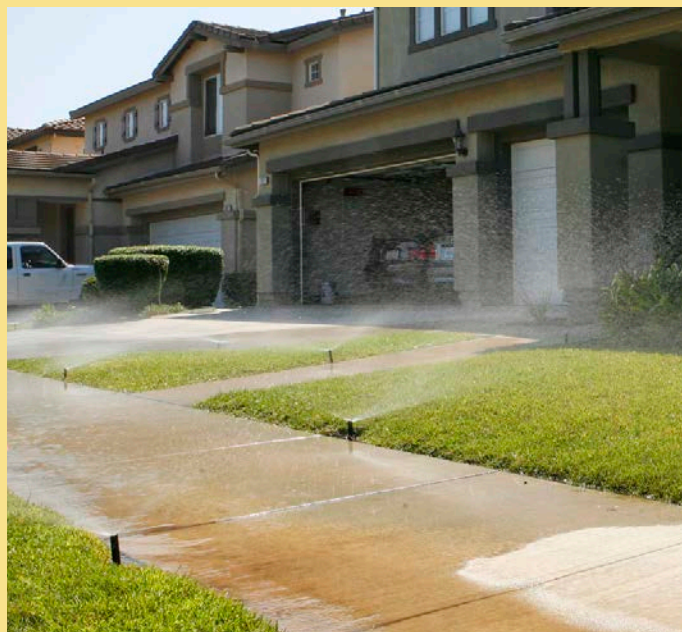
Turn on each valve of your irrigation system and observe how quickly water begins to run off the landscape. Note the time when the runoff occurs. For some systems this could be immediately, and others it may take 5 minutes or longer.

Make sure that the spray irrigation is never running for longer than 8 minutes at one time.

Make notes on your irrigation plan and turn off your irrigation until you are able to fix these issues:

- Do you have broken sprinkler heads?
- Are there heads that are blocked by plants or objects (planters or lights)?
- When the system turns off, does water come out of the lowest heads in the landscape?
- Are heads in need of adjustment so they do not directly spray on to the hardscape?

The image below is an example of the overspray and runoff of an inefficient irrigation system.



Adjust Sprinklers To Eliminate Runoff

Several things can be done to minimize runoff due to irrigation. These include:

- 1 Tune up spray irrigation systems so there is no overspray on to hard surfaces.
- 2 Do not install spray irrigation in areas that are too narrow for spray (8' wide or narrower).
- 3 Move spray heads 24 inches from any buildings or hard and impermeable surfaces.
- 4 Cycle and Soak irrigation run times.
- 5 Convert spray systems to drip irrigation with the lower precipitation rates, pressure regulation and a filter.
- 6 In lawn areas, be sure to follow the organic maintenance practices to keep your soil spongy (*see p. 48*).



Photo: Marianne Simon

Tend your garden

Congratulations! Your beautiful new garden is now filled with low water plants and your healthy living soil is doing most of the work to feed and water them. You get to sit back, relax, and enjoy the view! But you're not quite done. Your garden is alive (more alive now than ever) and it will need some tending to thrive.

Add Organics. As mulch breaks down, add more! The easiest way to do this is to use falling leaves from your trees. A leaf-covered garden is a healthy garden! You can brush them off patios, walkways and stairs right onto the existing mulch. No falling leaves? You can get more mulch from your local composting facility, or order it from a local nursery or building supply yard.

Weed. You are going to have to weed, especially after the winter rains, and especially in the first year. Even with a thick layer of mulch, you may still have some weeds popping up. Be sure to weed them out regularly, as many of them are thirsty imports and they will steal precious water from your new plants.

Water. Especially the first two years after planting, you need to give your plants a little extra water. Not too much! Remember, these plants (and your soil) will be healthier, live longer, and grow stronger if you give them just enough water.

Prune. Get a good pair of hand clippers, gently prune trees perennials and grasses as needed. Mow your meadow annually after it has self-seeded to keep it clean and walkable. Don't mow it too short - look up the grasses and/or sedges that you used and follow growers' directions.

Maintain For Rain. Check downspout connections and overflows annually to make sure they're working properly. If you don't have gutters and downspouts, make sure there are no areas of erosion around your house. Consider adding a rain chain and small bit of gutter if you need to direct water away from a highly eroded area. Loosen your soil if it's become compacted, remove extra soil or silt that's built up, and add mulch if needed.

Harvest. Fruits, vegetables, seeds and flowers - it's up to you to pick them when they're ready, before the birds and other creatures get them. If you have stiff competition in your neighborhood, invest in some bird netting or lightweight mesh bags and wrap your trees, vines, shrubs or the fruit itself a week or so before it's ready to harvest. Be sure to clean up fallen fruit to limit pests.

Integrated Pest Management (IPM). A few aphids or caterpillars will feed the birds, but a massive infestation requires immediate action on your part. Remove diseased plant material and don't put it in your compost pile. Wash off unwanted insects with your hose. If they come back try spraying them with a mixture of mild dish soap and water, or with compost tea. Snails and slugs shouldn't be a problem in the garden, but if you find too many, leave out coffee grounds, crumbled egg shells or a pan full of beer for them - they'll drown happy!

Go Out and Have Fun! By spending time relaxing and playing in your garden you will be more aware of how it's growing, how it changes, and what it needs.



Maintain Lawn Organically

If you decide to keep your grass, follow these guidelines to maintain it organically so that it will play nicely with the rest of your sustainable landscape.

- Topdress with 1/8" - 1/4" compost annually
- Aerate and de-thatch annually
- Manage your irrigation
- Mow less frequently
- Maintain 3" - 4" height on cool season grass and 1-1/2" to 2" height on warm season grass
- Grass-cycle every time you mow
- Do not allow seed heads to form on the grass (remove if they do)
- Consider over-seeding with clover to turn it into an Estate Lawn (*see p. 10*).
- Eliminate chemical inputs

Compost and Mulch



Compost is a soil amendment.

Compost looks like soil. You cannot tell what it once was. That is because it is food scraps, landscape debris and/or manure from livestock, or biosolids (human manure) and other organic matter that already has been partially consumed and mostly decomposed by micro-organisms. Good compost brings oxygen, water and life in one package.

How to Use Compost. Compost can be store-bought or homemade. When compost looks like soil, it can be worked directly into the soil. The more coarse or visible the bits of the compost are, the more likely it is to be used as mulch on top of the soil rather than as an incorporated amendment.

Compost works its magic in several ways. First, the compost itself contains particles that improve soil structure. Next, as compost decomposes in soil it encourages the formation of soil macroaggregates. These resulting macroaggregates are composed of existing soil particles and decomposed organic matter, which combine to create a more stable and better functioning soil structure.

Mulch is a soil topping.

Mulch may be organic or inorganic material that covers soil and looks like the recycled debris that it is. Mulch can be made from organic debris (grass clippings, leaf litter, and shredded wood trimmings) or inorganic materials such as gravel or decomposed granite.

Mulch protects soil and plant roots from temperature change, keeps moisture in by slowing evaporation from the surface of the soil and keeps weeds from sprouting by reducing sunlight penetration to the soil surface.

How to Use Mulch. Mulch always stays on top of the soil, and is never worked in. Recycled organic debris is the most effective type of mulch, because it builds soil structure over time and provides a durable, protective surface barrier. The smaller the debris and the more mixed leaves with wood chips, the faster it decomposes. When building soil, small and mixed is best. Don't bother with inorganic mulches like rubber, gravel, or decomposed granite. These do not build soil and are only applicable in pathways or gathering areas.

Need help buying amendment? www.buy-compost.com

MAKE IT

Less than 5 Cubic Feet



BUY IT IN BAGS

Between 5 and 25
Cubic Feet

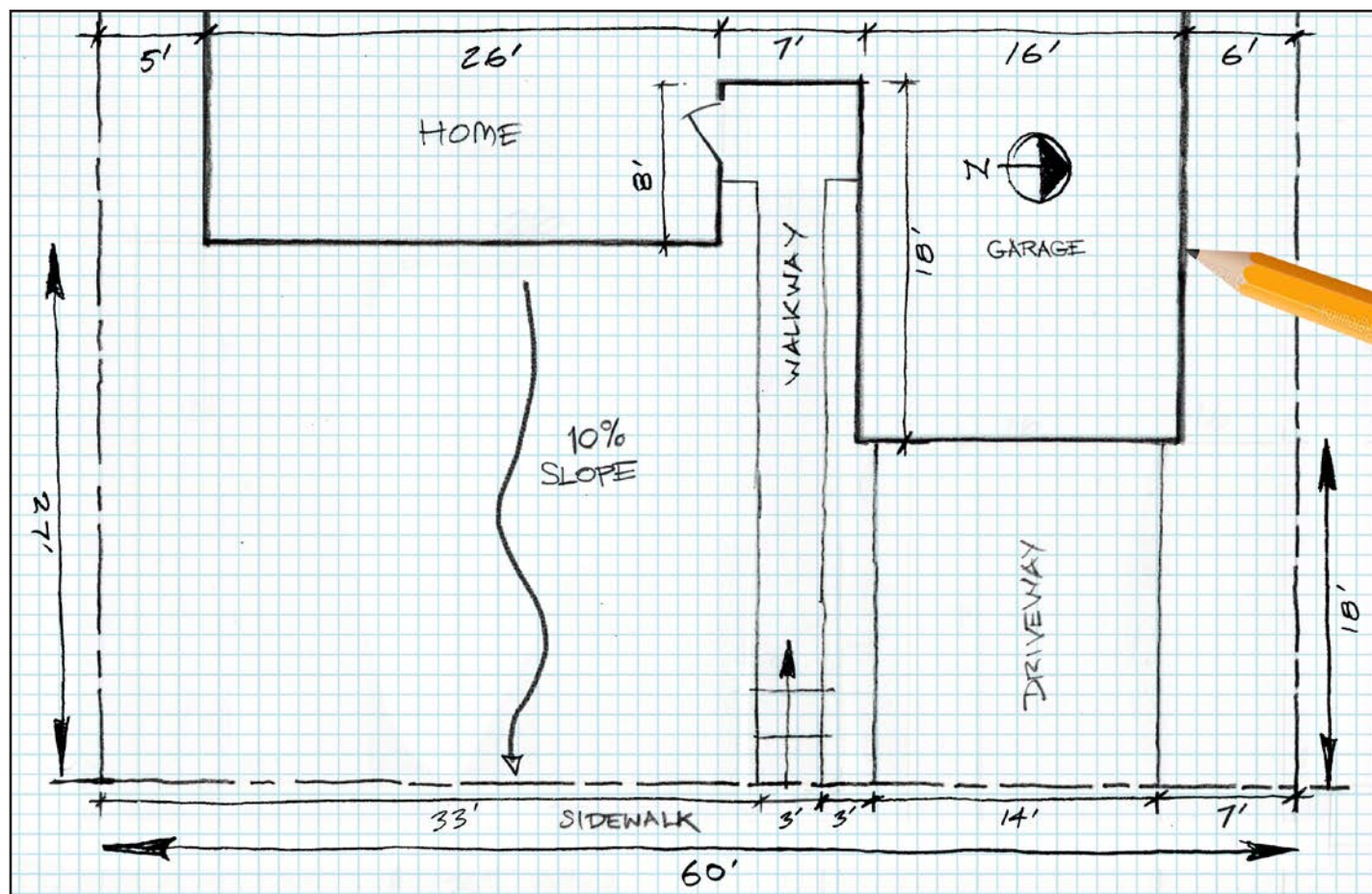


BUY IT BULK

More than 25 Cubic Feet or
1 Cubic Yard



Start with a Site Plan



Measure to Make Your Site Plan

Measure your site. Once you've got the dimensions, trace the lines cleanly on a sheet of grid paper. Make 10 copies that are dark enough to still see the grid. You will use each of these sheets to evaluate and plan the changes for each aspect of your landscape.

Try using 1 box = 1 foot. Depending upon how large your property is, most projects can use a $1/4" = 1'$ scale.

Are there plants in the landscape that you are ready to get rid of?

Are there any hard surfaces you'd like to change?

Take some photos and mark where they are located on your site map.

Use your smartphone or a compass to find North and also mark it on the map.

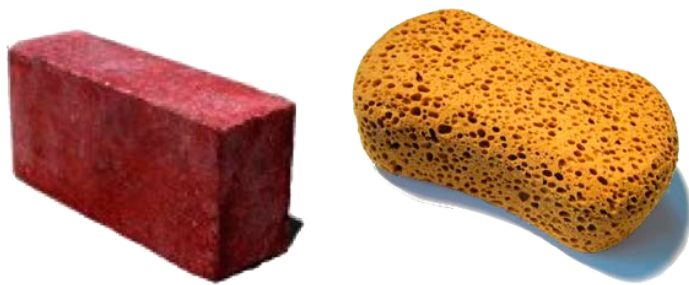
Need help finding dimensions? apps.beverlyhills.org/obcpi

Find the dimensions, shape and orientation of your property at the Online Business Center Property Information site.

Look at Google Maps for help placing building and trees on your property. Just type in your address, zoom in, and use the Satellite view. maps.google.com

Tests worth taking

If your soil a Brick or a Sponge?



