

Rural Water Supply Reliability

Use these guides to help determine where on-site rain water capture works at your home



Implemented by: TreePeople
Funded under: The Budget Act of 2021
Administered by: Urban and Multibenefit
Drought Relief Program, California Department
of Water Resources



TreePeople



Table of Contents

How to Calculate the Size of a Rain Garden	1
How To Install A Rain Barrel	2
How To Connect Rain Barrels	4
How To Maintain A Rain Barrel	6
How to Install a Rain Chain	7
Do-It-Yourself Site Assessment Tool	9
Rain Garden Project Toolkit	14
Plant Templates	15
Create Your Own Rain Garden	20
Maintain Your Rain Garden	23
Native Plant Care Guide	24



How to Calculate the Size of a Rain Garden

It is important to determine if you have the space.

1. **Multiply the width by the length of the catchment area (roof) that directs rain into the downspout.**

This measurement gives the square footage of rain.

2. **Multiply the catchment area by the amount of rainfall.**

The rain garden should be sized to capture at least 3/4 inch (0.0625 feet) of rain that falls on the catchment area.

3. **Divide by the depth of the rain garden.**

The rain garden depth should be 6 inches (0.5 feet).

Is my site appropriate?

Is the area:

- At least 5 feet from utilities, driveway or the foundation of the house/garage?
- At least 3 feet from a sidewalk?
- In an area where water can be directed?
- If the answer is “yes” to all the questions, it is a potential site for a rain garden.

Here's the calculation

Catchment area x Rainfall in feet
Rain garden depth of 0.5 feet

Note: Convert the amount of rain to feet by dividing the number of inches by 12.

Example for a 400 square foot catchment area and 3/4 inch of rain

$$\frac{(400 \text{ square feet of catchment area}) \times (0.0625 \text{ feet})}{(\text{rain garden depth of } 0.5 \text{ feet})} = 50 \text{ square feet of rain}$$

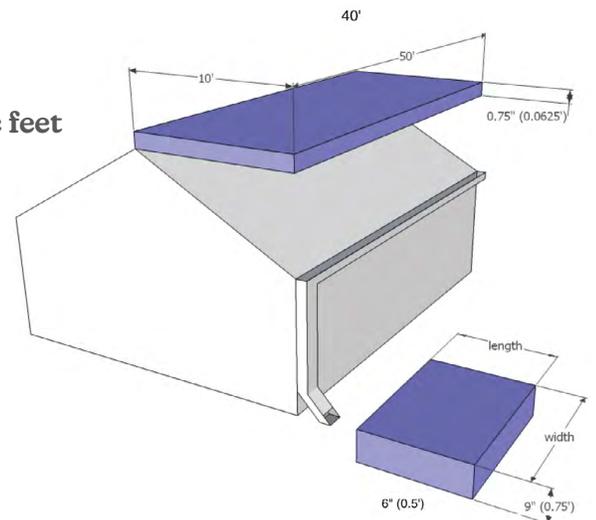
How many gallons?

$$(400 \text{ square feet of catchment area}) \times (0.0625 \text{ feet}) = 25 \text{ cubic feet}$$

$$25 \text{ cubic feet} \times 7.5 \text{ gallons} = \text{about } 187.5 \text{ gallons!}$$

Note: One cubic foot of water holds approximately 7.5 gallons

That means that a roof of about 400 square feet can capture almost 200 gallons every time it rains an inch!



How to Install a Rain Barrel

You'll need the following:

- Tin snips
- Needle-nose pliers
- Tape measure
- Safety glasses
- 2 cinderblocks
- Two 18-inch square pavers or four cinderblock toppers
- Sheet metal screws and anchors
- Drill
- Level
- Hacksaw
- Screw driver
- Earthquake straps
- Downspout elbow(s)
- Downspout bracket(s)
- Leaf guard for gutter (optional)
- Garden hose (optional)

Use the **How To Maintain A Rain Barrel checklist** on page 6 before installation to ensure gutters and downspouts are ready for rain water harvesting.

1. Determine the best place for a rain barrel.

Look for places where downspouts lead to hardscape areas and where overflow can be diverted from foundations and used on a garden area.

2. Raise the rain barrel approximately 12 - 15 inches.

Cinderblocks and 18-inch square pavers work very well as a strong and sturdy base.

Use a level to prepare the ground and to align the bottom paver. This will ensure the base for the barrel is stable.

