

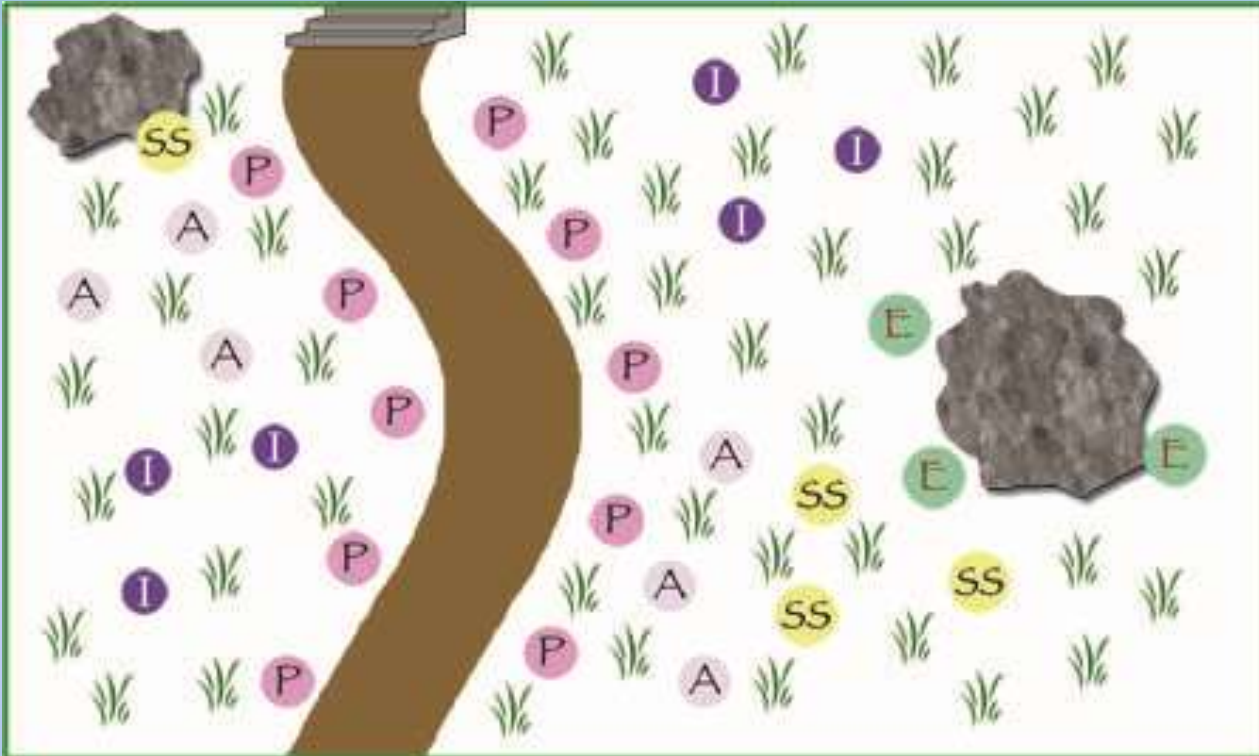
LAWN REMOVAL &



NATIVE GARDEN INSTALLATION

Deva Luna EarthCare Landscaping 408-871-2792

Start with a plan



- A** - Achillea millefolium
- E** - Epilobium canum
- (grass)** - Festuca 'Siskiyou Blue'
- I** - Iris douglasiana
- P** - Penstemon heterophyllus 'Margarita BOP'
- SS** - Solidago sp.

This is one of 3 plans found on the native plant nursery site for Yerba Buena Nursery

www.yerbabuenanursery.com

on the right side of the home page

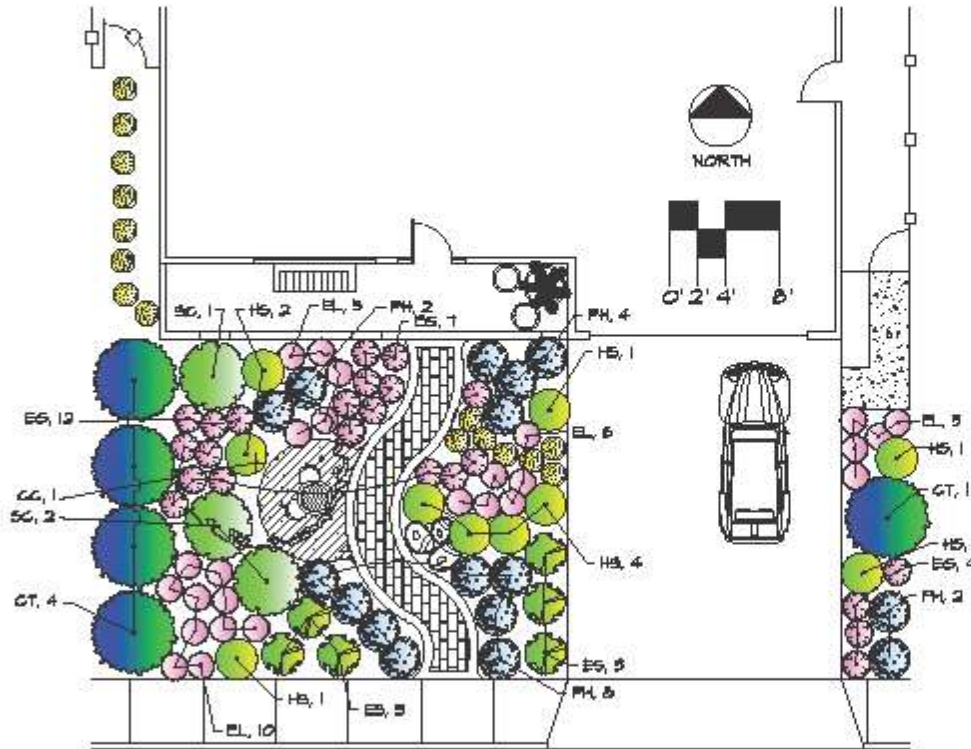
"Lawn Alternatives using California Native Plants"











GREEN GARDENS HEALTHY CREEKS

Café Garden (Small, Sunny Yard)

Sustainable concept design for yards in Santa Clara Valley



-  Pervious pavers
-  Used wooden or iron cafe table
-  Bench made from recycled plastic
-  Existing concrete porch
-  Garden pots
-  Existing front door or garden gate
-  Concrete stepping stone
-  Group of boulders



Roxy Buckwheat
Eriogonum grande var. *subescens*



California Fuchsia
Epilobium septentrionale
'Wayne's Silver'



Seaside Daisy
Eriogonum glaucum 'Wayne Roderick'



Beard Tongue
Penstemon heterophyllus
'Margarita Boy'



Cleveland Sage
Salvia clevelandii



Sticky Monkeyflower
Mimulus aurantiacus

About the Concept Design Series

These designs are simple concepts to provide inspiration and ideas. Check with local nurseries, landscapers or other sustainable garden designers to help choose the best plants for your yard.