If you have a brick you will need to take this into consideration when planning your contours. You will need to spend some time to turn the soil back into a sponge. Also, if the soil does not drain well, you will need to take special care when you plant that you do not drown your new plants.

We want to have soil in our landscape that can capture water and allow it to soak into the soil within 24 - 48 hours. Building **Living Soil** therefore becomes important in our plan to capture rainwater and save it for a dry day, so you will need to follow the Soil Lasagna Recipe (*see pp. 36-37*).

Before we figure out how to build better soil, we need to figure out what kind of soil we have. Clay, Silt or Sand, are the basic soil types. The smallest particles create clay soil and the largest make sandy soil, with loam (an even blend of sand, silt and clay) considered the “just right” medium.

Percolation Test

You Will Need:



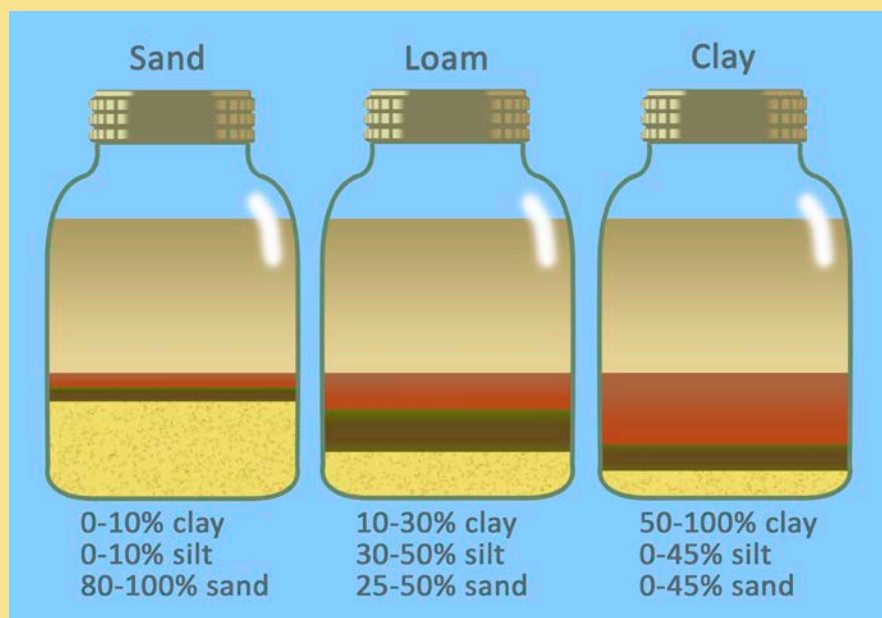
- **Dig a hole** approx. 12” deep and 12” wide (that’s about the size of a 1 gallon plant).
- **Fill the hole with water** and wait. Note how long it takes to drain completely. This is necessary to completely saturate the soil.
- **Fill the hole all the way** when all the water has drained out from first filling, and see how long it takes to drain out.
- **Lay a stick** or the shovel handle across the hole and measure the distance from the top of the water to the stick each hour until it has drained completely.

Verdict:

>4” per hour - You have sand and need to add organic matter to improve the soil (*see p. 49*).

<1” per hour - YOU HAVE A BRICK. Your soil needs some extra help so try sheet mulching (*see pp. 36-37*).

1” - 4” per hour - Congratulations! Your soil drains well! YOU HAVE A SPONGE!



Which jar does your sample most look like?

For Example: If there are equal proportions of Sand and Silt, and very little Clay, then the proportions are something like 40% Sand and 40% Silt and 20% Clay. Loam best describes the jar with 40% Sand, 40% Silt, and 20% Clay.

Your soil is Loam.

Jar Test To Determine Soil Type

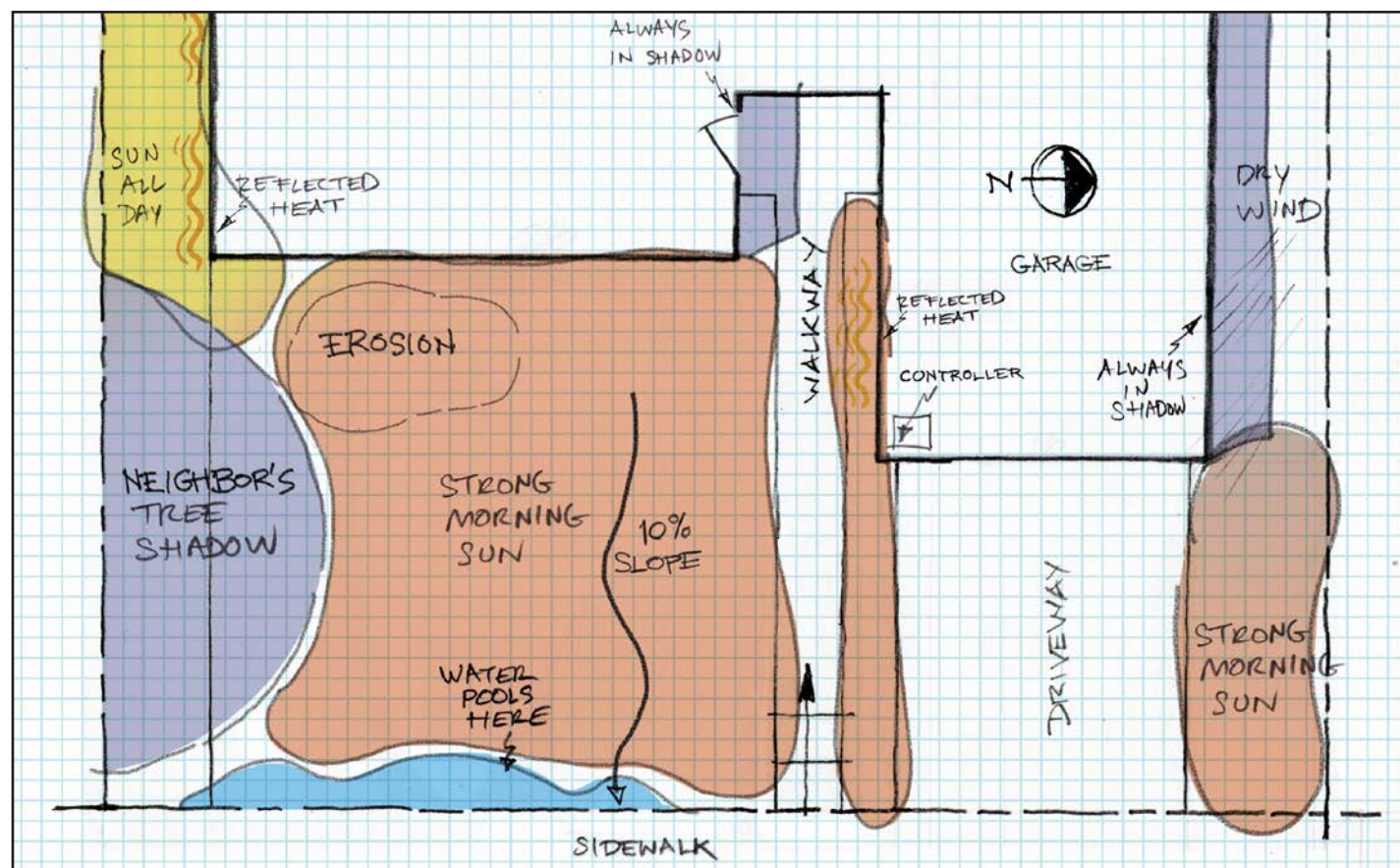
(This is fun to do with kids!)

You Will Need:

- 1 Qt. size glass container
- 1 Cup of soil from the garden. (Select one area per container, or take samples from several holes and blend them together.)
- 3 Cups of distilled water

1. **Add soil and water together** in the glass container and shake until all solids are suspended in water.
2. **Place container on a shelf** and wait 24 hours.
3. **Wait another 24 hours**, if the container is still cloudy. After 48 hours, the layers should be settled: **Sand** on the bottom, **Silt** in the middle, and **Clay** on top.
4. **Measure the layers** in proportion to each other.
5. **Use the graphic** to determine the Soil Type based on the proportions of Sand, Silt or Clay.

Map your Microclimates



Microclimates are climate factors Particular to your garden.

Every garden has areas where plants will grow well and others will die. Structures, walls, fences, and other plants all can affect the amount of sun and shade in a garden. And every garden is completely different, even if it is located in the same general climate zone. There will be hills and hollows in your front yard that may collect cold air or, because your property is sloped, you don't get frost when neighbors do.

Microclimates may differ significantly from the general climate of an area. We need to map these microclimates, and the first step is walking around your property during the day and observing it more closely.

Which Plants Will You Keep?

Now is the time to decide which plants will work well in your new garden and which you should plan to remove. Outline the canopy area of each plant you are keeping and note with the name, general size and health of the plant.

Which of these plants seem thirsty and which are not? Many plants can be unthirsty if they are well established, with deep healthy roots (old rose bushes or very large shade trees, for example).

Note Sun and Shade.

Mark the areas that receive sun all day and areas that are shaded all or part of the day. Also note which areas receive only partial sun, maybe just a few hours of direct morning sun, mid-day or in late afternoon.

When you start choosing your plants make sure to select those that are appropriate to the sunlight patterns of your garden. Plants marked as "full sun" will not be happy in full shade.

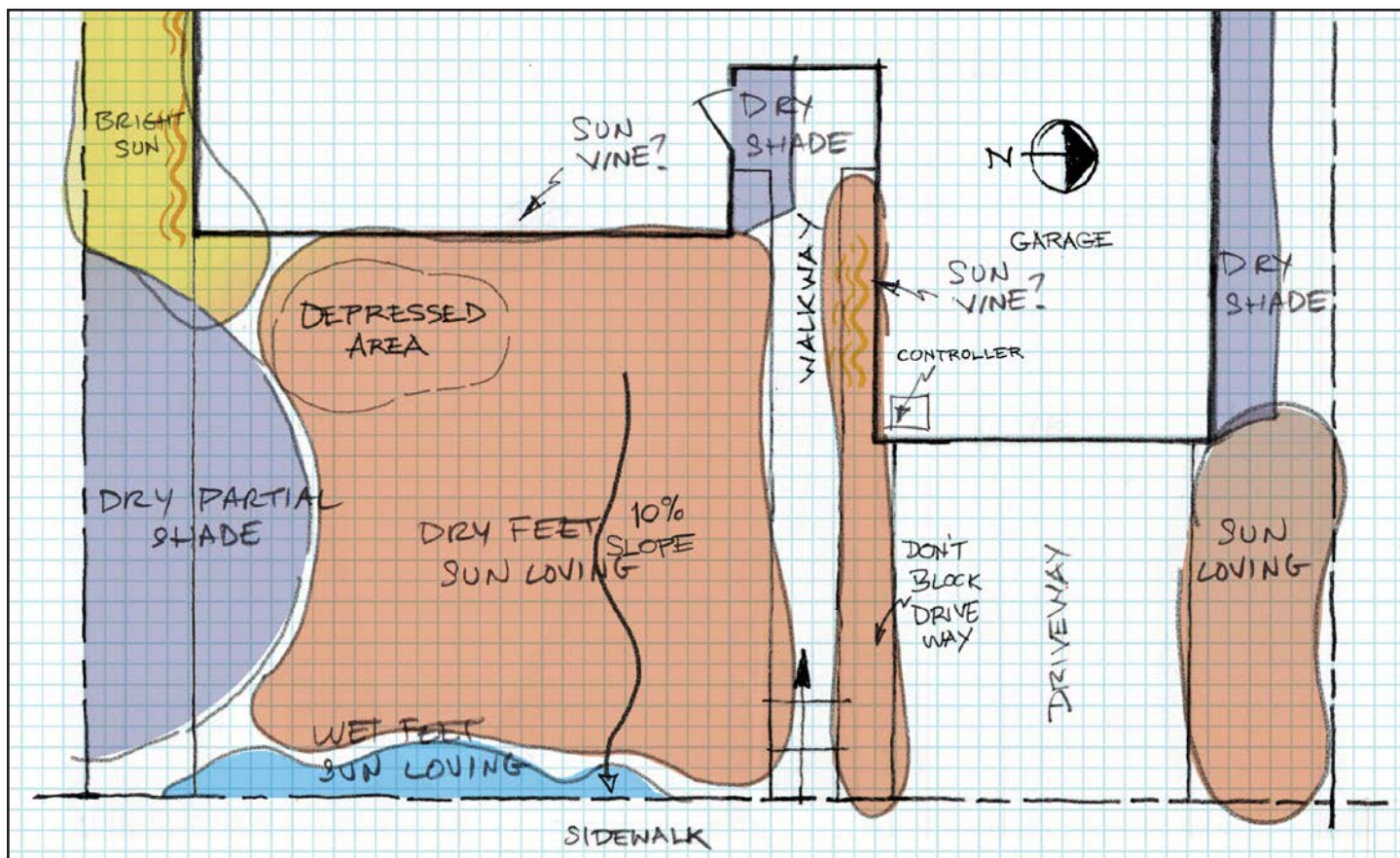
Are there other things you observe in your garden? Mark it on your map!

Group Your Plants for Similar Needs: Sun/ Shade and Water Use.