From the bottom, lay down one paver, place two cinder blocks (on their sides and beside each other) on top and the second paver on top of the cinder blocks, creating a “sandwich” base for your barrel.



3. Place the rain barrel on top of the base.

4. Decide how to best reconfigure the downspout.

It will likely need to be shortened and have pieces/elbows added.

Mark the downspout.



5. Cut the downspout at the mark using a hacksaw.

Remove the cut piece.



How-to Video

Watch [this video](#) to see a visual of how to install a rain barrel.



6. Attach the elbow(s) over downspout.

Use needle-nose pliers to crimp the ends of the cut downspout and slide it inside the elbow.

Attach the elbow to the downspout with screws, or for added stability, consider securing the elbow to the building with a bracket.



7. Do a test run.

Use a water hose to run water through gutters and into the rain barrel. Make any needed changes.

If leaf litter is present in gutters, clean out and add a leaf guard.

8. Secure the rain barrel with metal/all-weather earthquake straps.

Use anchors and screws to secure to the side of house/building.



How to Connect Rain Barrels

In order to increase your storm water capture capacity, connect as many rain barrels as you want to each other.

You'll need the following:

- Heavy duty scissors
- Screwdriver
- Tape measure
- Safety glasses
- Hose
- Cinder blocks
- Rain barrels
- 1.750-inch hose thread Y-splitter for each barrel
- 2.75-inch female mender kit for each barrel (1 only for end barrels)

1. Install the first rain barrel.

Use TreePeople's [How to Install a Rain Barrel](#) on page 2 guide for initial installation.

2. Place additional rain barrels.

Place additional rain barrels in line with first installed barrel.

All the barrels should be at the same level.



3. Attach Y-splitters onto the barrel hose bibs on the lower portion of each rain barrel.



4. Prepare hoses to connect the barrels.

Use a tape measure to determine the distance between the Y-splitters.

Add 6 inches to the length measured and cut the hose to this length.

Slide clamp onto hose end, insert female hose fitting, and secure the clamp.



5. Attach hoses to the Y-splitters on each barrel to connect them.

Attach a hose to each Y-splitter hose bib, except for the ones on the end of the barrel line up.

Set the interior valves to the open position.

Set the two exterior valves to the closed position, except when accessing the water. You can connect your garden hose to these Y-splitters to use the water.



6. Do a test run.

Use a water hose to run water through gutters and into the rain barrel.

Check to ensure all fittings are tight and no water is leaking.

As water flows into the initial barrel it will be evenly distributed to the connected barrels.

As water is used, it will drain evenly between the barrels.

7. Secure the rain barrels with metal/all-weather earthquake straps.

Use anchors and screws to secure to the side of house/building.

8. Add a hose for overflow.

Attach a hose to the upper hose bib located near the top of the barrel, on one of the end barrels.

The upper hose bib on the other barrels should remain capped.

This outlet is for any overflow during a heavy rain event that fills the barrels.

Direct the overflow hose into a permeable garden area.



How To Maintain A Rain Barrel

During the summer months or right before you install your rain barrel, is a perfect time to go through this quick checklist. Any rainwater harvesting system starts with the rain gutters and downspouts. Keeping them clean and in good repair will ensure you can harvest every drop.

Rain Gutters and Downspouts

- Check for debris and clean out with broom or wet/dry vacuum.
- Adjust screens at downspouts and repair if necessary.
- If overhanging trees or greenery is clogging up the gutters, consider lightly pruning them back.
- Pour water into the gutter to check for any leaks. Repair if needed.
- Look for low spots or sagging areas where water may collect. Add extra supports and repair any rusty spots as needed.
- Check that downspouts are secure and reinforce with caulk and/or sheet metal screws. Clear any clogs in the downspouts.

Rain Barrels

- Empty rain barrels completely. Use wet/dry vacuum or empty any water into the garden.
- If there is any build-up of organic matter, spray out with a hose.
- Check earthquake straps and footing to ensure they are secure.
- Repair any holes in the mosquito screen and/or replace filters as needed.
- Check for leaks in the barrel, valves and overflow to make sure they are working properly. Repair as needed.
- Inspect overflow area to make sure that water will continue to drain away from structures and does not flow onto pavement or neighboring properties.



Once your rain barrel is installed, and throughout the rainy season, maintenance is easy. Simply use the water that's collected and make sure that the rain barrel is emptied on a regular basis. Right before a big storm, double check that the rain barrel is ready to go.