10 sample plans / City of San Jose website

<http://www.sanjoseca.gov/index.aspx?NID=3734>

What does professional landscape design cost?

- Typical landscape designer rates are around \$75-125/hr
- Landscape architects are higher (usually 10-12% of construction cost)
- Average front yard design costs range from \$1000 to \$2500
- Average backyard design costs range from \$2000 to \$4000

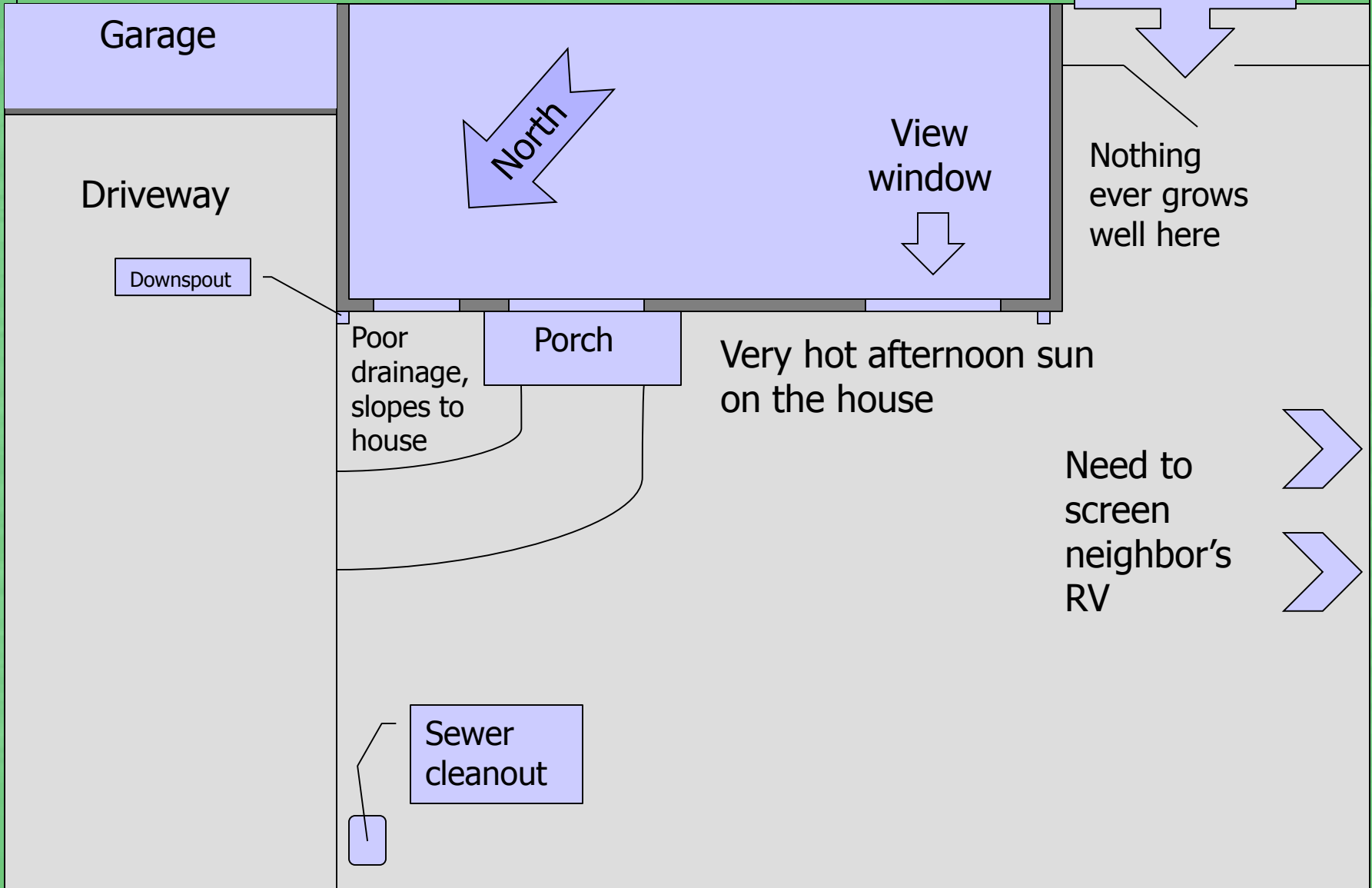
Professional Costs:

<http://www.earthcareland.com/what-we-do/installation.html>

Steps for Landscape Design

1. Goals
2. Budget
3. Site Analysis
4. Base Map
5. Conceptual Diagram
6. Select Plants

Site Analysis Example



Garage

Driveway

Downspout

North

View window

Porch

Poor drainage,
slopes to house

Very hot afternoon sun
on the house

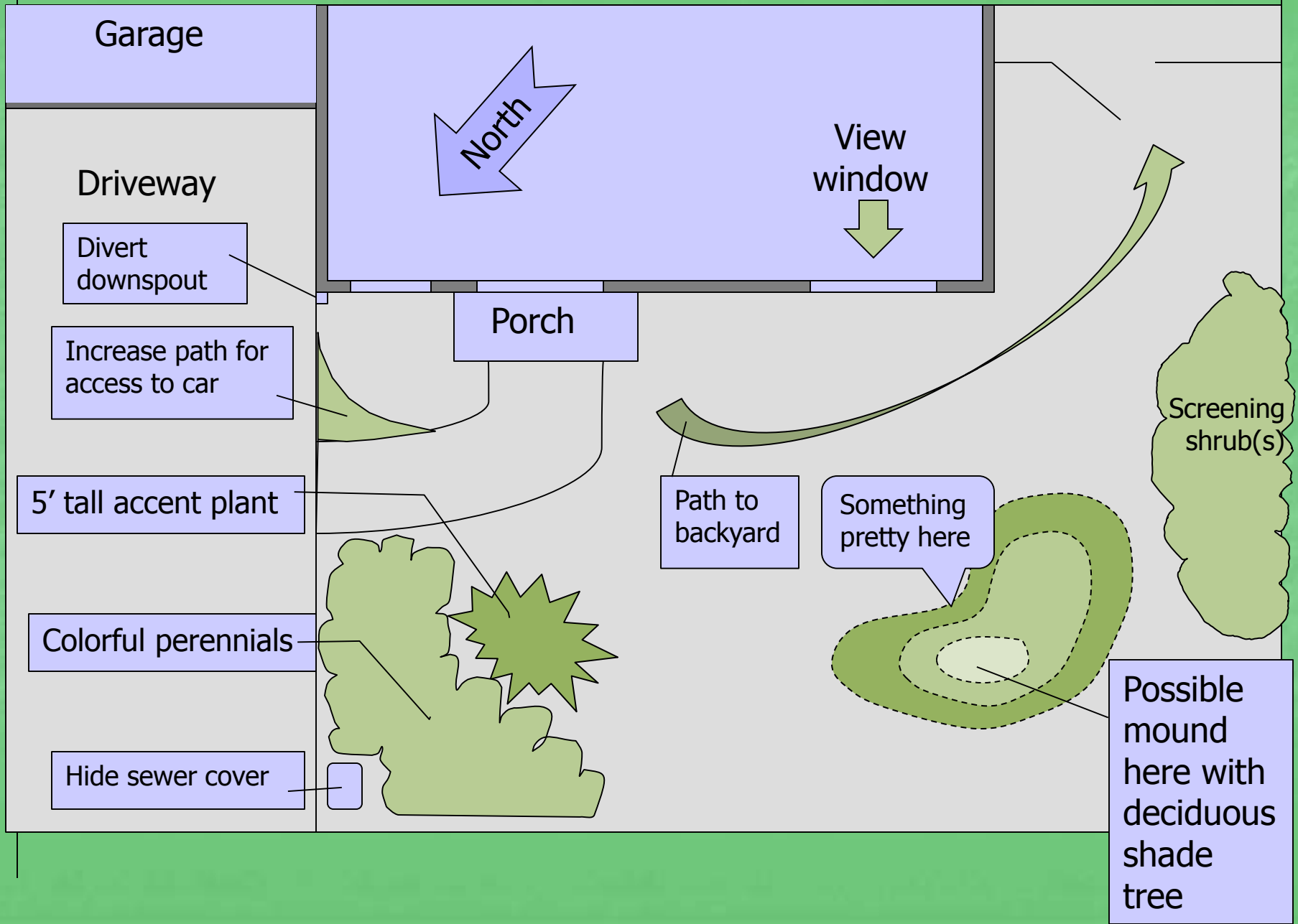
Sewer
cleanout

Need new
fence & path
to backyard

Nothing
ever grows
well here

Need to
screen
neighbor's
RV

Conceptual Diagram Example



Common mistakes

- The collector's garden (one of everything!)
- Overplanting
- Not enough contrast between plants
- Designing by flower color (needs "bones")
- Not creating conditions for the plants to thrive
- Mixing different hydrozones
- Not maintaining the garden

Leaf texture contrast is important



GOOD CONTRAST



POOR CONTRAST

Drawn by Fran Adams

Design Concepts

- The rule of odd numbers
- Massing
- Layering
- Repetition
- Contrast
- Function



Design & photo by Pete Veilleux



Design: Stephanie Curtis Photo: Deva Luna

Texture, massing, repetition



Design: Stephanie Morris Photo: Deva Luna

Massing, repetition, layering



Textural contrast & massing



Structure & texture



Design: Sherri Osaka Photo: Deva Luna

Structure



Hydrozoning

Photo: Carol Bornstein

BONES:

Hardscape that is attractive, bold and functional



BONES:

Contemporary retaining wall



Native Horsetail (keep contained!)

BONES

can also be plants with good structure

Dr. Hurd Manzanita



GUTS:

Outstanding and hard working perennials



Cedros Island Verbena & Poppies

SKIN:

Ground covers that tie it all together visually



Green Supreme Manzanita & Pt. Sal Spreader Sage

ACCENTS:

Focal points to draw the eye





California Buckeye

Try to create year-round interest



Spring



Douglas Iris & Alum Root

Summer



Autumn Sage & Beach Aster



CA Fuchsia & Deer Grass

Fall



Winter textures

Cleveland Sage & Deer Grass

DIY Installation FAQs

- How long will this take? (That depends on your time and skill)
- When's the best time to install? (Fall is best, but anytime is possible)
- Can my regular gardener maintain it?
(Yes, with training. I recommend the Green Gardener Program)
- How to transition to drip (tutorial)
- How do you decide what is worth keeping? (Love it? Serves a function well vs. it's diseased, ugly, or in the wrong place.)
- How do you remove shrubs and trees? (Hard labor with a saw, pick, shovel and possibly a stump grinder)
- Where do I get materials? (list to be provided)
- How big is 10 yards of free mulch? (It will fill 1/2 your driveway)
- How do I calculate yards of mulch or compost? (Contractor math)

What tools do I need?

NECESSARY

- Plan
- Gloves (favorite is Atlas Nitrile Grip)
- Shovel
- Rake/pitchfork
- Wheelbarrow
- Pruners (for drip tubing)
- Garden hose

OPTIONAL

- Pick to remove shrub roots
- Lawnmower or string trimmer
- Truck is handy for compost, but it's also deliverable
- Plumbing tools, if you are changing your system to drip (pipe wrench, PVC pipe cutter, etc.)
- Good friends!

What materials do I need?

NECESSARY

- Newspaper or builder's paper
- Free mulch
- Compost
- Plants
- Drip irrigation parts, including a pressure reducer & filter (or a willingness to hand water)

OPTIONAL

- Mycorrhizae
- Compost Tea
- Purchased mulch
- Boulders
- Focal elements like bird bath, bench, pots

SOIL TESTS

- Profile (dig a hole)
- Composition (simple tests)
- pH (simple home test kit)
- Drainage (Percolation/hole test)
- Fertility (professional lab)
- Biology (professional lab)

JAR TEST

Fill a jar 1/3 full of soil, 2/3 water
Shake well
Draw lines on the jar at different
time points, don't disturb

After 1 minute – sand settles out
After 1 hour – silt
After 2 days – clay
Organic material floats to the top



Simple, at home test for soil texture (sand/silt/clay)

RIBBON TEST

- Moisten a bit of soil in your hand and knead it to remove dry clumps
- Squeeze a ribbon upwards between your thumb and fingers
- Stand it upright as you push it out.
- Measure where it breaks off
- 1" sand
- 2" silt
- 3" clay



Percolation Test



Dig a hole and prefill it if the soil is dry

Fill your hole with water





Measure how fast it drains. This Oakland soil drained 2 ½" per hour. Clay soil might drain at only ¼" per hour.