When selecting and grouping plants, note the water requirements of each plant and make sure plants with different water needs are not placed together. For example, Some Sun Loving plants have MODERATE water needs and some are VERY LOW water needs. If we mixed these two types of plants together, one would always suffer if the watering regime worked for the other.

For your swales and berms, start making lists of plants with similar water needs that tolerate wet feet, and that require dry feet. Which wet feet plants have MODERATE Plant Factors? Do any dry feet plants have MODERATE Plant Factors?

Match plants to your microclimates



Arrange Plants based on their favorite microclimates.

Plants that need more water will be found grouped together at the base of a depression or near the banks of a stream. Plants that need fast draining soils will be found on slopes. Plants that love sun will not be growing in the shade of the oak tree, and plants that require deep shade will not be growing in the open field.

Our Site Has Three Microclimates

What types of plants will work in the main part of the front yard considering the Microclimate Map?

- (1) The front yard is in full sun for most of the day, so most of the plants need to be sun lovers.
- (2) There is a moist depressed area in full sun. We may want to emphasize that moist area for rain catchment. The hillside areas surrounding the depression are raised slightly and drain freely.
- (3) There is a slightly shady area under the canopy of the neighbor's tree and at the front entry.

We Have Three Plant Communities.

When we select plants for this garden, we will need to find at least three different kinds:

- (1) Sun loving plants that prefer to have their feet dry and thrive in faster-draining soil (*see p. 9*),
- (2) Sun loving plants that can tolerate wet feet in winter and thrive in heavier soil (*see p. 9*), and
- (3) Plants that tolerate dry shade (*see pp. 28-29*).

Grouping plants together by water need is called **Hydrozoning**, and it is the key to irrigating your landscape effectively (*see p. 42*).

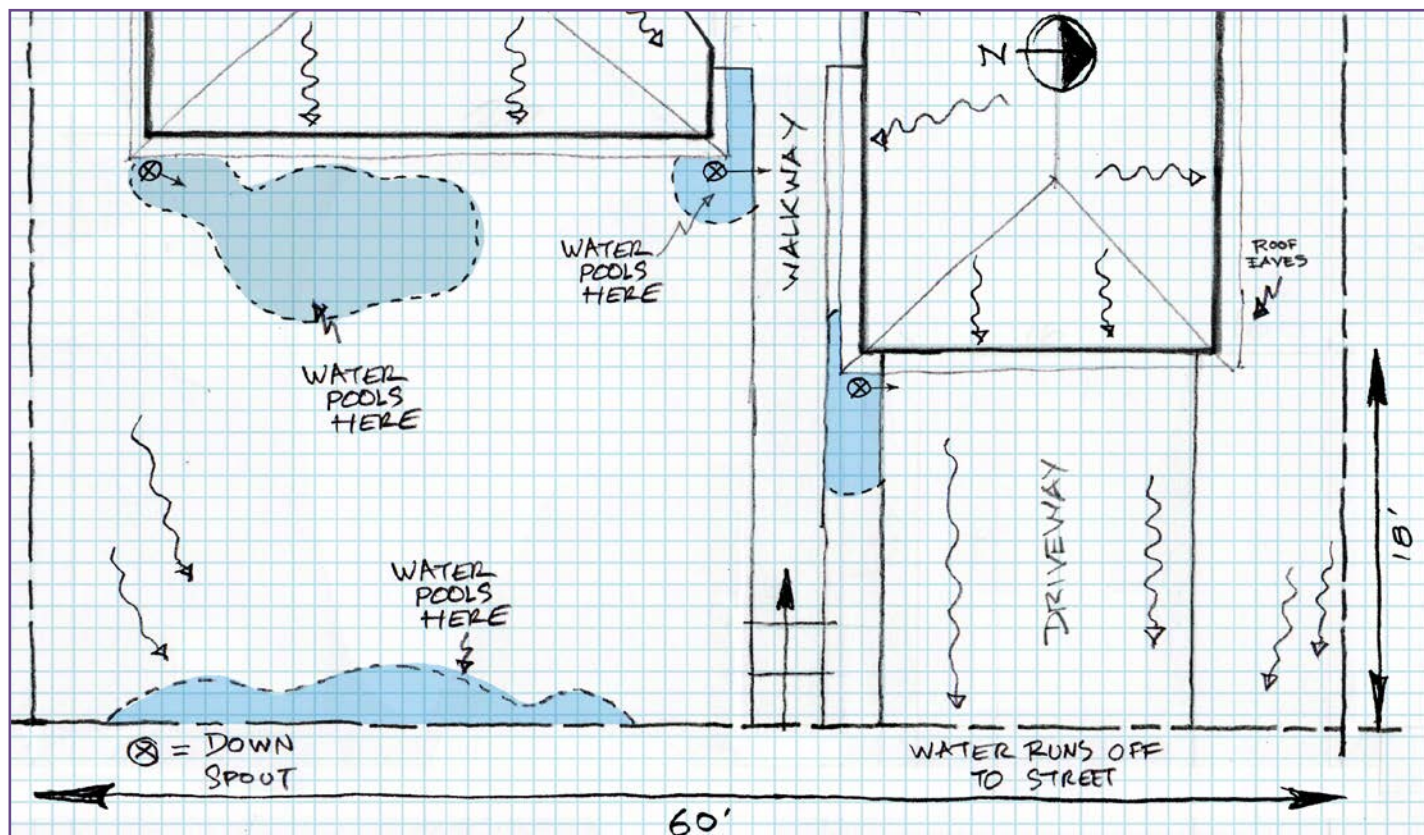
Deciduous or Evergreen?

You will see the note D/E/S on the Plant Lists in this book. D is Deciduous, or a plant that loses all of its leaves. E is Evergreen, or a plant that does not lose its leaves. S is Semi-Deciduous, or a plant that loses some leaves in certain conditions, such as drought.

Plants speak Latin

Did you know that many plants have the same common names? If you ask for plants by their common name, you might end up with something completely different than what you want. The best way to order plants is to use the Latin name; that way there is no miscommunication (*see pp. 66-69*).

Think of your yard as a Mini-Watershed



Where Does Water Go In Your Yard?

Make a copy of your Site Plan and label it Water Plan.

Watch what happens to water as it comes off the roof of your home and moves across your property.

- Do you have low spots in which water gathers?
- Does water run off the property anywhere?
- Does water run onto the property from a neighbor or street?
- Do any buildings or any hard surfaces appear to be water damaged? If so, does it appear to be a result of rain or a result of irrigation or both?
- Note the direction of water as it moves around the property.
- Turn on the irrigation for no more than 3 minutes and note whether there is pooling or runoff.
- Where do downspouts take water from the roof and put it into the landscape? What parts of the roof divert water into downspouts? Indicate the direction of the water with arrows as seen above.

How Much Water from each downspout?

Imagine the water from your garage roof splits into two downspouts and Your Total Roof Area is $20' \times 20' = 400 \text{ SF}$

If half of the water goes into each downspout, then the roof size for one downspout is: $400 \text{ SF} \div 2 = 200 \text{ SF}$

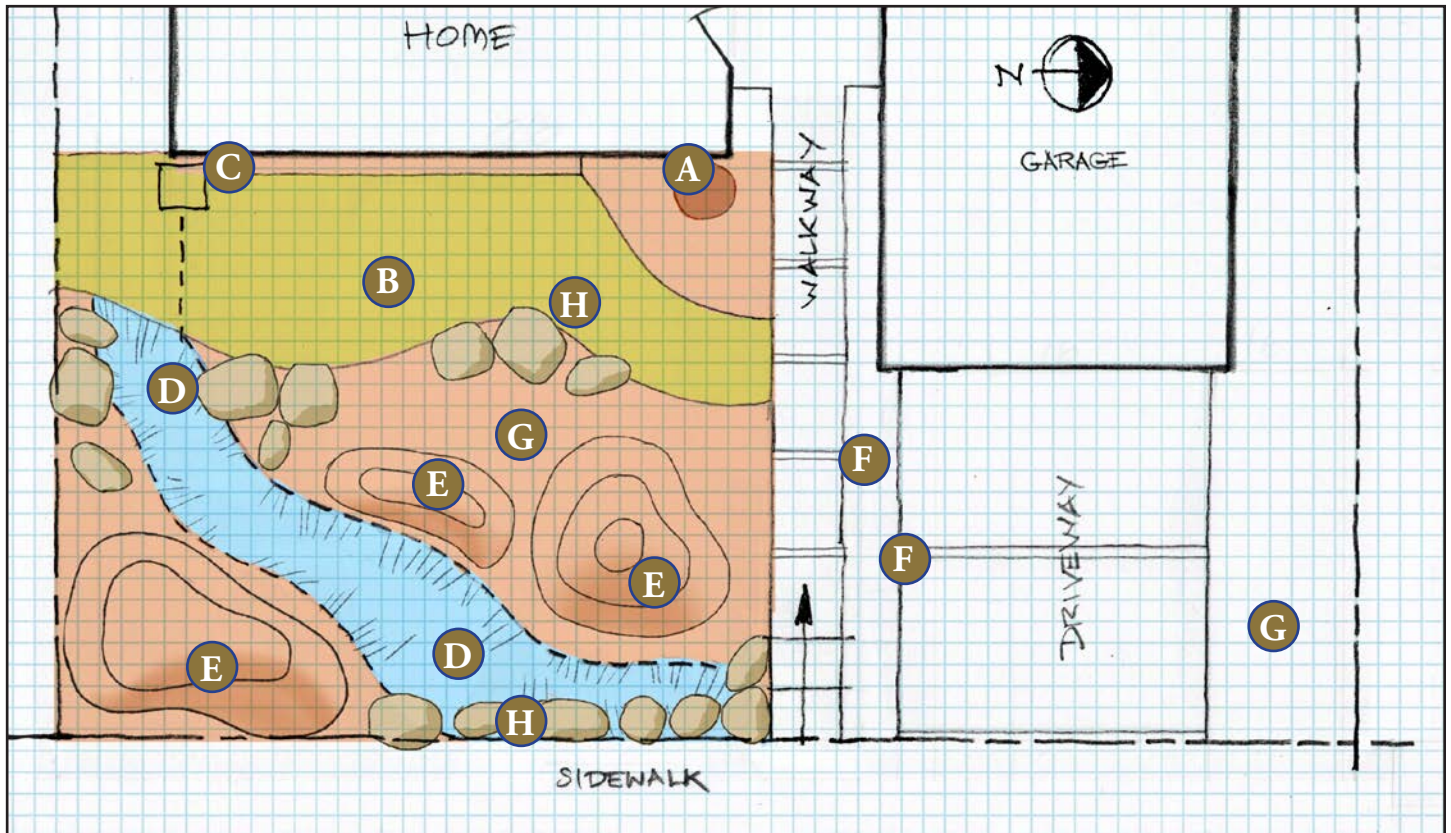
0.62 is a constant that converts square foot inches into gallons. Now calculate how much water that is in gallons coming from one downspout:

$1'' \times 200 \text{ SF} \times 0.62 = 124 \text{ gallons}$ of water per inch of rain per downspout.

You can use these calculations to determine how much water comes off any hard surface (patio, driveway, sidewalk, etc.).



Detain the rain



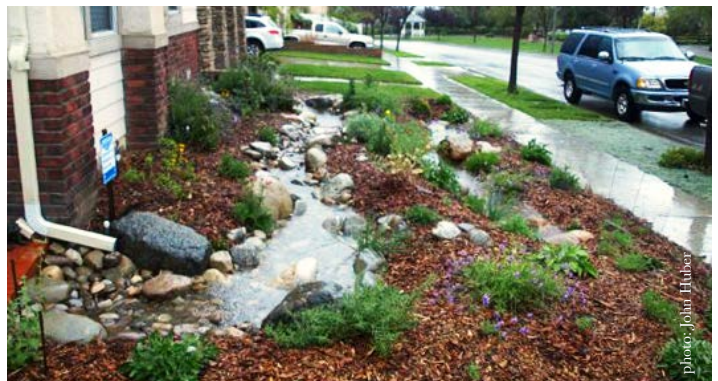
Use Multiple Strategies to hold on to First Flush (first inch of rain).

- A Downspout Redirected** off walkway and into rainbarrel. Overflow from rainbarrel goes into landscaped area (see p. 54).
- B Permeable Patio** of gravel is installed (see p. 39).
- C Downspout Diverted** into a catch basin which is connected by perforated pipe into the swale area of the landscape. This should eliminate the pooling and erosion caused by the downspout.
- D A Slight Depression**, or swale, has been dug out in the dry shade area on the South side of the property and across the front yard into the low spot at the sidewalk that always is wet. This swale is only 12" deep in the middle (see pp. 8-9).
- E Relocate Soil As Berms** when digging out the swale and the patio area. Relocated soil becomes raised areas (berms) on either side of the depressed area. The berms become places for plants that like fast drainage (see p. 8).
- F Horizontal 4" Cuts** have been made in the walkway and driveway and filled with 1/4" - 1/2" crushed gravel.
- G Living Soil** is being created with Sheet Mulching using 4" - 6" of mixed leaf and bark tree trimmings covering the whole yard (see pp. 36-37).
- H Boulders**, typically no more than 12" - 18" in diameter, are used to retain both the slight slope, flattening the permeable patio area, and the edge of the swale next to the sidewalk and walkway where the overflow will occur.