How to Install a Rain Chain

Rain chains are a fun and beautiful alternative to a downspout.

You'll need the following:

- Gloves
- Rain chain
- Tape measure
- Hacksaw
- Hanging bar
- Leaf filter (if needed)
- Tin snips
- Stones or gravel (optional)

1. Determine the best place for a rain chain.

Look for places where downspouts can lead to landscaped areas, rain barrels and where overflow can be diverted from foundations, are best.

2. Remove the downspout (if necessary) from the gutter.

3. Cut the gutter opening with tin snips into a "hula skirt."



4. Add hanging bar to opening in the gutter.

This can be a small metal U-shaped bar that is secured to the gutter opening.

Use a leaf filter if needed.



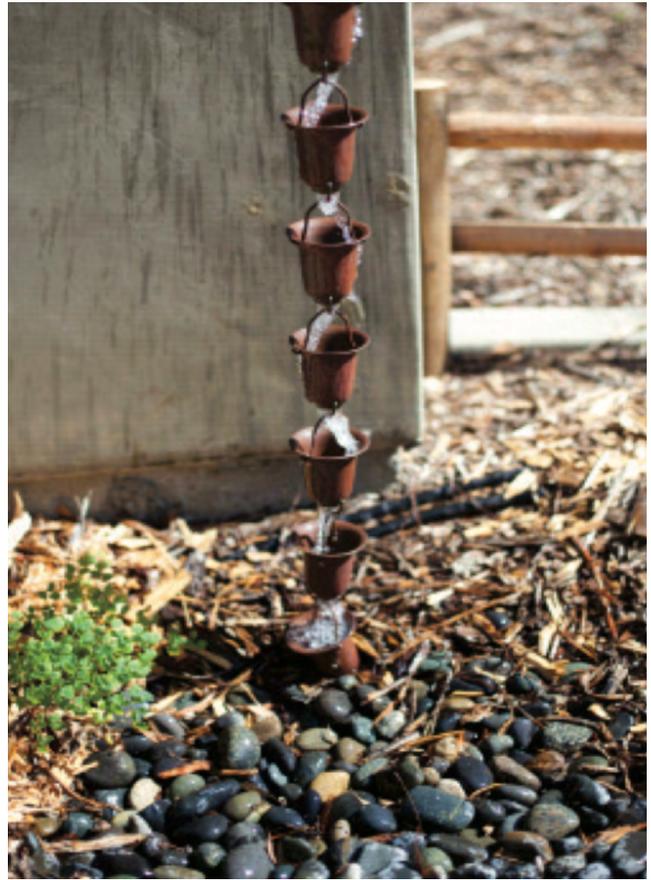
5. Secure the chain to the bar per the manufacturer's instructions

Bend those 2.5-inch strips toward each other so that they fold in towards the chain



6. Decide on the length of the rain chain.

It should reach from the gutter to the ground (or rain barrel, if desired).



7. Run the chain to a tank or to a landscaped area.

Rocks and/or a shallow basin can be used to create a lovely focal point.

8. If in a very windy area, anchor the bottom of the chain.

Do-It-Yourself Site Assessment Tool

The best place to start in growing a more sustainable landscape is by learning how to look at your site. Your goal will be to map and assess your site as the first step in creating a sustainable solutions plan.

Follow the steps to determine the details of your site.

1. Create a map of your site

Draw a general outline of your site, including any streets. You can make a simple sketch or use a Google map.

- Include the outline of major buildings.
- Add a compass rose to the top right corner of your map showing: East (E), the direction the sun rises; west (W), the direction the sun sets; north (N); and south (S).

2. Add the following to your map.

- Hardscape (Mark with diagonal lines)
This will be used to determine places that may be replaced with permeable surfaces, where water flows, and/or need to be/can be shaded. These include:
 - Parking lots
 - Walkways
 - Driveways
 - Patios
 - Any other areas of concrete and/or asphalt
- Landscape (Mark with dots)
This will be used to determine places that may be converted into various gardens (rain, native plant, edible), and/or serve as areas for water diversion and infiltration. These include:
 - Turf/Lawn
 - Shrubs
 - Gardens
 - Areas of bare/compact soil

- Existing Trees and Tree Wells

This will be used to determine shaded areas and potential areas for trees.

- For existing trees: draw a circle for the trunk and a dashed line for the drip line (the area the branches reach over the landscape).