Professional Labs

Chemical testing for soil fertility, pH, and more

- Master Gardeners of Santa Clara County has a list of labs
(Univ. of Mass. is the least expensive)

• http://www.mastergardeners.org/pdf/import/resources/Soil_testing_laboratory_list.pdf

Biological testing for fungi, bacteria, nematodes

- Botanical Arts Alane Weber 650-348-2094
- Mauby All Natural Brian Debasitis www.mauby.com
- Soil Foodweb Intl. Dr. Elaine Ingham www.soilfoodweb.com

Healthy Soil

(Feed the soil, not the plants)

- Organic fertilizers
- Mycorrhizae
- Compost
- AACT (Aerobically activated compost tea)
- Sheet Mulch
- Electric blower, just for paths

Brew your own Compost Tea - KIS



Home brewing in our office bathroom!



What does professional landscaping cost?

Demo, planting, lawn, irrigation only	\$8 to \$10/sft
Typical yard, softscape & average amount of hardscape	\$13 to \$18.5/sft
More complex with more hardscape	\$27 to \$39/sft & up

Professional Costs: <http://www.earthcareland.com/what-we-do/installation.html>

Do not use unlicensed operators; they put your home at risk by carrying no insurance. They put trained, bonded, licensed professionals who carry worker's compensation for their employees, out of work.

Costs, if you do all the work yourself

Assuming you already own or can borrow the tools

- Plants: \$5-12 each for small plants (4"-1 gallon)
- Mulch: \$33/yd woodchips, \$73/yd firbark, \$32/yd arbor chips at Lyngso (also can get free)
- Irrigation: \$250-\$300 includes 2 new valves and timer
- Compost: \$40+/yd, municipal compost is less
- Compost Tea: \$8/gallon, get 3-4 gals. which can be diluted
- Builders paper: \$15/3'x140' roll (doubled covers 200sft)
- Staples \$60/1000, but can get smaller amount
- Sod Cutter rental: \$100 for 2 hours (This is only if you have Bermuda Grass. They can be temperamental.)

Sources for material

Plants

- Capitol Wholesale Nursery – good selection of natives, will sell retail
2938 Everdale Drive, San Jose www.capitolwholesalenursery.com
- Native Revival Nursery – great plants, and other retail items, demonstration garden
2600 Mar Vista Dr. Aptos, CA 95003 www.nativer revival.com
- California Native Plant Society has member plant sales all year, for the public in October,
at Hidden Villa

Mycorrhizae

Capitol Wholesale Nursery, see above
Most retail nurseries

Compost, Mulch, Boulders & Flagstone for stepping stones

- Lyngso Garden Materials 345 Shoreway Rd, San Carlos, 94070 www.lyngsogarden.com
- Mountain View Garden Center 50 Centre St., Mountain View www.mountainviewgardencenter.com
- South Bay Materials 1781 Angela St, San Jose, CA 95125 (408) 977-1855
- U-Save Rockery 589 E Gish Road, San Jose CA 95112 www.usaverockerysanjose.com

Sources for material

Irrigation Parts

- Home Depot & Orchard Supply (be careful of the ½” tubing size!)
- Ewing Irrigation (wholesale/will sell retail) 1735 Rogers Ave, San Jose www.ewing1.com
- Horizon Irrigation (will sell retail) 1990 Stone Ave, San Jose, CA 95125 www.horizononline.com

Free Arbor Chips

Use the phone book and start politely calling tree trimming companies
Lyngso sells (and delivers) arbor chips, for \$32/yd

Live Compost Tea

Lyngso Garden Materials (usually on Wednesdays, call ahead)
Mauby All Natural Brian Debasitis www.mauby.com

Builder's Paper (Don't get the one with waterproofing!!!)

Lyngso Garden Materials 345 Shoreway Rd, San Carlos, 94070 www.lyngsogarden.com
Home Depot

HELP WITH HYDROZONING!

www.waterwonk.us

California plant database search tool

Choose city ► Plant search ► My plant list

1

A plant's water needs vary with the climate region where it will live. Choose a city and the tool will place your search in the correct WUCOLS climate region.

2

Proceed to the plant search page, and search to your heart's content. There are 12 different search criteria you could specify, or just bring up the entire regional list, or the full list showing all plants and all 6 regions. You will be presented with the WUCOLS water-use value for each plant.

3

Create a list of plants for your project. This list can be printed or downloaded to your favorite spreadsheet program. We will save your plant lists for you in our database.

- You may have one courtesy plant list for each region. To access your existing plant list for any given region, you must first choose a city in that region, and then go to the plant search page. Your list may be accessed from the "Plant Search" page.
- In order for you to create plant lists, you must register for the site. Signing up is free, quick, and easy to do.

[What is WUCOLS?](#)

Water Use Classifications of Landscape Species

Water Use Classifications of Landscape Species (WUCOLS) provides a guide to estimating irrigation water needs of landscape plantings in each of 6 distinct California climate regions. WUCOLS was developed by the University of California Cooperative Extension in cooperation with landscape professionals and funded by the California Department of Water Resources.

[Click pdf icon to view or download WUCOLS if plant list. Learn more about WUCOLS \[here\]\(#\)](#)

Get started



Choose City to identify WUCOLS REGION

[Show instructions](#)

Find city in WUCOLS REGION		Go to Plant Search
	1 North Central Coastal ▾	
	2 Central Valley ▾	
	3 South Coastal ▾	
	4 South Inland Valley ▾	
	5 High and Intermediate Desert ▾	
	6 Low Desert ▾	
Or find by city name		Find city
Begins with	<input type="text"/>	

Search for a category

Example: very low native trees

Plant Search

North Central Coastal, CA

WUCOLS Region 1

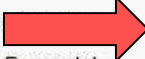
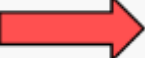
[Choose new city](#)

[Save to PDF](#)


Botanical name begins with


Common name begins with

Plant Type

- Ba Bamboo
- Bu Bulb
- G Grass
- Gc  Tree
- P Perennial
- Pm Palm 
- S Shrub
- Su Succulent
- V Vine

Water use

- Very Low
- Low
- Moderate 
- High
- Unknown
- Not appropriate for this region
- Reduced Summer Water [What's this?](#)


 California Native

[Go to WUCOLS list for all 6 regions](#)

All plants for this region

 New Search

 California Native

 Reduced Summer Water

Go to list

Search Results

21 plants:

California Native

Type-Tree

Water use-Very Low

Type	Botanical Name	Common Name	Water Use	Flickr Photos	Select for My List
S T	Adenostoma sparsifolium 	red shanks/ribbonwood	Very Low	See it	<input type="checkbox"/>
T	Aesculus californica  	California buckeye	Very Low	See it	<input type="checkbox"/>
S T	Arctostaphylos glauca  	big berry manzanita	Very Low	See it	<input type="checkbox"/>
S T	Arctostaphylos manzanita 	common manzanita	Very Low	See it	<input type="checkbox"/>
T	Cercis occidentalis  	western redbud	Very Low	See it	<input type="checkbox"/>
T	Chilopsis linearis  	desert willow	Very Low	See it	<input type="checkbox"/>
S T	Comarostaphylis diversifolia (Arctostaphylos diversifolia)  	summer holly	Very Low	See it	<input type="checkbox"/>
T	Hesperocyparis macnabiana (Cupressus macnabiana) 	MacNab cypress	Very Low	See it	<input type="checkbox"/>
T	Hesperocyparis stephensonii (Cupressus arizonica ssp. arizonica, C. arizonica var. glabra)  	Cuyamaca cypress	Very Low	See it	<input type="checkbox"/>
T	Parkinsonia florida (Cercidium florida)  	blue palo verde	Very Low	See it	<input type="checkbox"/>
T	Parkinsonia microphylla (Cercidium microphyllum)  	little leaf palo verde	Very Low	See it	<input type="checkbox"/>
T	Pinus attenuata 	knobcone pine	Very Low	See it	<input type="checkbox"/>
T	Pinus longaeva 	bristlecone pine	Very Low	See it	<input type="checkbox"/>
T	Pinus ponderosa 	ponderosa pine	Very Low	See it	<input type="checkbox"/>
T	Pinus sabiniana  	foothill pine	Very Low	See it	<input type="checkbox"/>
T	Quercus agrifolia  	coast live oak	Very Low	See it	<input type="checkbox"/>
T	Quercus chrysolepis  	canyon live oak	Very Low	See it	<input type="checkbox"/>



Add

Results for "Very Low Trees"
Click on "See it" for a picture!

Cercis occidentalis – Western Redbud



Search for a plant and find out its water requirement

Plant Search
North Central Coastal, CA
WUCOLS Region 1

[Choose new city](#)
[Save to PDF](#)

Botanical name begins with

Common name begins with

Plant Type

- Ba Bamboo
- Bu Bulb
- G Grass
- Gc Groundcover
- P Perennial
- California Native

Water use

- Vm Palm
- S Shrub
- Su Succulent
- T Tree
- V Vine

Very Low
 Low
 Moderate
 High
 Unknown
 Not appropriate for this region
 Reduced Summer Water [What's this?](#)

[Go to WUCOLS list for all 6 regions](#)

[New Search](#) [California Native](#) [Reduced Summer Water](#)

Search Results

1 plants:
common name begins with "Japanese Maple"

Type	Botanical Name	Common Name	Water Use	Flickr Photos	Select for My List
T	Acer palmatum	Japanese maple	Moderate	See it	<input type="checkbox"/> <input type="button" value="Add"/>

LESSONS FROM *“NATURAL FRONT YARDS”*

- Sustainable landscaping ideals of material re-use and minimal disruption
- Affordable lawn replacement using natives in sheet mulch
- www.naturalfrontyards.com

BEFORE



AFTER

“Natural Front Yards”



Not for Bermuda or Oxalis (different treatments)

STEP-BY-STEP PROCESS

1. Remove unwanted shrubs
2. Cap off sprinkler system underground
3. Scalp lawn (optional)
4. Cut back edges near hardscape, 4" deep
5. Mound extra soil
6. Cover with paper and arbor chips
7. Plant small plants in planting pockets with mycorrhizae & compost
8. Install drip lines
9. Cover with attractive mulch
10. Spray with compost tea (AACT)

Organic Bermuda Removal

1. Water the soil 3 days before removal.
2. Rent a sod-cutter, make two passes (about 1 1/2" each) to remove most of the rhizomes.
3. Remove to the landfill or other location to dry out thoroughly (then you can reuse the soil)
4. Rototill lightly, and rake out Bermuda
5. Follow up by spot hand weeding anything that re-sprouts

Organic Oxalis Removal

I haven't really found any (sigh)

Persistent hand pulling before it flowers, for three years

Weeding can be combined with lots of smothering, but will need to replenish paper/cardboard annually



Oxalis pes-caprae

Chickens do eat Oxalis!



CHICKEN TRACTOR

STEP BY STEP IN PICTURES



Scalped lawn

Usually there will be existing plants to keep.