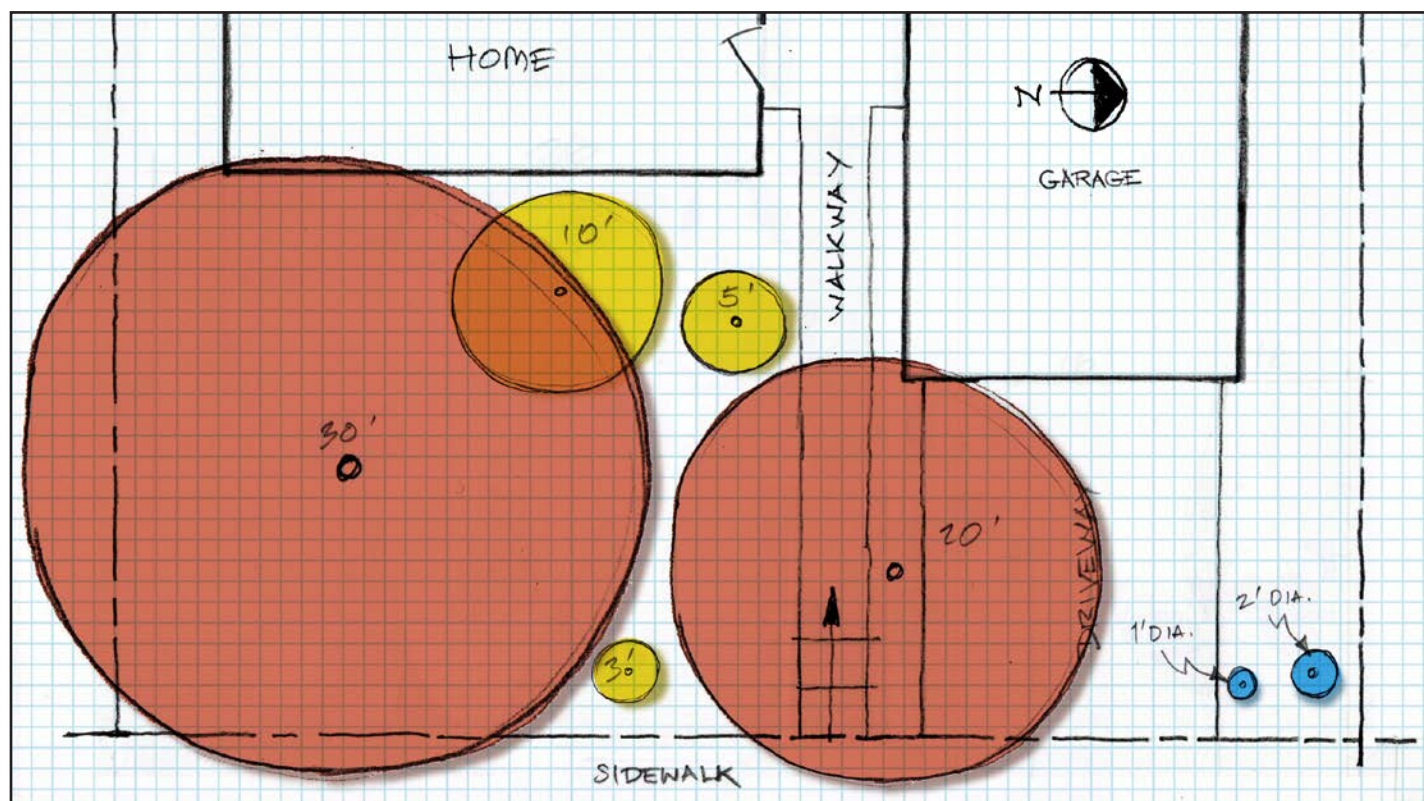
Mind the Foundation

Be sure to locate your berms and swales away from the foundation of the buildings and edges of the sidewalks. Always grade away from foundations.

A good rule is 5' - 10' from buildings and 3' from sidewalk edges. Where space is limited, make sure the low point of the basin fits these parameters. Overflow of excess water can go to the sidewalk or the street so long as you protect against erosion.



Give plants Room to grow



Note Height and Width of each plant at maturity.

This allows you to correctly space the plant in the landscape. Proper plant placement, taking into account mature plant size, should limit the need for future pruning and reduce the amount of maintenance required in the long run.

Natural forms are encouraged for habitat value, but fire prevention does require regular pruning and removal of dead plant material.

Use the inset spacing chart to help figure out how many plants you need per Square Foot based on the mature size of the plant.

Scale Your Plants for Maturity by making Plant Circles the size of the plant at maturity using a 1" = 4' scale.

Practice using colored paper to indicate the water needs of the plants; it will make it easier to lay out the planting plan in irrigation zones.

Look how big the (VERY LOW water use) 20' and 30' wide canopy trees will be. Will this change the microclimates in the future? Think ahead if your tree will cover a whole yard that's now sunny.

Desired Spacing Between Plants	Number of Plants Needed Per Sq. Ft. of Landscaped Area
4"	9
5"	5.76
6"	4
7"	2.94
8"	2.25
9"	1.78
10"	1.45
11"	1.19
12"	1
15"	0.64
18"	0.44
24"	0.25
30"	0.16
36"	0.11

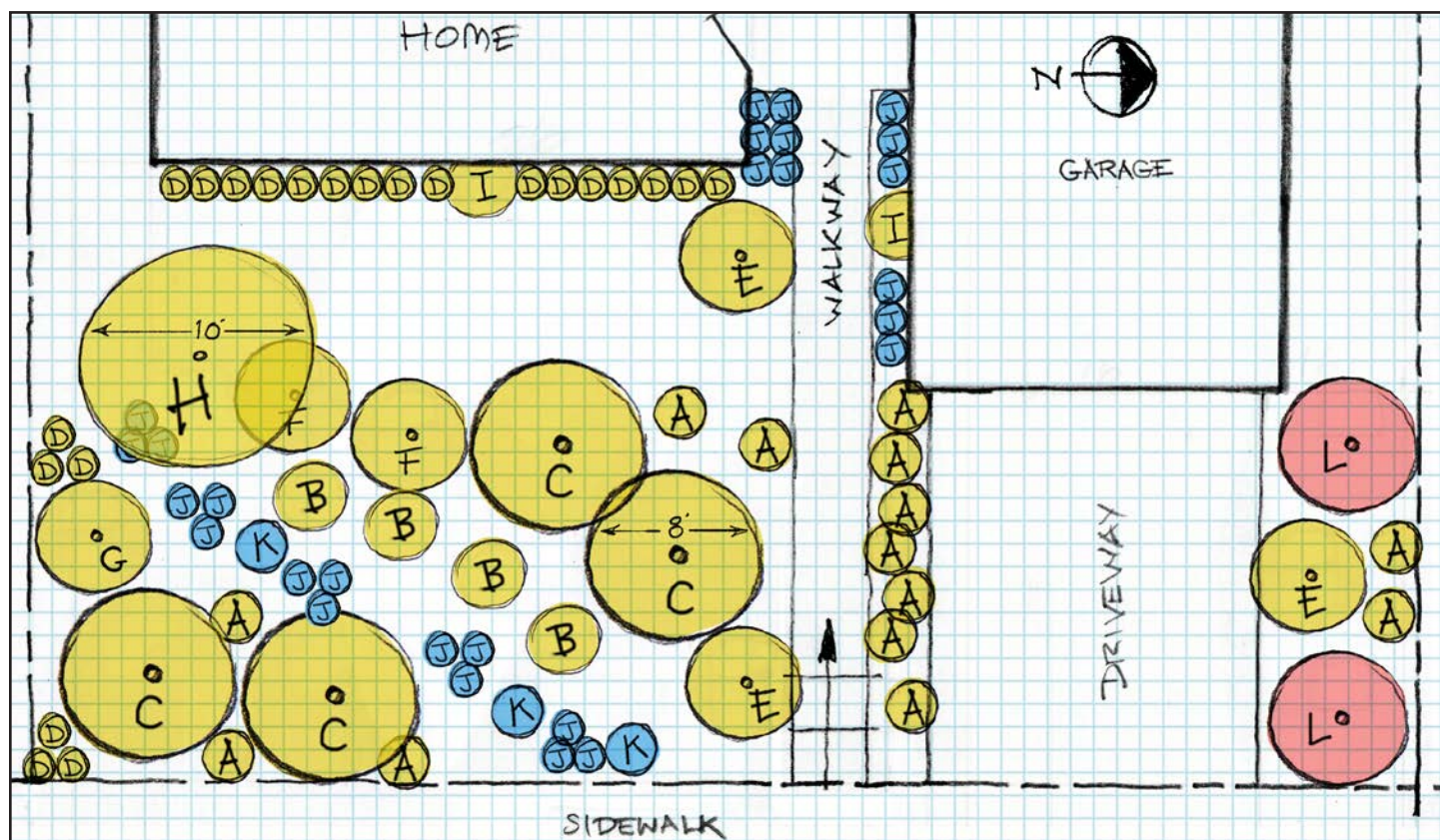
Root depth matters

Make notes about the root depth of the plants when you are placing them on your plan. Trees, with their deep roots, will be irrigated less frequently, but for a longer time. While groundcovers with shallower roots will require more frequent water. Keep trees and groundcovers on separate hydrozones.

Small plants are mighty

Select the smallest healthiest plants you can find, especially when choosing natives. Once planted in a properly prepared bed, and watered wisely, the small plants establish themselves more vigorously than plants raised in larger containers. But just because you've selected small plants, doesn't mean you need to buy more than the space allows!

Make your Planting Plan

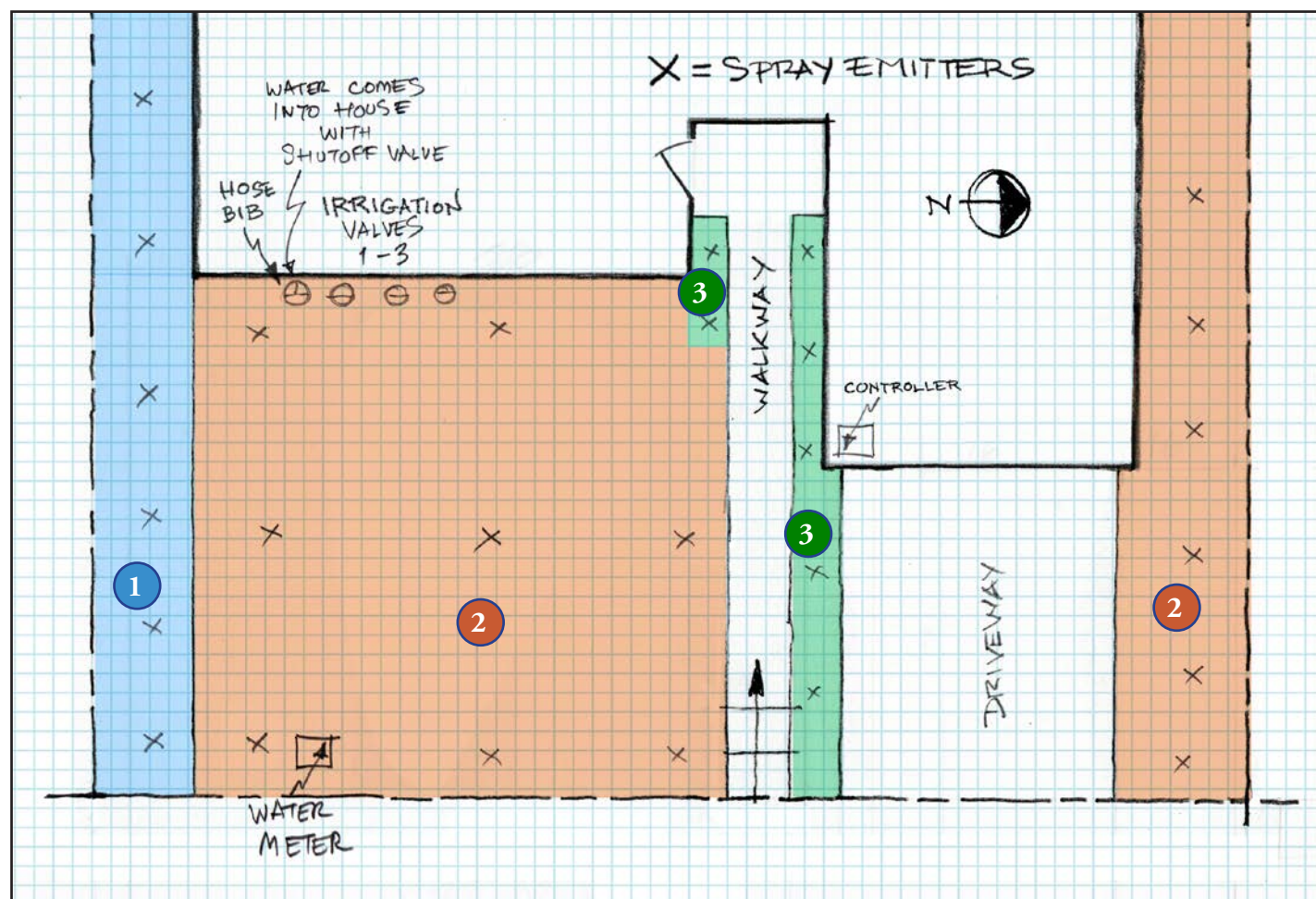


QTY	Symbol	Form	Botanical (Latin) Name	Common Name	Plant Factor	Sun	Dimension H' x W'	Flower Color	Notes
14	A	Grass	Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition blue grama	L/VL	F	2' x 2'	wheat	Dry Feet
4	B	Perennial	Lavandula	Lavender varieties	L	F	3' x 3'	purple	Mediterranean
4	C	Perennial	Salvia 'Bee's Bliss'	Bee's Bliss sage	L	F	2' x 8'	blue/purple	Groundcover
22	D	Perennial	Teucrium chamaedrys	Germander	L	F	3' x 1'	pink/purple	Mediterranean
3	E	Perennial	Verbena lilacina 'De la Mina'	Cedros Island verbena	L	F/PS	2' x 4'	purple	Mediterranean
2	F	Shrub	Abutilon palmeri	Indian mallow	L	F	5' x 5'	gold	Borders
1	G	Shrub	Galvezia speciosa 'Firecracker'	Island bush snapdragon	L	F	4' x 5'	red	Pollinator
1	H	Tree/Shrub	Punica granatum	Pomegranate	L	F	10' x 10'	orange/red	Mediterranean
2	I	Vine	Vitis 'Rogers Red'	Roger's Red grape	L	PS/S	30'	white	Mediterranean
27	J	Perennial	Heuchera maxima	Island alum root	M/L	PS/S	3' x 1'	white/pink	Pollinator
3	K	Perennial	Juncus patens	CA gray rush	M	F/S	2' x 2'	brown	Wet Feet
2	L	Shrub	Dendromecon rigida	Bush poppy	VL	F	9' x 6'	yellow	CA Chaparral