- For empty tree wells: draw a square.

- Recreational/Unused Areas

This will be used to determine areas that can be converted, used or avoided. These include:

- Play areas
- Vegetable gardens

- Utilities

This will be used to determine where digging can and cannot occur, where and the type of trees can be used. These include:

- Water meter/underground lines (Mark these with W.)
- Gas meter/underground lines (Mark these with G.)
- Telephone poles and overhead wires (Mark these with T and show the lines. Typically, these lines run in a straight line from the street through the property)
- Air-conditioning units (Mark these with AC.)

Call 811 before you dig. They can come to your property and spray where there are utility lines.

- **Water Sources**

This will be used to determine where water can be captured, infiltrated and sprinklers that could be converted. These include:

- Faucets
- Sprinkler lines
- Sprinklers valves and heads
- Downspouts

- **Areas of Sun Exposure**
(Mark these with a sun.)

This will be used to determine where trees and plants may be planted.

- **Water Flow**

This will be used to determine where water may be captured, diverted, or infiltrated.

- **Locate high spots:** Add the roof line of any buildings. Water flows down from these areas.
- **Locate low spots:** Water drains to these areas. Draw arrows that show the direction water flows.
 - ◇ From roof tops
 - ◇ From downspouts
 - ◇ From faucets and sprinkler heads
 - ◇ From other high areas
 - ◇ To ditches or swales
 - ◇ To flat areas
 - ◇ To areas that puddle or flood
 - ◇ To other low areas

3. Evaluate the Soil

This will be used to determine the type of trees and plants that are appropriate for your site and if the soil will drain properly for a rain garden.

Soil Drainage Test

1. Dig a hole in the identified area—1–2 feet deep. Make sure the hole is at least 5 feet from utilities, driveway or the foundation of the house/garage. The hole should be wide enough so the level of the water can be seen easily.
2. Fill the hole with water and let it completely drain.
3. Fill the hole with water again and note the starting time.
4. Note how long it takes for the water to completely disappear (5 minutes, 30 minutes, 1 hour, etc.).
5. If the water is draining slowly, note how much water is draining each 30 minutes (1/2 inch every 30 minutes, etc.).

Results



0–4 minutes: You have fast-draining soil. This area is fine for a swale or rain garden



5–15 minutes: Soil drainage is good. This is an ideal area for rain garden.



16–60 minutes: If soil is draining at least 1 inch per hour, the area is fine for a rain garden.



Several hours/days: This is NOT a good area for a rain garden.

4. Determine Climate Zone

This will be used to help determine the type of trees and plants that are appropriate for your site.

Use a [Sunset Western Garden Book](#) or scan the QR code to determine your climate zone.



5. Assess your site for possible sustainable solutions

- Redirect, capture and conserve water
 - Can water be redirected from flowing into the street or to prevent flooding?
 - ◇ Look for areas where water flows across hard surfaces from rain, faucets, drains and downspouts that could be redirected to flow into a permeable surface, bioswale, rain garden, tree well or planter.
 - ◇ Look for natural depressions or swales that can direct water into a permeable surface, bioswale, rain garden, tree well, or planter.
 - ◇ Look for areas where water can be directed by building berms to create a retention basin, or rain garden.
 - Can water be captured for use in a garden area?
 - ◇ Look for existing downspouts that can be directed into rain barrels.
 - Can water be conserved?
 - ◇ Look for sprinkler heads that could be adjusted to water lawn and garden areas only, not overspray onto sidewalks, driveways, parking lots and streets.
 - ◇ Look for sprinklers that can be converted to a more efficient system such as drip irrigation or the use of rotors.
- Replace hard surfaces with green and permeable ones
 - ◇ Are there areas in need of shade to reduce glare and/or heat island effect?
 - ◇ Look for large areas of bare/compressed soil, especially in gardens or existing tree wells, that can be mulched.
 - ◇ Look for areas where grass or unnecessary concrete/asphalt could be removed and replaced with mulch, native plants, or permeable paving.

