

INSTALL IT YOURSELF



CALIFORNIA NATIVE GARDEN

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Third of a 4 part series

1. Drought Tolerant Landscape Design
April 4, 2017
2. Drought Tolerant Plant Selection
April 25 , 2017
-  3. Drought Tolerant Landscape Installation
May 2 , 2017
4. Drought Tolerant Landscape Maintenance
May 16, 2017

SANTA MONICA DEMONSTRATION

“garden/garden”



Conventional Landscaping

California Natives



TRADITIONAL GARDEN ESTABLISHED



SUSTAINABLE GARDEN ESTABLISHED



“garden/garden” Comparison

- 1/10 of the water
- 1/4 of the maintenance labor
- 3/5 of the green waste
- Increased habitat
- Lowered pollution

To view online:

<http://www.smgov.net/Departments/OSE/Categories/Landscape/garden-garden.aspx>

The Numbers Speak for Themselves

Traditional Landscape



57,000 Gallons

WATER



670 Pounds

YARD WASTE



80 Hours

**MAINTENANCE
HOURS**

Sustainable Landscape



6,000 Gallons

WATER



250 Pounds

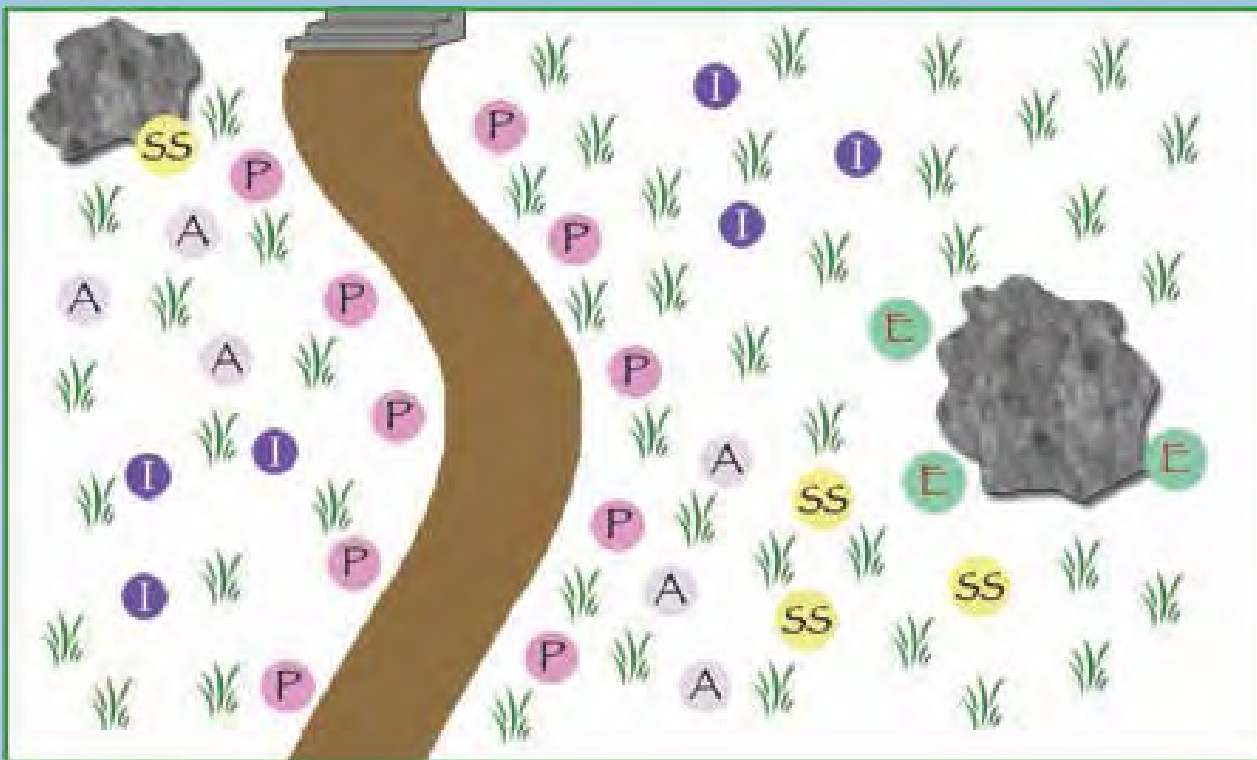
YARD WASTE



15 Hours

**MAINTENANCE
HOURS**

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"

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 ½ your driveway)
- How do I calculate yards of mulch or compost? (Contractor math)

What tools do I need?