Plan for Planting. Start with a copy of your Microclimates Maps (*see p. 52-53*). Begin the plant design process by selecting the right plant for the right place in your garden. Use the Plant List above to practice matching plants with the conditions, and represent the plants with circles the appropriate size and color reflecting Plant Factors. This is the foundation of your Plant Shopping List. It's just a paper plan, so move things around! Experiment!

- 1 Take into consideration microclimates and select plants that need Full Sun, Part Shade or Shade as appropriate.
- 2 Consider Plant Factors - Low or Very Low plants on berms and Moderate plants in the swales.
- 3 Consider the height, width and root depth of each plant.
- 4 What form of plant do you desire - Grass or Groundcover, Vine, Shrub or Perennial or Tree?
- 5 Once you've drawn your plan, count up the number of plants you will need to order and mark them in the Quantity box.

Evaluate your Existing irrigation



Make a Map of your irrigation system.

If you have an irrigation system installed, chances are that it is a spray emitter system with an automatic irrigation controller (see pp. 24-25). Locate all of the sprinkler heads on your property and mark their location on a copy of your site plan. Note the location of your controller; where the water comes on to your property from the street (the main line), and the location of every valve that controls the various irrigation zones. Color code the areas that spray with each valve so you can easily see the various zones you are dealing with for replacing plants and irrigation.

Also Mark These Following Elements:

- Water Meter or Irrigation Submeter and where the water comes from the street on to the property (the Main Line)
- Irrigation Controller
- Shut Off Valve for turning off the irrigation system
- Pressure Regulator (Does the irrigation system separate from the house? If your irrigation comes from a pipe that first serves the house, it may be located before it enters the house.)
- Irrigation Valves
- Hose Bibs
- Backflow Preventer (If you don't have one, your sprinkler valves probably do, so don't worry.)

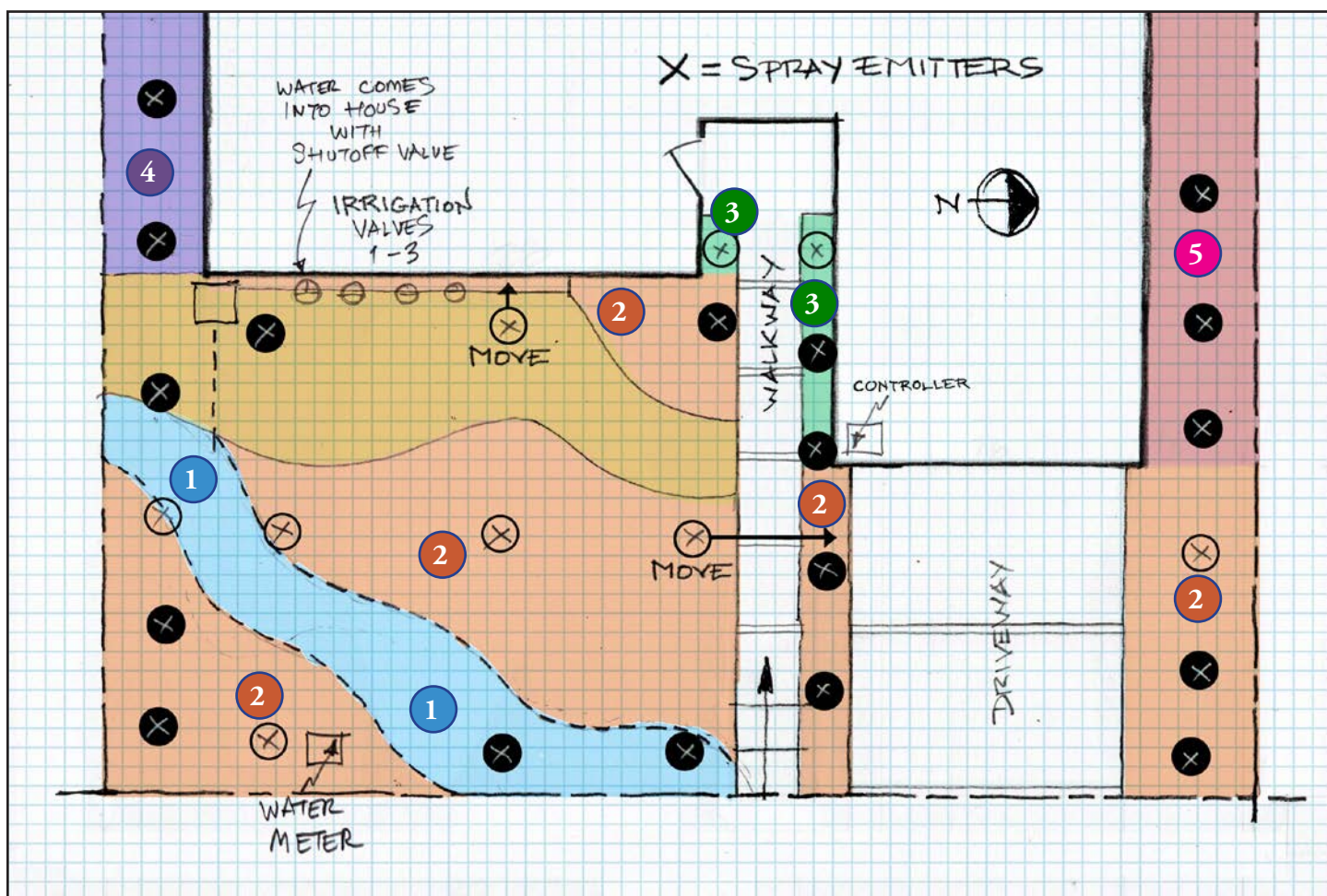
Our Sample Project has three existing irrigation zones indicated by different colors.

- 1** South side of the property - 6 Side-strip Conventional spray heads
- 2** Front yard and North side of the property - 14 Conventional spray heads (3 Quarters, 4 Halves, 1 Full in the front yard and 6 Side-strips on the North side) *Note that a pipe under the walkway and driveway connects the two areas.
- 3** Along walkway and front entry - 7 Side-strip Conventional spray heads

The challenge is to use the parts of the existing irrigation system that can work with the new system, without abandoning everything and starting from scratch. Be aware, however, that if you are renovating most of your landscape, you may need to significantly alter the irrigation.

If this is the case, starting from scratch may be the most cost and time-effective alternative.

Match Irrigation to new Hydrozones



Compare Valve Zones to Hydrozones.

Which sprinkler heads go on at the same time and what kind of plant material are they irrigating? Get ready to make changes to your irrigation system in order to accommodate both the new grading and the new plants you are introducing into your garden. You will have to match each valve zone with the new hydrozones you created.

- 1** MODERATE water use plants in the low wet spots and swale - Cap all but 1 head and convert to drip
- 2** LOW water use plants in front yard dry berm areas and VERY LOW water use plants on North side of driveway - Move 1 head against house; Cap 2 heads in Front yard; Cap all but 1 head on North side; Run drip tubing through cut in walkway to access the planter between walkway and driveway; convert all uncapped heads to drip

- 3** MODERATE water use plants in dry shade of front entry - Cap 5 heads and convert 2 to drip (one on either side of walkway)
- 4** Make a new zone from back yard valve for South facing wall of house
- 5** Make new zone from back yard valve for North facing wall of garage
- X** Capped spray emitters
- X** Spray emitters converted to drip

Need help with irrigation? www.clca.org

If your irrigation system was installed by a licensed landscape contractor within the past 5 years, you may be able to call on them to walk you through the system before you attempt any renovations. If your system is older than 5 years, it may be very difficult to renovate. Also, check your valves and make sure they are not leaking. If valves are leaking, or if there are any elements about which you are unsure, make the investment in having a licensed landscape contractor renovate your system in accordance with your new sustainable landscape plan.



Before

Every project starts with a Big Idea

Envision your new garden.

Now that you've learned the concepts behind the watershed approach to creating a healthy and sustainable landscape, ask yourself what you want to do in your garden.

Our Homeowner wants to remove the lawn and replace it with a landscape that prevents pollution from going to the storm drains. But how to get there when faced with an ocean of grass?

Here are his **Project Objectives**:

- 1 Remove the grass without using chemicals
- 2 Capture all the rainwater from the roof, even though one downspout puts the water right on the driveway
- 3 Reduce water use by 70% or more
- 4 Create a dog friendly garden -- no thorns or sticky grass seed heads!
- 5 Build healthy Living Soil that will act like a sponge, even if it rains a lot
- 6 Plant some fruit trees or edible vines and shrubs
- 7 Plant mostly local California native plants that will attract birds, butterflies and bees for pollination
- 8 Make the driveway and pathways more permeable
- 9 Keep all dry weather runoff on the property
- 10 Convert the existing spray irrigation to drip irrigation with the intention of eventually removing it or not turning it on after establishment
- 11 Create a small permeable patio near the house so there is room for a bench or cafe table
- 12 Integrate a beautiful object like an art piece or an interesting pot
- 13 Hire a professional to help design the project, but try to complete most of the construction with friends and family helping out.



photo: www.peta.to



photo: Jeremy Sison



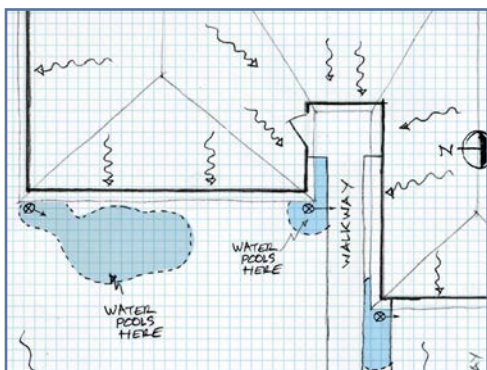
photo: Paul Herzog

Use this Project Checklist



Prepare to work

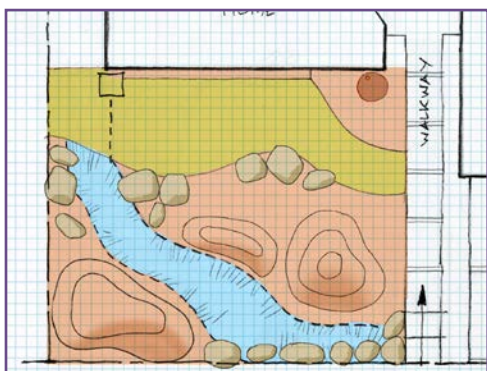
- ☐ **Clean up Your Property**
Remove trash and debris, weeds, dead plants
- ☐ **Orient Yourself**
Check with www.bhsaves.org for watering restrictions and rebates
Sign up for Beverly Hills Water Tracker at water.beverlyhills.org
Are permits required? If so, secure them
Find out if you are in a hillside grading area or special viewshed
Confirm fire regulations in your area
- ☐ **Make a List of Things You Want In Your New Landscape**
Think about how much maintenance you want to do
How much rainwater do you want to catch in barrels or cisterns?
Determine how much of your property you want to change – and how much lawn to remove



Plan before digging

Do you need design help?
Walk around and take photos (for BEFORE)