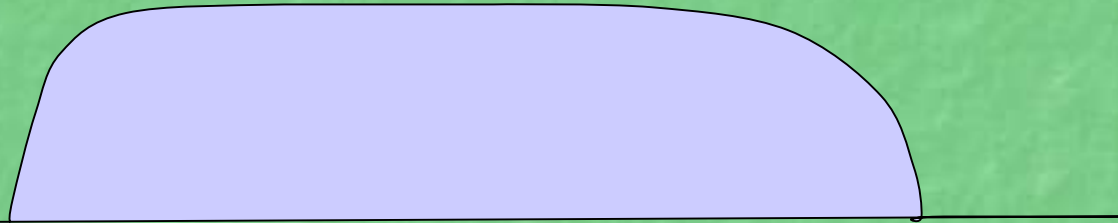


Cut back the edges near hardscape



**Cut back the edges and make
a mound with the extra soil**

How to shape a mound



Steep sides look unnatural

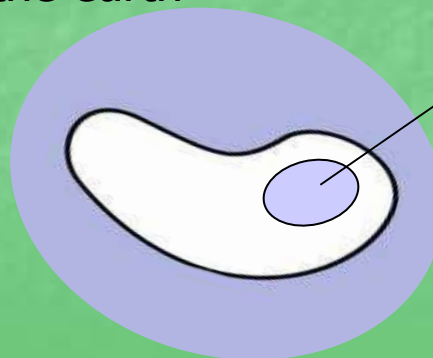


Make one point higher

Gradually taper the edges into the earth

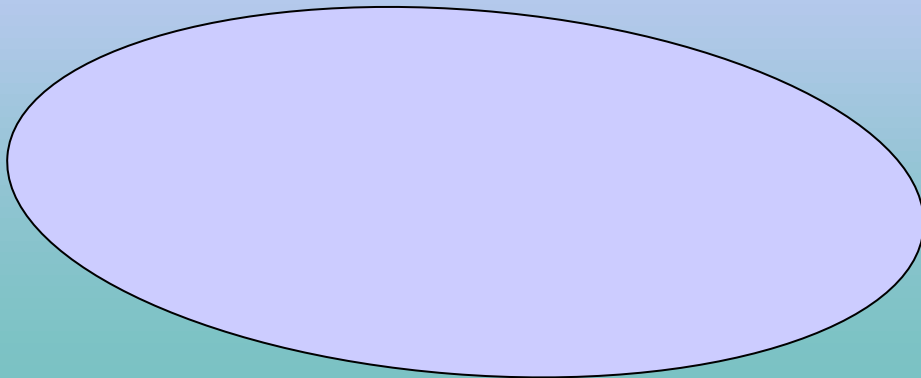
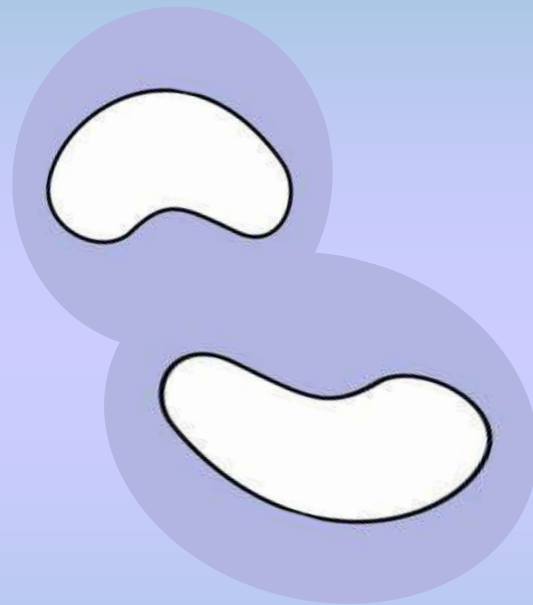
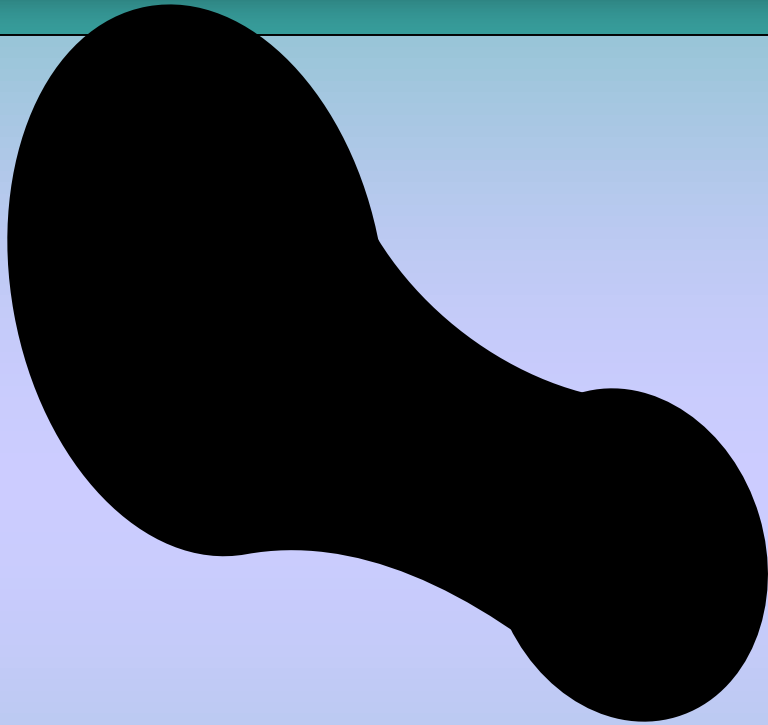


Too regular

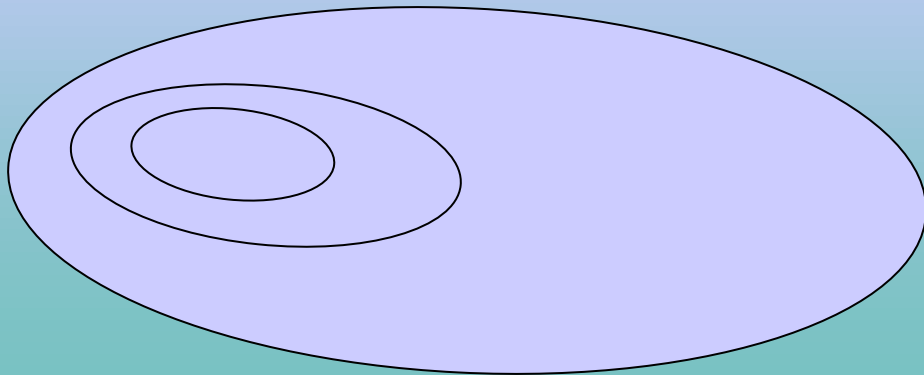
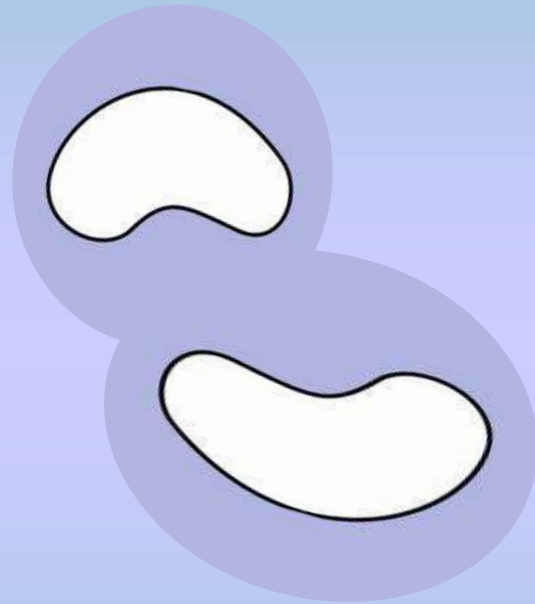
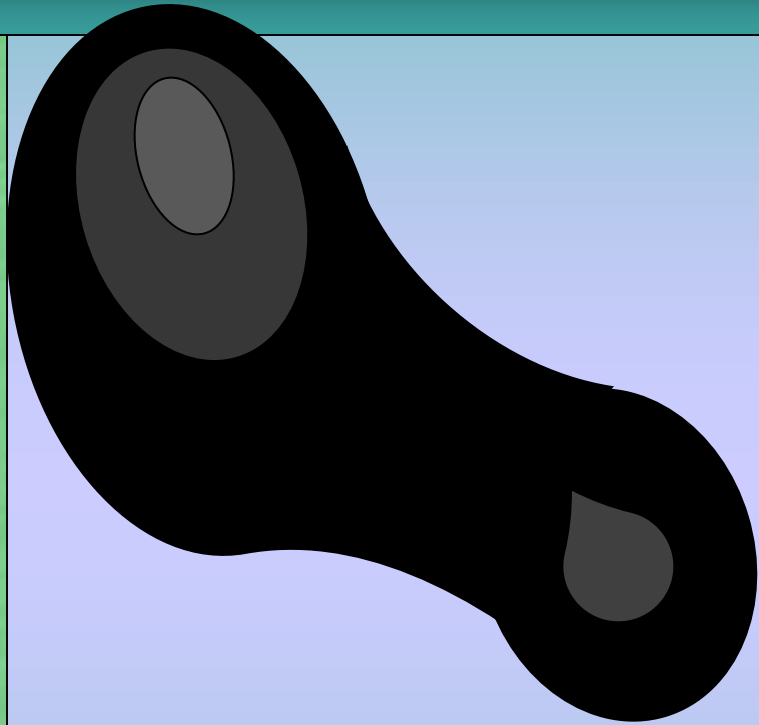