NECESSARY

- Plan (see last week's presentation)
- 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

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

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.nativerivival.com
- California Native Plant Society has two plant sales/year, in April and October, at Hidden Villa

Mycorrhizae

Capitol Wholesale Nursery, see above
Most retail nurseries

Compost, Mulch, Boulders & Flagstone for stepping stones

- Lyngso Garden Materials 19 Seaport Blvd. Redwood City 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

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 ½" 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

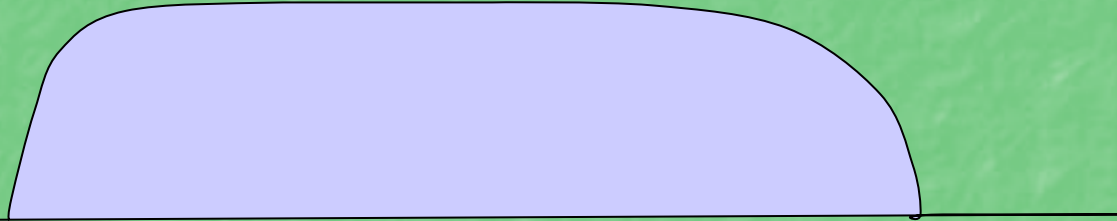


Cut back the edges near hardscape

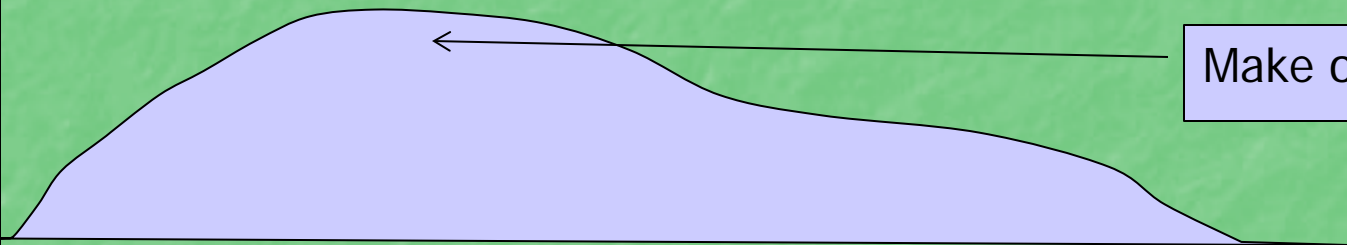


**Cut back the edges and make
a mound with the extra soil**

How to shape a mound



Steep sides look unnatural

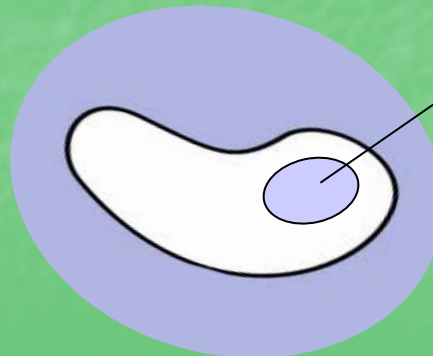


Make one point higher

Gradually taper the edges into the earth

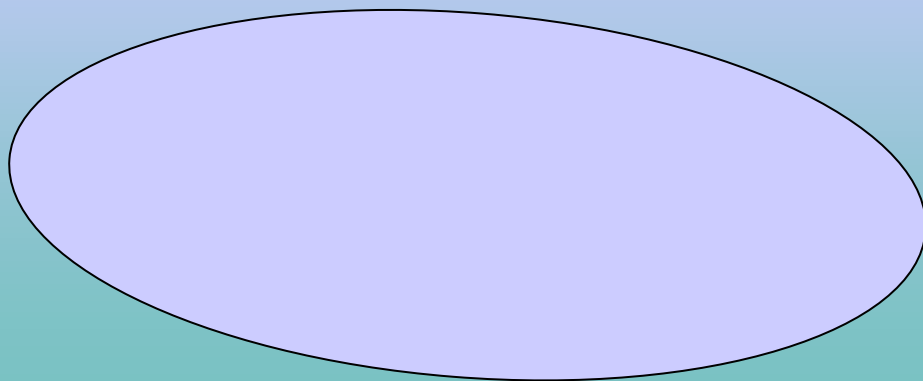
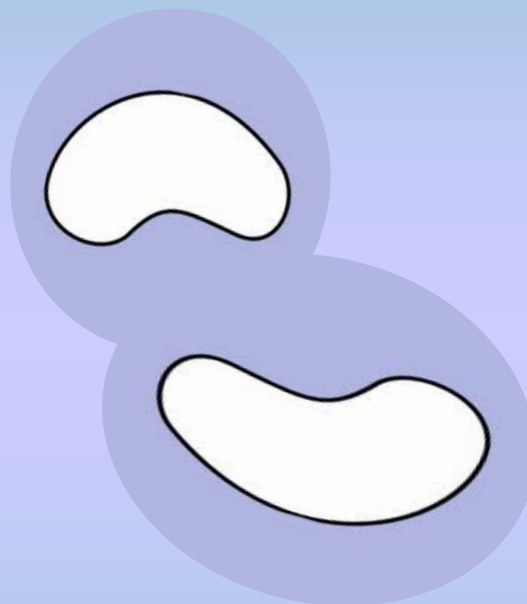
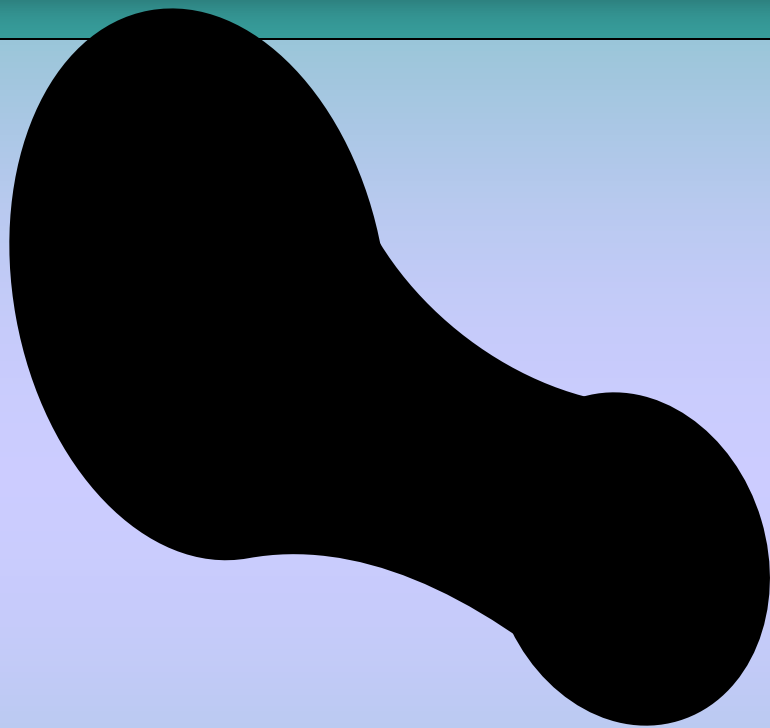