- ☐ **Make a Site Map**
Take measurements
Make a Microclimate Map
- ☐ **Water Plan**
Do the roof area calculations
Note location of downspouts
Calculate water available from each downspout
- ☐ **Grading Plan For Capturing Rainwater**
Consider the slope of the site
Plan for where to stockpile topsoil if project is large
Identify trees to be protected during construction
- ☐ **Test Soil Type**
Conduct a Percolation Test – Brick or Sponge?
Do the Jar Test - Sand, Silt or Clay?
- ☐ **Make an Existing Irrigation System Plan**
Run irrigation and make immediate adjustments
Fix broken heads or lines, move blocked heads
Adjust controller program time to eliminate runoff (cycle and soak)
- ☐ **Draft a Hardscape Plan**
Note existing hardscape that needs to become more permeable
Draw new hardscape
- ☐ **Do Some Shopping and Research**
Source rain chains, rainbarrels and cisterns
Source mulch and compost
Identify permeable hardscape options
Go to nurseries for plants
Make Appointments
Install gutters, if you want to harvest more water



Use this Project Checklist



Design for plants

What do you want in your yard?
Follow guidelines for hillside planting
Ask for help at a nursery

☐ Make A Planting Plan

Assign Plant Factors to existing material
 Research native plant communities for your area
 Consider butterflies and pollinators
 Where are the swales and berms (wet and dry feet!)?
 Add in edibles and fruit trees
 Select one or two shade trees
 Check www.plantright.org for the BAD GUYS
 Scale plants for maturity
 Hydrozone

Begin your project installation

Do you need construction/installation help?
CALL DIG ALERT 8-1-1

☐ Make Calls to Order Equipment, Material, Deliveries

Rent a sod cutter and dumpster, if necessary
 Organic matter for the soil
 Select boulders and gravel for creek beds
 Order catch basins or piping for irrigation and drainage
 Deliver rain barrels and cisterns

☐ Stockpile Soil and Protect Trees

Protect trees from construction damage (limbs and roots)
 Remove plants that are not wanted

☐ Change Existing Hardscape to Make It More Permeable

☐ Remove Grass and Build Soil With Soil Lasagna

Continue to water your lawn up to two days before removal
 Make lunch for some young people to help you remove turf
 Remove your turf without chemicals through Sheet Mulching

☐ Contour Site For Rain

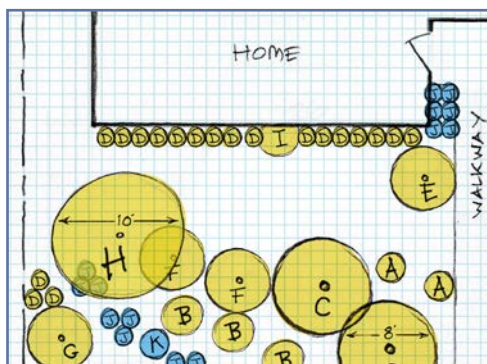
Remove plants
 Contour soil to hold on to First Flush (first inch of rain)
 Remember not to remove soil; use it to create your contours
 Add organic matter to the soil
 Install catch basins, drainage pipe and sleeves under hardscape

☐ Repair Irrigation

Set back spray irrigation 24" from hard surfaces
 Identify or move future drip irrigation points of connection
 Replace valves for low pressure valves
 Install pressure regulator, flow meter or landscape sub meter
 Install low-head check valves on slopes and grade changes

☐ Capture Rainwater

Lay out plan using flour, chalk or spray paint
 Install any new hardscape surfaces, draining to the landscape
 Install boulders and materials for creek beds or swales
 Install rain barrel or cisterns



Use this Project Checklist



Install new plants

Compare Planting Plan with Existing Irrigation Plan

Fall is the best time to get free rain irrigation!

Order plants and gather materials necessary for planting

☐ Lay Out Planting Plan

Lay out your Planting Plan using flour, chalk or spray paint

Make your “in field” adjustments

Install your plants into the soil lasagna

Be sure to respect correct plant placement for mature size

If drainage is poor, auger holes and wait to complete

Thoroughly and completely water holes, plants, and surrounding soil

Upgrade and adjust new irrigation

Consider hand watering until landscape is established

Adjust irrigation schedule using the www.Bewaterwise.com

Landscape Watering Calculator

☐ Accommodate the Planting Plan

Where spray is used, convert to low flow rotary nozzles

Convert spray emitters to drip or install new drip lines

Cap all unused spray emitters

Install tattle-tale flush assemblies and end caps on the drip zones

Create an “as built” drawing of the new irrigation layout

Install a weather-based irrigation controller

Establish and steward new landscape

☐ Complete Irrigation Installation

Irrigation for establishment is best used during fall, winter and spring months if rainfall is limited

Adjust irrigation to eliminate runoff

Regularly flush drip irrigation lines, especially during the first year

Seasonally adjust automatic irrigation schedule

Reduce in fall; turn it off in winter!

Move drip irrigation and add emitters as the tree grows in order to maintain the wetting zone at the outside edge of the tree’s canopy (dripline)

☐ Maintain Living Soil and Plants

Maintain 2” – 4” of living mulch and add more annually

Prune trees only with Certified Arborists

Practice Integrated Pest Management

☐ Maintain Rainwater Capture Systems

Make sure gutters are not clogged

Clean rainbarrels/cisterns

Make sure mosquito screen is not ripped

Flush pipes

Clean out catch basins

Remove debris from swales, especially at inlets/outlets

Enjoy your yard!



A word about Budgets



photo: Pamela Bersler

Landscape Retrofits are a serious investment

When you invest in landscaping, you are investing in the long-term value of your property. However, there is no such thing as a typical budget for landscape design and installation.

While a good **RULE OF THUMB** is to budget 5% - 10% of your home's current market value in a landscape renovation, every site is different, and the situations encountered on that site will dramatically influence the overall budget for the project. Location, expectations of the neighborhood and aesthetics must be combined with all of the functional requirements discussed in this book to inform the final budget for your landscape. When you include hardscape, covered structures, or other built amenities, like outdoor kitchens, the prices rise exponentially.

Consider that the landscape is raw ground to be prepared, graded, etc. All of the typical building trades work on a landscape: plumbing, electrical, and if you are making outdoor rooms, expect to include masonry carpentry, fixtures and appliances. A hard-working, Do-It-Yourselfer (DIY) can remove turf, make grade changes and build soil through sheet mulching. Planting and converting an existing irrigation system to drip also can be

accomplished using the techniques outlined in this book. The more you do yourself, work with what you have, or select low cost materials, the more affordable you will make your landscape changes.

A basic landscape renovation of a turf-covered front yard covering 1,000 square feet, adjusting an existing working spray irrigation system and not including an outdoor room or other hardscape, should cost approximately \$5 - \$10/square foot for a DIY renovation or \$12 - \$20/square foot for a professionally designed and installed landscape.

All-in Planting costs = Plants + Installation Labor

An all-in price for planting that includes the labor costs for a professionally installed plant may be 2x - 3x the purchase price of the plant because the installer should provide a 30 - 90 day plant replacement guarantee.

Invest in soil



photo: Paul Herzog

Soil preparation is the single greatest investment you can make in the long term health and beauty of your garden. Buy your compost in bulk, and expect to spend at least 10% of your budget on building healthy Living Soil.

Invest in design



photo: Steve Williams

The more time you spend researching your options and planning your garden, the better prepared you will be during construction. Measure twice, dig once! Spend the time yourself, or expect to pay 10% - 20% of your budget on professional design assistance.

Invest in rain



Capturing and holding on to rainfall from adjacent hard surfaces, helps prepare your garden for the long, dry summer and reduces irrigation demand. Expect to spend up to 20% of your budget on labor for grading for rain and materials for drainage.

Projects need People



Assessment Organizations including site assessment and testing, various measuring services, surveyors, soil testing services and even Google Maps are available to help. Property measuring and surveying companies can develop more detailed plans with elevations, sighting of trees and landscape amenities, irrigation, etc. If you get out into the yard with a measuring tape and the list of Do-it Yourself section we've put into this book, you should be able to make a serviceable site map to scale.

Planning and Design professionals can help you develop a working plan and budget for your landscape. The plan should include drawings, a list of resources, and an outline of the techniques to be used to implement the plan. Licensed landscape architects and licensed landscape contractors can assist you in developing a plan and budget. Landscape designers also can help you create a conceptual design. Working with a licensed professional (architect, landscape architect, landscape contractor or civil engineer) is recommended if you have hillsides and slopes or complicated structures.

Landscape Installation and Construction professionals are licensed landscape contractors who specialize in building landscapes, and are able to work on all aspects of the sustainable landscape plan. If you are handy, and feel comfortable with the techniques outlined in this book, there is no reason why you cannot install your own garden, especially knowing that if you get stuck you can call upon the expertise of a landscape professional. Licensed professionals carry all of the necessary insurance and are knowledgeable about permits, so if you want to protect your investment in your landscape, working with licensed professionals is always the recommended way to go.

Certified Arborists are specialists trained in the art and science of planting, caring for, and maintaining individual trees. Arborists are knowledgeable about the needs of trees and are trained and equipped to provide proper care. Find tree consultants at the American Society of Consulting Arborists (ASCA).

Rainwater Catchment specialists include people certified by the American Rainwater Catchment Systems Association (ARCSA) to design and install rainwater capture systems. These professionals can bring a lot of specific expertise to your project, particularly if it involves the installation of an active capture system such as a cistern.

Green Plumbers can assist you on an as-needed basis if you are attempting a DIY renovation. Their expertise is usually limited to the point of connection of the irrigation system with the municipal or home supply, backflow prevention, pressure regulation, or graywater installation.

Irrigation Systems Consultants include people who have been certified by an EPA WaterSense® labeled certifying organization to provide irrigation system auditing, design, and maintenance. These professionals can bring specific expertise on improving the efficiency of irrigation systems.

Watershed Wise Landscape Professionals are people who are certified to provide site evaluation and consulting on using the watershed approach to landscaping in design, construction, and maintenance.

Plant Selection specialists include your local retail nursery and garden center, native plant societies, Master Gardeners, and professional gardeners. The best plant selector, however, is you! Do the homework to select plants that are both climate appropriate and locally native to your place, and you will be rewarded with a better understanding and appreciation of your garden as it evolves over time. Plus, you can advise your friends on their plant selections!

Maintenance of sustainable landscapes requires an understanding of the watershed approach to landscaping and water management. While there will be less mowing of lawns and blowing of leaves, there will be more fine pruning, irrigation flushing and tuning, cleaning and checking rain barrels and other water retention devices and soil building. Maintenance people should demonstrate an ability to think critically, be open to the techniques and ideas outlined in this book and understand how to implement IPM, mulching, basic irrigation tune-ups, and native plant husbandry.

Water Managers are a big part of ongoing sustainable landscape maintenance. If you are still using an irrigation system for your landscape, you may consider hiring a professional certified by the California Landscape Contractors' Association (CLCA) who has demonstrated expertise in water management. But learning how to manage your own water is best.



Use this Project Plant List

Form	B	Botanical (Latin) Name	Common Name	Plant Factor	Sun	Dimension H' x W'	D/E/S	Flower Color	Notes
Annual	x	Eschscholzia californica	CA poppy	L	F	1.5' x 1'	D	orange	Flower Carpet
Bulb		Zephyranthes	Fairy lily	M	F/PS	0.5' x 1'	D	white	Modern
Grass	x	Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition blue grama	L/VL	F	2' x 2'	D	wheat	Dry Feet
Grass		Elegia elephantina	Large Cape rush	L	F/S	5' x 6'	E	brown	Modern
Grass	x	Leymus condensatus 'Canyon Prince'	Clumping wild rye	L	F	3' x 4'	E	wheat	Modern
Grass		Lomandra longifolia 'Breeze'	Dwarf mat rush	L	F/S	3' x 4'	E	yellow	Groundcover
Grass		Muhlenbergia capillaris 'Regal Mist'	Pink muhly	L	F	4' x 4'	E	pink	Full Sun Low Water
Grass		Muhlenbergia capillaris 'White Cloud'	Hairy awn muhly	L	F	4' x 4'	E	white	CA Chaparral
Grass	x	Sisyrinchium bellum	Blue-eyed grass	L	F	2' x 1.5'	E	blue	Modern
Grass		Agrostis pallens	Bent grass	M/L	PS/S	1' x 1'	E	green	Lawn Tough Spots
Grass		Bouteloua dactyloides	Buffalo grass	M/L	F	0.5' x 1'	D	wheat	Groundcover
Grass		Festuca californica	CA fescue	M/L	F/S	0.8' x 1'	E	wheat	Lawn Tough Spots
Grass		Festuca ovina	Sheep's fescue	M	F/S	0.8' x 1'	E	wheat	Lawn Tough Spots
Grass		Melica californica	CA melic grass	M	PS	3' x 0.5'	S	wheat	Full Sun Moderate Water
Grass		Muhlenbergia rigens	Deer grass	M/L	F/PS	5' x 5'	D	wheat	Modern
Grass	x	Trifolium repens	White Dutch clover	M/L	F/S	4" x 3'	E	white/pink	Estate Lawn
Groundcover	x	Achillea 'Moonshine'	Moonshine yarrow	L	F	3' x 3'	D	yellow	Borders
Groundcover	x	Achillea millefolium	Yarrow	L	F	3' x 3'	S	various	CA Chaparral
Groundcover	x	Achillea millefolium rosea 'Island Pink'	Pink yarrow	L	F	3' x 3'	D	pink	Groundcover
Groundcover	x	Asteriscus maritimus	Gold coin plant	L	F/PS	1' x 4'	E	yellow	Groundcover
Groundcover	x	Baccharis pilularis 'Pigeon Point'	Pigeon Point coyote bush	L/VL	F	1' x 8'	E	white	Hillside
Groundcover	x	Calylophus hartwegii	Sundrops	L	F	1' x 2'	E	yellow	Pollinator
Groundcover	x	Ceanothus griseus horizontalis 'Yankee Point'	Carmel Mountain ceanothus	L	F	3' x 12'	E	blue	Hillside
Groundcover	x	Eriogonum grande var reubescens	San Miguel Island buckwheat	L/VL	F	2' x 3'	E	pink	Pollinator
Groundcover	x	Isomeris arborea	Bladderpod	L	F	5' x 6'	E	yellow	Hillside
Groundcover		Thymus pseudolanuginosus	Wooly thyme	L	F	0.25' x 1'	D	pink	Groundcover
Groundcover	x	Arctostaphylos edmundsii 'Carmel Sur'	Carmel Sur creeping manzanita	M/L	F/PS	0.5' x 15'	E	pink/white	Groundcover
Groundcover		Arctotis	African daisy	M/L	F/PS	0.5' x 1.5'	E	various	Parkway
Groundcover	x	Calandrinia ciliata	Redmaids	M/L	F/PS	1.5' x 1'	A	red/pink	Flower Carpet
Groundcover	x	Fragaria chiloensis	Beach strawberry	M/L	F/PS	0.25' x 1'	E	white	Groundcover
Groundcover	x	Phyla nodiflora (aka lippia repens)	Lippia	M/L	F	0.25' x 2'	E	pink	Parkway
Groundcover	x	Plantago major	Plantain	M/L	F/S	0.25' x 0.5'	E	green	Estate Lawn
Groundcover		Dymondia margaretae	Silver carpet	VL	F/PS	0.25' x 2'	E	yellow	Groundcover