More natural

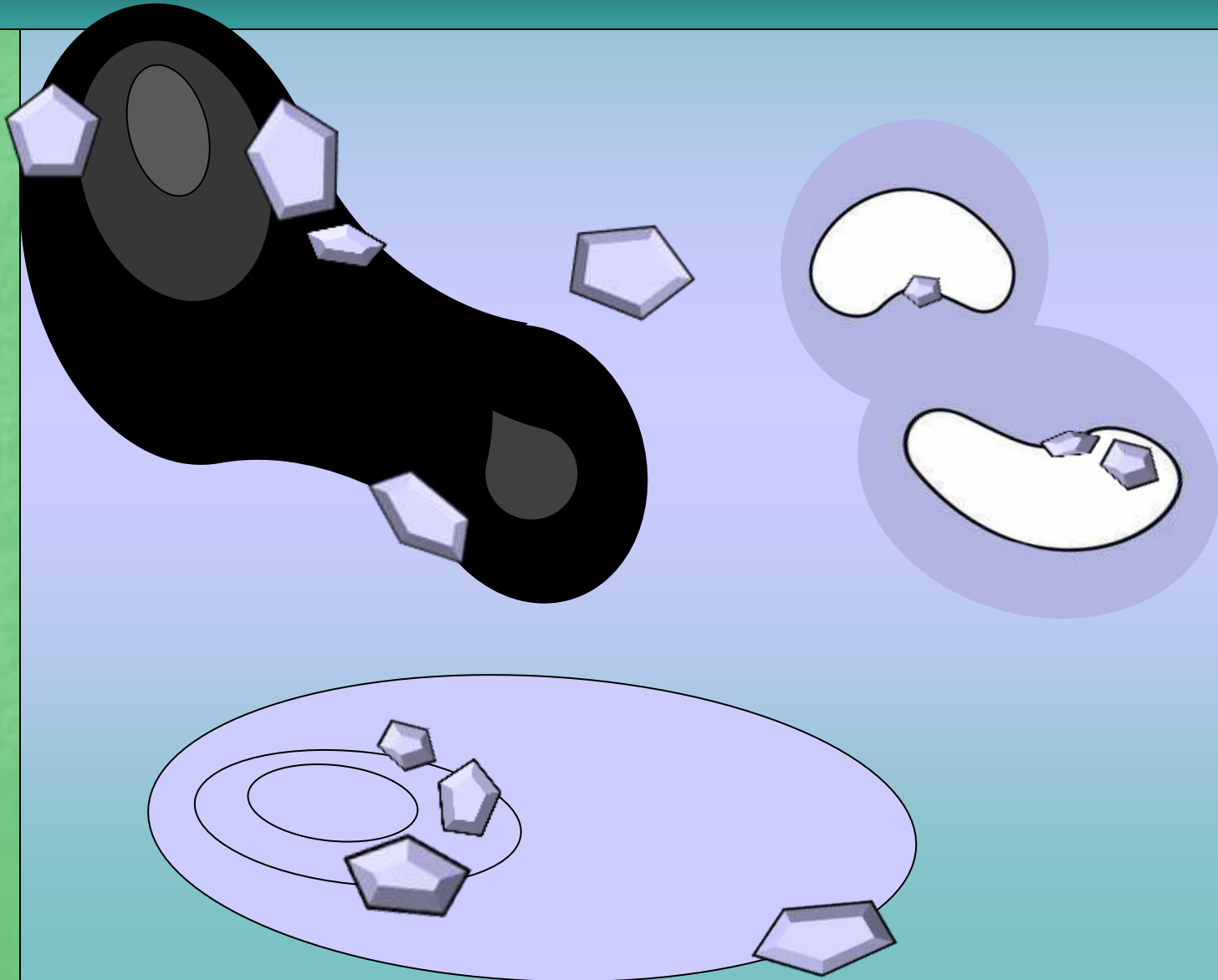
MOUND SHAPES



MAKE ONE END HIGHER



PERHAPS ADD BOULDERS





Examples of natural looking mounds



Front yard with extensive mounding



Smother grass with paper



Free arbor chips

3/4" firbark

Wood chips

Examples of organic mulch

Construction Math

CALCULATOR: Bulk materials like compost and mulch are measured in cubic yards.

To figure how many yards you need:

Square foot coverage (width x length) X number of inches of depth. Then divide by 324.

Example: to put 4" of mulch on a 20' x 30' area = 600sft
 $4 \times 600 = 2400 / 324 = 7.4 = 7 \frac{1}{2}$ yards.