Too regular

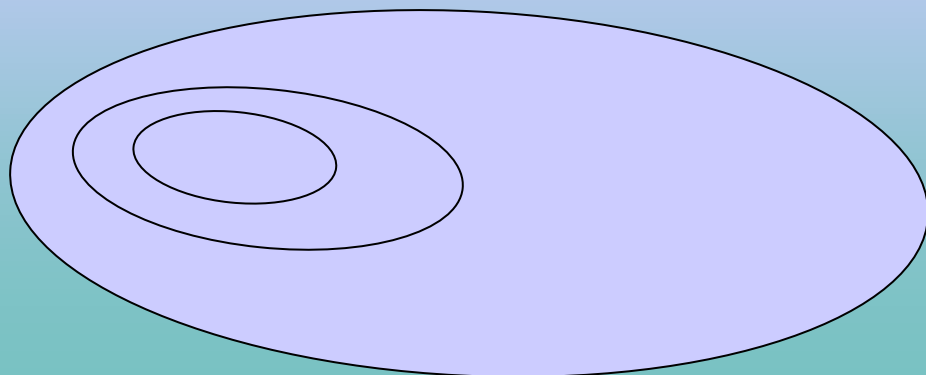
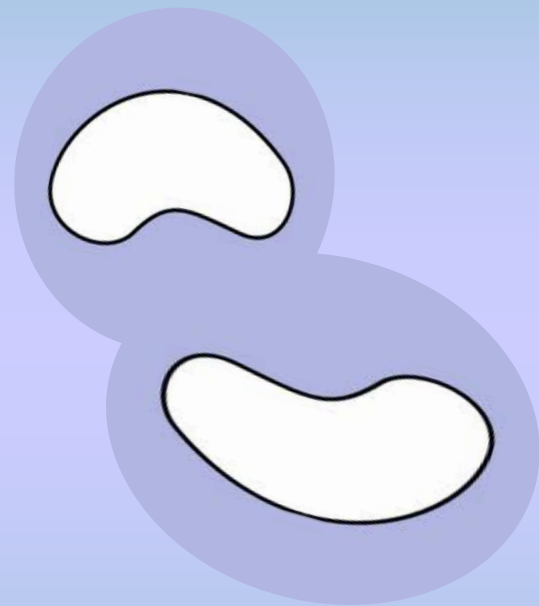
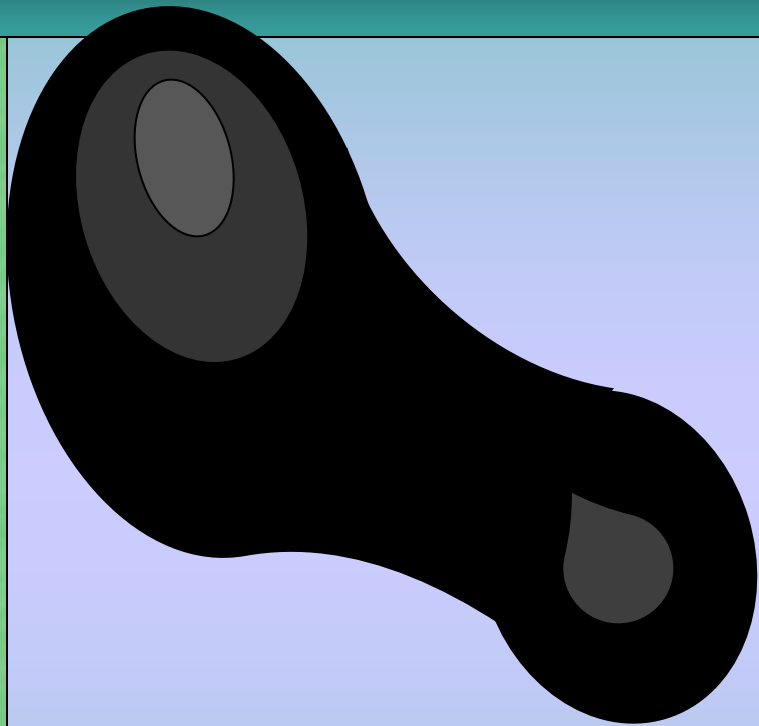