Plant List Key

Form:	Natural shape taken by the plant
Plant Factor:	M =Moderate, L =Low, VL = Very Low
Sun:	F =Full, PS =Part Shade, S =Shade
B:	Plant supports life cycle of butterflies
D/E/S:	D =Deciduous, E =Evergreen, S =Semi-Deciduous
Notes:	Section of the book where you can read more about this plant

Use this Project Plant List

Form	B	Botanical (Latin) Name	Common Name	Plant Factor	Sun	Dimension H' x W'	D/E/S	Flower Color	Notes
Perennial	x	Asclepias californica	CA milkweed	L	F/PS	3' x 3'	S	dark wine	Pollinator
Perennial		Asparagus densiflorus 'Myers'	Myers asparagus fern	L	F/S	3' x 3'	E	white	Modern
Perennial		Correa 'Dusky Bells'	Red Australian fuchsia	L/VL	F/PS	2' x 3'	E	red	Full Sun Low Water
Perennial		Dietes bicolor	Fornight lily	L	F/S	3' x 3'	E	white/yellow	Borders
Perennial	x	Eriogonum parvifolium	Cliff buckwheat	L	F	1.5' x 3'	E	white	Full Sun Low Water
Perennial		Lavandula	Lavender varieties	L	F	3' x 3'	E	purple	Mediterranean
Perennial	x	Lupinus excubitus	Grape soda lupine	L/VL	F/PS	3' x 4'	S	purple	Flower Carpet
Perennial	x	Melampodium leucanthum	Blackfoot daisy	L/VL	F	1' x 1.5'	E	white	Rose BFF
Perennial		Pelargonium sidoides	Geranium	L	F/PS	1' x 1'	E	Burgandy	Mediterranean
Perennial	x	Salvia 'Bee's Bliss'	Bee's Bliss sage	L	F	2' x 8'	E	blue/purple	Groundcover
Perennial	x	Salvia clevelandii 'Pozo Blue'	Grey musk sage	L	S	4' x 6'	S	violet	CA Chaparral
Perennial	x	Salvia clevelandii 'Winifred Gilman'	Winifred Gilman sage	L	S	4' x 6'	S	violet	Estate Border
Perennial	x	Salvia greggii	Autumn Sage	L/VL	F	1' x 1.5'	E	various	Mediterranean
Perennial	x	Salvia spathacea	Hummingbird sage	L/VL	PS/S	1.5' x 2'	E	pink	Woodland
Perennial	x	Sphaeralcea ambigua	Desert mallow	L/VL	F	3' x 2'	E	apricot	CA Chaparral
Perennial	x	Teucrium chamaedrys	Germander	L	F	3' x 1'	E	pink/purple	Mediterranean
Perennial	x	Verbena lilacina 'De la Mina'	Cedros Island verbena	L	F/PS	2' x 4'	E	purple	Mediterranean
Perennial		Allium schoenoprasum	Chives	M	F/PS	1.5' x 1.5'	E	pink	Edibles
Perennial	x	Asclepias fascicularis	Narrow leaf milkweed	M/L	F	3' x 1'	S	white	CA Chaparral
Perennial		Begonia rex	Begonia	M	PS/S	various	S	pink/white	Woodland
Perennial		Bellis perennis	English daisy	M/L	F/PS	0.8' x 0.8'	E	white	Estate Lawn
Perennial		Beschornia yuccoides	Mexican lily	M/L	F/PS	4' x 4'	E	red	Modern
Perennial		Carex pansa	CA meadow sedge	M	F/S	0.8' x 0.8'	E	wheat	Modern
Perennial	x	Convolvulus cneorum	Bush morning glory	M/L	F	3' x 3'	E	white	Firefighter
Perennial	x	Erigeron glaucus 'Wayne Roderick'	Seaside daisy	M/L	F	1' x 2'	E	pink/blue	Parkway
Perennial		Hemerocallis hybrid	Daylily	M	F/PS	2' x 2'	S	various	Wet Feet
Perennial	x	Heuchera maxima	Island alum root	M/L	PS/S	3' x 1'	E	white/pink	Pollinator
Perennial	x	Heuchera 'Santa Ana Cardinal'	Santa Ana coral bells	M/L	PS/S	3' x 1'	E	red	Woodland
Perennial	x	Iris douglasiana	CA native iris	M	F/PS	3' x 3'	E	various	Wet Feet
Perennial	x	Iris douglasiana 'Canyon Snow'	Canyon Snow iris	M	F/PS	3' x 3'	E	various	Woodland
Perennial		Juncus patens	CA gray rush	M	F/S	2' x 2'	E	brown	Wet Feet
Perennial	x	Lavatera assurgentiflora	Malva rose	M/L	F	10' x 10'	E	various	CA Chaparral
Perennial	x	Mahonia (aka Berberis) repens	Creeping barberry	M/L	PS	1.5' x 3'	E	yellow	CA Chaparral
Perennial	x	Mimulus	Monkey flower	M/L	F/S	2' x 2'	S	various	Firefighter
Perennial	x	Salvia elegans	Pineapple sage	M/L	F/PS	5' x 3'	E	red	Edibles
Perennial	x	Salvia leucantha	Mexican bush sage	M/L	F	4' x 4'	E	purple	Rose BFF
Perennial		Vriesea	Bromeliad	M/L	PS/S	2' x 2'	E	various	Woodland
Perennial		Woodwardia fimbriata	Giant chain fern	M/L	PS/S	5' x 6'	E	none	Woodland
Perennial	x	Epilobium canum var. latifolium 'Everett's Choice'	Everett's CA fuchsia	VL	F	0.5' x 5'	S	orange red	Dry Feet
Perennial	x	Lessingia filaginifolia var californica (aka Corethrogyne)	Silver carpet	VL	F/S	0.5' x 8'	S	violet	Parkway
Perennial	x	Romneya coulteri	Matilija poppy	VL	F	9' x 9'	D	yellow/white	Hillside

Use this Project Plant List

Form	B	Botanical (Latin) Name	Common Name	Plant Factor	Sun	Dimension H' x W'	D/E/S	Flower Color	Notes
Shrub	x	Abutilon palmeri	Indian mallow	L	F	5' x 5'	E	gold	Borders
Shrub		Aloysia citriodora	Lemon verbena	L	F	10' x 15'	E	white	Edible
Shrub	x	Arctostaphylos 'Sunset'	Sunset manzanita	L/VL	F	5' x 5'	E	pink/white	Woodland
Shrub		Artemesia californica 'Canyon Gray'	Costal sagebrush	L/VL	F	2' x 10'	E	yellow	Rose BFF
Shrub	x	Atriplex lentiformis	Coastal quail bush	L/VL	F/PS	6' x 6'	E	white	Hillside
Shrub		Cistus x skanbergii	Pink rockrose	L	F	3' x 3'	E	pink	Mediterranean
Shrub	x	Galvezia speciosa 'Firecracker'	Island bush snapdragon	L	F	4' x 5'	E	red	Pollinator
Shrub		Leucadendron 'Safari Sunset'	Cone bush	L	F	10' x 8'	E	yellow/red	Full Sun Low Water
Shrub	x	Sambucus mexicana	Mexican elderberry	L/VL	F/PS	12' x 12'	D	white	Edible
Shrub	x	Caesalpinia mexicana	Mexican bird of paradise	M/L	F	15' x 15'	E	yellow	Full Sun Moderate Water
Shrub	x	Callistemon 'Little John'	Dwarf bottlebrush	M/L	F/PS	4' x 5'	E	red	Full Sun Moderate Water
Shrub	x	Carpenteria californica	Bush anemone	M/L	F/S	4' x 6'	E	white	Woodland
Shrub		Myrica californica	Pacific wax myrtle	M	F/PS	18' x 9'	E	white	Mediterranean
Shrub		Nandina domestica	Heavenly bamboo	M	F/S	6' x 3'	E	white	Woodland
Shrub		Pittosporum tenuifolium 'Silver Sheen'	Silver sheen	M	F/PS	20' x 15'	E	white	Hedge
Shrub		Pittosporum tobira 'Crème de Mint'	Japanese mock orange	M	F/PS	2.5' x 2.5'	E	white	Full Sun Moderate Water
Shrub		Pittosporum tobira 'Variegata'	Variegated mock orange	M/L	F/PS	5' x 5'	E	yellow	Estate Border
Shrub	x	Ribes aureum	Golden currant	M	F/PS	6' x 3'	D	golden	Edible
Shrub	x	Ribes viburnifolium	Evergreen currant	M	F/PS	2' x 7'	E	red	Full Sun Moderate Water
Shrub	x	Rosamarinus officinalis prostratus	Creeping rosemary	M/L	F	2' x 6'	E	blue	Mediterranean
Shrub		Westringia fruticosa 'Morning Light'	Coast rosemary	M	F/PS	4' x 4'	E	white	Woodland
Shrub	x	Cupressus forbesii	Tecate cypress	VL	F	30' x 15'	E	n/a	Hedge
Shrub	x	Dendromecon rigida	Bush poppy	VL	F	9' x 6'	E	yellow	CA Chaparral
Shrub	x	Fremontodendron	Flannel bush	VL	F	10' x 10'	E	yellow	CA Chaparral
Shrub	x	Parkinsonia 'Desert Museum'	Desert Museum palo verde	VL	F	20' x 20'	D	yellow	Tree
Shrub	x	Rhus integrifolia	Lemonade berry	VL	F/PS	6' x 20'	E	white/pink	Hedge
Succulent		Aeonium arboreum 'Zwartkop'	Tree aconium	L	PS	4' x 2'	E	yellow	Woodland
Succulent		Agave attenuata 'Variegata'	Variegated agave	L	F/S	3' x 5'	E	yellow	Modern
Succulent		Agave vilmoriniana	Octopus agave	L	F/S	3' x 5'	E	yellow	Modern
Succulent	x	Aloe striata	Coral aloe	L	F	3' x 2'	E	red	Firefighter
Succulent	x	Aloe vera	Medicinal aloe	L/VL	F	2' x 2'	E	yellow/red	Modern
Succulent	x	Cistanthe grandiflora (aka Calandrinia spectabilis)	Rock purslane	L	F/S	1' x 3'	E	purple	Dry Feet
Succulent		Kalanchoe beharensis	Felt plant	L/VL	PS/S	5' x 3'	E	white	Modern
Succulent		Sansevieria	Snake plant	L/VL	PS/S	1' x 3'	E	white	Modern
Succulent		Sedum nussbaumerianum	Orange stonecrop	L/VL	F/PS	1' x 1.5'	E	pink	Modern
Succulent		Sedum spurium 'Dragon's Blood'	Red stonecrop	L/VL	F/PS	0.25' x 1.5'	E	red	Full Sun Low Water
Succulent		Senecio serpens	Blue chalksticks	L	F	1' x 3'	E	white	Groundcover