Delivery of “Arbor Chips” on top of paper





Space plants for ultimate growth



Planting “pocket” in mulch



**Scuff or open root balls,
Add mycorrhizae**

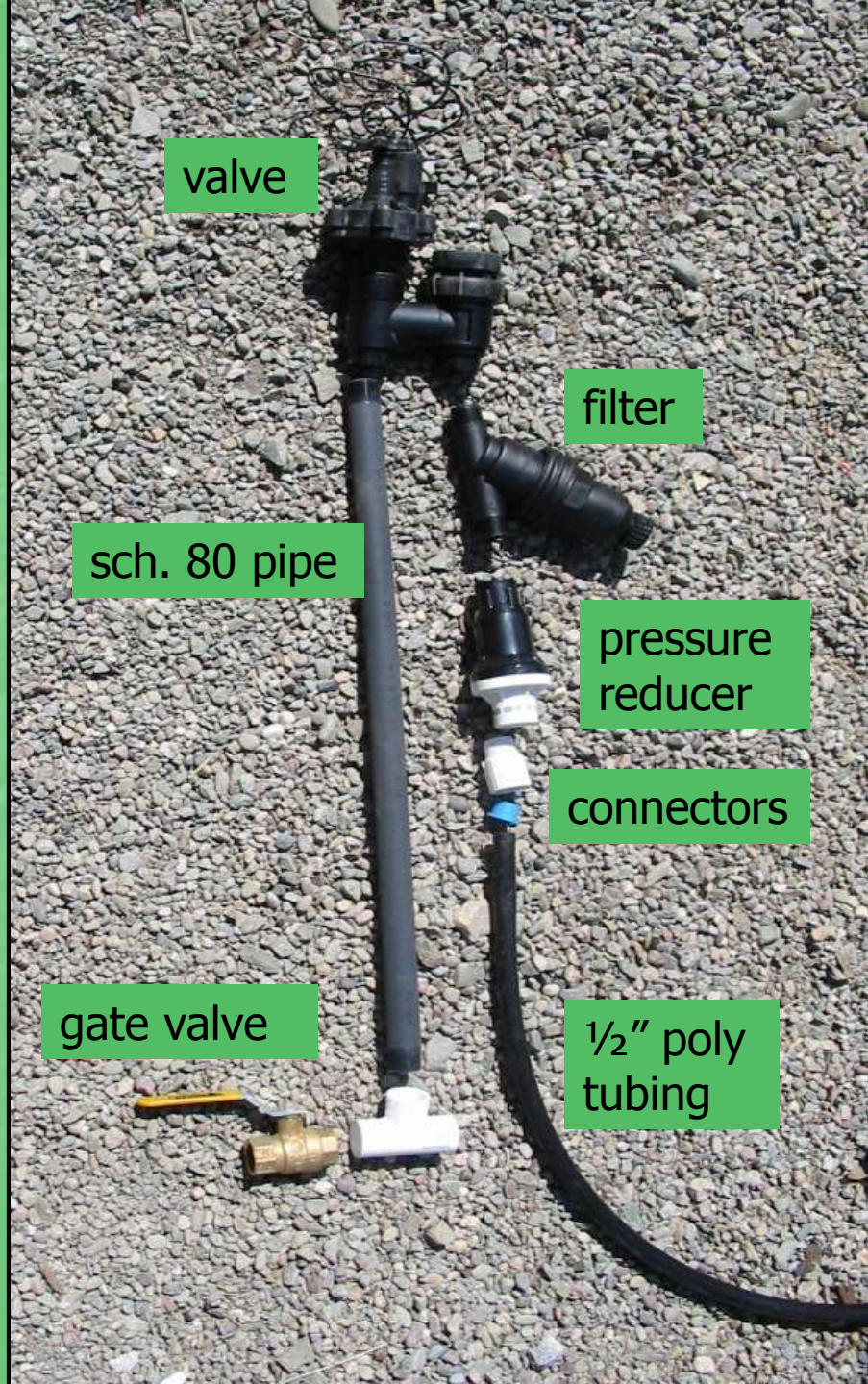


Drip irrigation



Expandable drip irrigation

How it goes together



Change your sprinklers to drip

- Turn off irrigation system and separate the valves from the pipes
- Unscrew the sprinklers, leaving the pipes in the ground
- To make sprinkler valves suitable for drip, add a 30psi pressure reducer and a filter to each one. They need to be 12" above the highest point of the system, on schedule 80 pipe. Use teflon tape on threads.
- Connect 1/2" drip lines to the valves and snake them around the yard. Make sure your .710 or .620 tubing matches your compression fittings (Raindrip is the smaller one)
- After you plant, add 1/4" tubes with a barb to each plant. Use a hole punch
- Connect a length of 1/4" tubing that has emitters every 6 or 12", add an end plug. Spiral it around the plant and stake it in place.
- Flush your system, cap the end and test your system.

Slopes

- If steep, you may wish to terrace
- Mulch on newspaper just slides off so instead, use a sandwich of shredded redwood bark, jute with 6" sod staples, and more bark
- Valves need to be 12" above the highest irrigation lines or have backflow device between water source and valves
- Place emitters above the plant
- Separate zones on the contour, not up and down
- Water the top of hill more than the bottom



Dry creek rough grading

Plants laid out with dry creek





Dry creek and two colors of mulch



Natural Front Yard one year after planting





November 2010



Six months later





Newly planted Oct. '09



Natural Front Yard two years after planting





October 2008



Same yard three years after planting

Large lawn in front yard



Newly planted



18 months later



Some of my favorite native plants. . .





Great low water spreaders



Avoid narrow planting areas, if possible



DWARF COYOTE BUSH

Baccharis pillularis 'Twin Peaks'



Yankee Point California Lilac

Ceanothus griseus horizontalis 'Yankee Point'



Ground Cover Native Sage

Salvia 'Bee's Bliss'



Hummingbird Sage
Salvia spathacea



Evergreen Currant

Ribes viburnifolium

Dramatic accent grass



Deer Grass — *Muhlenbergia rigens*

Dry shade combo



Douglas Iris & Alum Root

Iris douglasii & *Heuchera maxima*

A reasonable sized plant for a trellis



Catalina Perfume — *Ribes viburnifolium*

Tall bushy screening



Toyon & Wax Myrtle

Heteromeles arbutifolia & Myrica californica

Reliable low groundcover
(better than Emerald Carpet)



Carmel Sur Manzanita
Arctostaphylos edmundsii 'Carmel Sur'

Evergreen, 2' high ground cover



Coffeeberry Rhamnus 'Seaview Improved'

No water once established - Buckwheats



Eriogonum giganteum



Eriogonum arborescens



E. grande rubescens



E. Umbellatum var. polyanthum 'Shasta Sulfur'

No water once established - Sages



Salvia clevelandii



Salvia spathacea



Salvia 'Dara's Choice'



Salvia mellifera

Blooms a long time



Cedros Island Verbena
Verbena lilacina 'De La Mina'

Blooms late summer into fall



California Fuchsia (*Epilobium* – low forms)

Different Kind of Maintenance

- You will no longer need weekly maintenance
- Periodic additions of mulch when needed
- It is best to keep blowers to a minimum (rake the autumn leaves, or leave them as mulch)
- No pesticides (kills the good bugs and the soil biology)
- Selective shaping; no pruning with a electric hedge shears

Best book for maintenance (Spanish and English)

Care & Maintenance of Southern California Native Plant Gardens
by Bart O'Brian. \$30 out of print from Rancho Santa Ana Botanic
Gardens

- Find a Green Gardener:
<http://www.mywatershedwatch.org/findgardener.html>

Quarterly Maintenance

Spring

- Turn on irrigation system
- Check irrigation system for leaks, broken lines
- Apply compost tea

Summer

- Keep an eye on irrigation
- Watch for pests (IPM)
- Replenish mulch if needed
- Some deadheading (remove dead flowers to encourage bloom)

Fall

- Turn down irrigation timer
- Rake leaves (put in compost pile)
- Cut back perennials after bloom, groom grasses
- Hand weeding
- Apply compost tea

Winter

- Turn off irrigation system
- Continue hand weeding where needed
- Pruning of woody trees and shrubs



START WITH **THE END** IN MIND