More natural

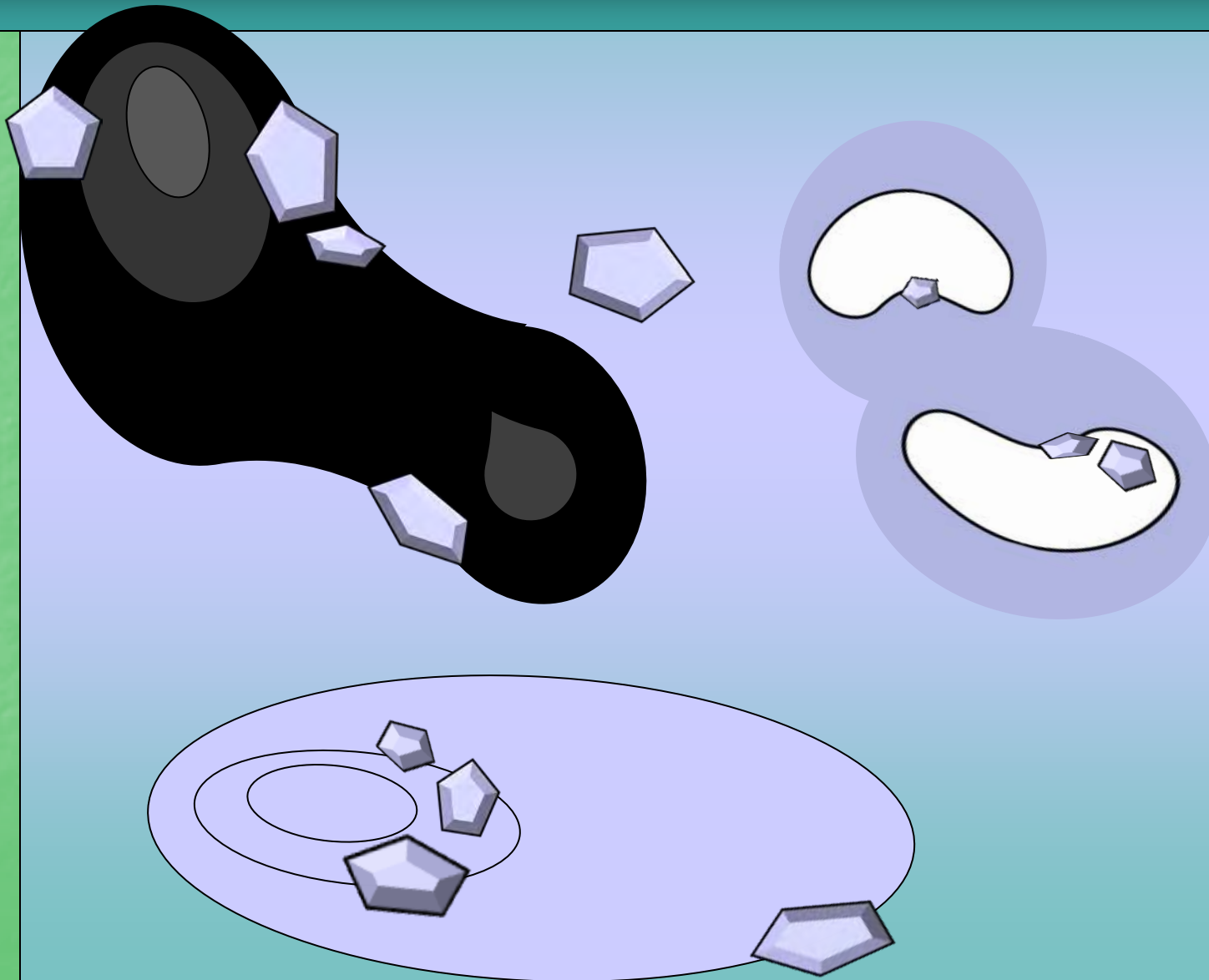
MOUND SHAPES



MAKE ONE END HIGHER



PERHAPS ADD BOULDERS





Examples of natural looking mounds



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**

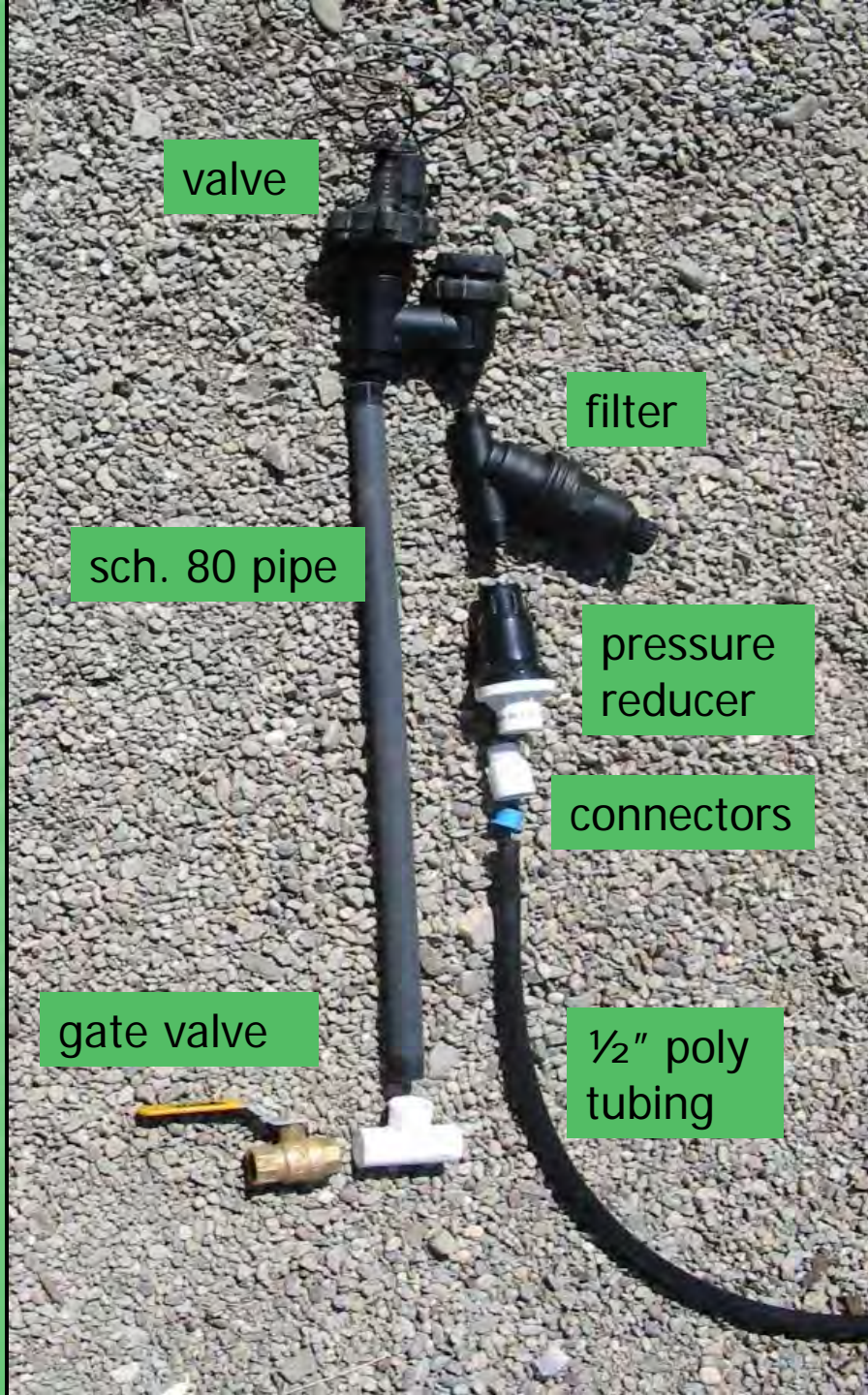


Drip irrigation



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 ½" 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 ¼" tubes with a barb to each plant. Use a hole punch