Use this Project Plant List

Form	B	Botanical (Latin) Name	Common Name	Plant Factor	Sun	Dimension H' x W'	D/E/S	Flower Color	Notes
Succulent		Crassula ovata	Jade plant	VL	F/PS	4' x 4'	E	white	Woodland
Succulent		Dudleya pulverulenta	Live forever	VL	F/PS	1' x 1.5'	E	pink	CA Chaparral
Tree		Arbutus 'Marina'	Hybrid strawberry tree	L	F	50' x 40'	E	pink	Tree
Tree	x	Chilopsis linearis	Desert willow	L	F	30' x 25'	D	purple	Tree
Tree	x	Lyonothamnus floribundus	Catalina ironwood	L/VL	F/PS	55' x 20'	E	white	Tree
Tree		Pinus torreyana	Torrey pine	L/VL	F/PS	50' x 30'	E	none	Hedge
Tree		Cupressus sempervirens	Italian cypress	M/L	F/PS	50' x 6'	E	none	Hedge
Tree	x	Nepeta 'Blue Wonder'	Catmint	M	F	1' x 2'	E	purple	Rose BFF
Tree		Olea europaea	Olive	M/L	F	25' x 30'	E	white	Tree
Tree	x	Platanus racemosa	CA sycamore	M	F/PS	75' x 50'	D	white	Tree
Tree	x	Prunus ilicifolia	Catalina cherry	M/L	F/S	25' x 15'	E	white	Woodland
Tree		Prunus salicina 'Santa Rosa'	Santa Rosa plum	M	F	30' x 20'	D	pink/purple	Edible
Tree	x	Quercus agrifolia	Coast live oak	VL	F/PS	70' x 30'	E	yellow	Tree
Tree/Shrub	x	Acca sellowiana	Feijoa, Pineapple guava	L	F	20' x 15'	E	pink	Mediterranean
Tree/Shrub	x	Ceanothus 'Concha'	Concha CA lilac	L	F/PS	5' x 6'	E	blue	Hedge
Tree/Shrub	x	Ceanothus species	CA lilac (many varieties)	L	F/PS	various	E	blue	Woodland
Tree/Shrub	x	Cercis occidentalis	Western redbud	L	F/PS	15' x 15'	D	violet	Tree
Tree/Shrub	x	Heteromeles arbutifolia	Toyon, Christmas berry	L	F	10' x 6'	E	white/red	Hedge
Tree/Shrub		Punica granatum	Pomegranate	L	F	10' x 10'	D	orange/red	Mediterranean
Tree/Shrub		Citrus 'Improved Meyer'	Improved Meyer lemon	M	F	10' x 12'	E	white	Mediterranean
Tree/Shrub		Citrus 'Nagami'	Dwarf kumquat	M	F	6' x 6'	E	white	Mediterranean
Vine	x	Vitis 'Rogers Red'	Roger's Red grape	L	PS/S	30'	D	white	Mediterranean
Vine		Clytostoma callistegiodies	Lavender trumpet vine	M	F	25' x 25'	E	lavender	Mediterranean
Vine/Shrub		Philadelphus lewisii	Mock orange	M/L	F/PS	9' x 9'	S	White	Woodland
Vine	x	Rosa 'Climbing Cecile Brunner'	Climbing rose	M/L	F	15' x 15'	E	pink	Mediterranean
Vine	x	Vigna caracalla	Snail vine	M	F/S	15' x 20'	E	purple	Mediterranean

Plant List Key

Form:	Natural shape taken by the plant
Plant Factor:	M =Moderate, L =Low, VL = Very Low
Sun:	F =Full, PS =Part Shade, S =Shade
B:	Plant supports life cycle of butterflies
D/E/S:	D =Deciduous, E =Evergreen, S =Semi-Deciduous
Notes:	Section of the book where you can read more about this plant

Use these Resources for Success

Botanical and Demonstration Gardens

Virginia Robinson Gardens (310) 550-2087
1008 Elden Way Beverly Hills, CA 90210
www.robinsongardens.org

Mildred E Mathias Botanical Garden (310) 825-1260
Le Conte Ave & Tiverton Ave Los Angeles, CA 90189
www.botgard.ucla.edu

Greystone Mansion (310) 285 - 6830
905 Loma Vista Drive Beverly Hills, CA 90189
www.beverlyhills.org/greystone

Beverly Gardens Park
Santa Monica Blvd. Beverly Hills, CA 90210
www.beverlyhills.org/.../cityparks/beverlygardenspark

Beverly Hills City Hall
455 N. Rexford Drive Beverly Hills, CA 90210
www.beverlyhills.org

Equipment Rental

Anawalt Lumber www.anawalthlumber.com
West Hollywood-N. Robertson Blvd (424) 333-0915
West LA-11060 W. Pico Blvd. (424) 371-6846

Quality Equipment Rentals (310) 677-7600
711 N La Brea Ave Inglewood, CA 90302
www.qerentals.com

Home Depot (323) 461-3303
5600 Sunset Blvd. Hollywood, CA 90028
www.homedepot.com

Lowe's Home Improvement (323) 617-9570
4550 W Pico Blvd #101 Los Angeles, CA 90019
www.lowes.com

Fire Protection Landscaping

Fire Resistant Plant List
www.bewaterwise.com/fire02.html

Ready for Wildfire www.readyforwildfire.com

Sustainable and Fire-Safe Landscapes
www.ucanr.edu/sites/SAFElandscapes/

Garden Magazines, Tours, Shows and Classes

California Native Plant Society www.lasmmcnps.org
Mediterranean Garden Society
www.mediterraneangardensociety.org

Pacific Horticulture www.pacifichorticulture.org

Sunset Magazine www.sunset.com/garden

Ocean View Farms (310) 915-1123
3300 S Centinela Ave. Los Angeles, CA 90066
www.oceanviewfarms.com

Irrigation

How to Install Efficient Irrigation
www.h2ouse.org/tour/step-3.cfm

Irrigation Tutorials www.irrigationtutorials.com

Irrigation Essentials Tutorial www.irrigationessentials.com

Integrated Pest Management

www.ipm.ucdavis.edu/GENERAL/whatisipm.html

Landscape Design and Coaching

Water-Smart Landscape Design Tips
www.epa.gov/watersense/outdoor/landscaping_tips.html

Ocean Friendly Gardens – Resources to create drought-tolerant gardens and apply C.P.R. – Conservation, Permeability, Retention © www.surfrider.org/ofgs

Garden Gurus www.g3gardengurus.com

Planning

DIG Alert Dial 8-1-1 www.digalert.org

Professional Help

APLD - Association of Professional Landscape Designers
www.apldca.org

ARCSA - American Rainwater Catchment Systems Association
www.arcsa.org

ASLA - American Society of Landscape Architects
www.socal-asla.org

CLCA - California Landscape Contractors Association
www.clca.org

IA - Irrigation Association www.irrigation.org

WWLP - G3 Certified Watershed Wise Landscape Professionals
www.greengardensgroup.com

Water Conservation

Beverly Hills Saves www.bhsaves.org
Beverly Hills Water Tracker water.beverlyhills.org

Be Water Wise (MWD) – Find links to rebates, watering calculators, watering restrictions and more garden tips.
www.bewaterwise.com

SoCal Water Smart – Apply for rebates.
www.socalwatersmart.com

Water Use it Wisely www.wateruseitwisely.com

Water Quality

Beverly Hills Water Services (Public Works)
www.beverlyhills.org/living/utilities/waterservices

California Drinking Water
water.epa.gov/drink/local/ca.cfm

Mulch and Compost

C&S Nursery (323) 296-6657 3615 Hauser Blvd.
Los Angeles, CA 90016 www.csnurseries.com

Adams Garden Supply (323) 424-3387 5169 W Adams Blvd
Los Angeles, CA 90016fo

Harper Tree Service (310) 773-5512

J&J Tree Service (310) 471-4200

Meza Tree Service (310) 306-7063
4227 Alla Rd. Los Angeles, CA 90066

Plant Choices

Arboretum All-Stars

arboretum.ucdavis.edu/aboretum_all_stars.aspx

California Native Plant Library

www.theodorepayne.org/mediawiki

California Plants Database www.calflora.org

Monrovia Nursery Plant Finder www.monrovia.com

Searchable Water Use Classification (WUCOLS)

www.waterwonk.us

Las Palitas Native Plant Selector www.mynativeplants.com

Invasive Plants

California Invasive Plants Council www.cal-ipc.org

Plant Right! Avoid Invasive Plants www.plantright.org

Trees

Select the Right Tree www.selecttree.calpoly.edu

USDA Plant Database plants.usda.gov

Nurseries and Garden Centers

Armstrong Garden Centers (310) 829-6766

3226 Wilshire Blvd Santa Monica, CA 90403

www.armstronggarden.com

C&S Nursery (323) 296-6657

3615 Hauser Blvd Los Angeles, CA 90016

www.csnursery.com

California Nursery Specialties (818) 894-5694

19420 Saticoy St. Reseda, CA 91335

www.california-cactus-succulents.com

Eden Nursery (310) 397-9731

11612 Culver Blvd. Los Angeles, CA 90066

Hashimoto Nursery (310) 473-6232

1935 Sawtelle Blvd. Los Angeles, CA 90025

www.hashimotonursery.com

La Cienega Nursery (310) 659-5468

8511 Sherwood Dr. West Hollywood, LA 90069

www.lacieneganursery.com

Marina Garden Center (310) 823-5956

13198 Mindanao Way Marina del Rey, CA 90292

www.marinagardencenters.com

Merrihew's Sunset Gardens (310) 452-1051

1526 Ocean Park Blvd. Santa Monica, CA 90402

Mickey Hargitay Plants (323) 467-8044

1255 N. Sycamore Ave. West Hollywood CA 90038

www.mickeysplants.com

Rolling Greens Nursery

Culver City (323) 934-4500

9528 Jefferson Blvd. Culver City, CA 90232

Hollywood (323) 934-4500

7505 Beverly Blvd. Los Angeles, CA 90036

www.rollinggreennursery.com

Tabuchi Nursery (310) 477-1388

2001 Sawtelle Blvd. Los Angeles, CA 90025

Xotx-Tropico (323) 654-9999

900 N Fairfax Ave. West Hollywood, CA 90046

www.xotxtropico.com

Yamaguchi Bonsai Nursery (310) 473-5444

1905 Sawtelle Blvd. Los Angeles, CA 90025

Growers

These local plant growers don't usually sell their plants to the general public, but your local nursery can order plants for you. Visit their websites for more information about the plants they grow.

Annie's Annuals (1-800) 819-5913 www.anniesannuals.com

Boething Treeland Farms (818) 883-1222

www.boethingtreeland.com

California Native Plant Society (916) 447-2677 www.cnps.org

Colorspot (310) 549-7470 colorspot.com

Damas Nursery (323) 724-6790 www.damasnursery.com

El Natio Growers (626) 969-8449 www.elnativogrowers.com

Garden View Wholesale Nursery (626) 337-4818

www.garden-view.com

Girasol Nursery (562) 695-6453 www.girasolnursery.com

Green Meadow Nursery (805) 498-6997

www.greenmeadownursery.com

Jauregui Nursery (310) 505-2444 www.jnursery.com

Magic Growers (626) 797-6511 www.magicgrowers.com

Mountain States (626) 797-6511 www.mswm.com

Native Sons (805) 481-5996 www.nativeson.com

Natures Best Nursery (805) 529-0731

www.naturesbestnursery.net

Progrowers Inc. (562) 287-0444 progrowersinc.com

Recon Native Plants, Inc. (619) 423-2284

www.reconnativeplants.com

Rolling Hills Nursery (562) 633-5712

www.rhwholesalenursery.com

San Marcos (805) 683-1561 www.smgrowers.com

Theodore Payne Foundation (818) 768-1802

www.theodorepayne.org

Tree of Life Nursery (949) 728-0685 www.treeoflifenuresery.com

Village Nurseries (714) 963-5372 www.villagenurserieslc.com

West Covina Wholesale Nursery (909) 596-3723

www.cnurseries.com

Windrose Farms (805) 239-3757 www.windrosefarm.org

Seeds

S&S Seeds (805) 684-0436 www.ssseeds.com

Stover Seed Company (213) 626-9668 www.stoverseed.com

Renee's Garden (888) 880-7228 www.reneesgarden.com

Swallowtail Garden Seeds (707) 538-3585

www.swallowtailgardenseeds.com

You're ready to Shop!

My Shopping List

My Garden Microclimate Notes

My Supply Stores & Nurseries

quantity

compost

mulch

irrigation equipment

rainwater capture materials

boulders and gravel

other materials for sheet mulching (paper, worm castings, hose, etc.)

Notes:

You're ready to Shop!

My Shopping List

My Garden Microclimate Notes

My Supply Stores & Nurseries

name	size	quantity
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trees		
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shrubs		
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perennials		
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hedge		
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ground cover		
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other plants		
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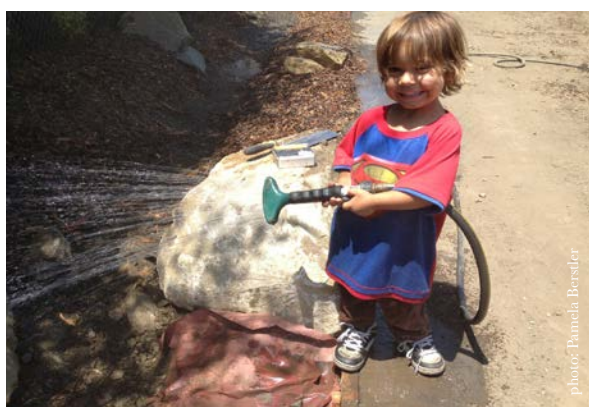
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