- Connect a length of ¼" 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.



Dry creek rough grading



Dry creek and two colors of mulch



Natural Front Yard one year after planting





November 2010



Six months later



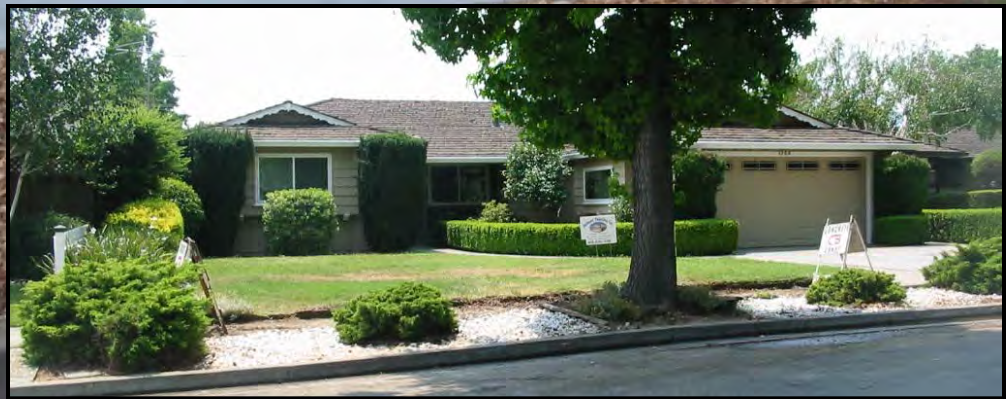


Newly planted Oct. '09



Natural Front Yard two years after planting





October 2008



Same yard three years after planting



THE END