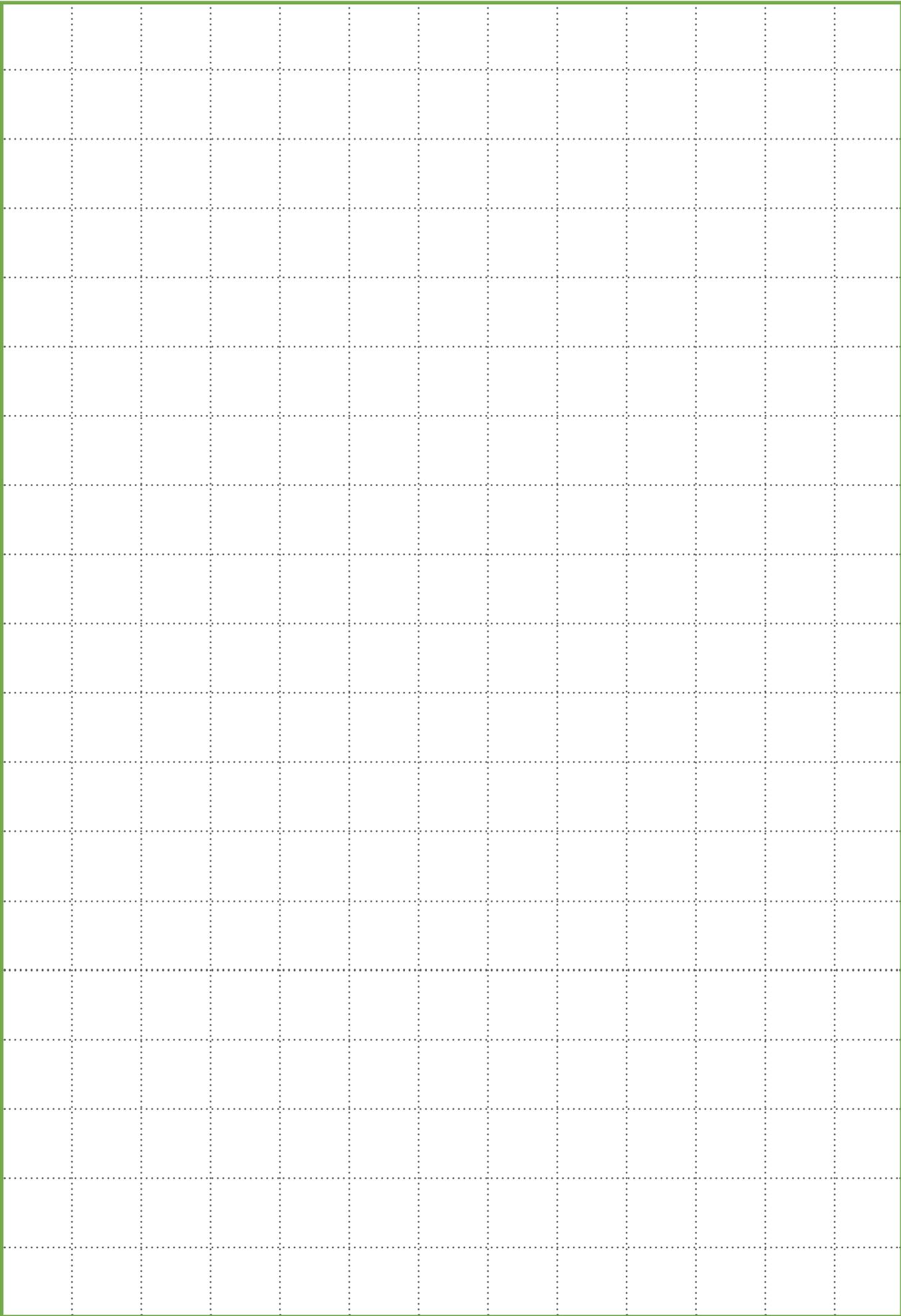


- Plant trees
 - Can hard surfaces be replaced with green and permeable ones that allow water to seep into the ground?
 - ◇ Look for hot paved areas.
 - Are there areas in need of shade to decrease energy use?
 - ◇ Look for unshaded air-conditioning units.
 - ◇ Look for the south-facing sides of buildings that receive the most sunlight.
 - Are there recreational areas in need of shade or other places where people walk/gather?
 - ◇ Look for unprotected sports fields, playgrounds, and walking paths.
 - Are there areas where water can be diverted into large tree wells?
 - ◇ Look for low spots.
 - Are there areas where trees could absorb soot and pollutant gases?
 - ◇ Look for areas that are exposed to cars, trucks, and buses, such as streets and parking lots.
- Use native and/or edible vegetation
 - Are there areas that can be revitalized by native plants, vegetable gardens and/or fruit trees?
 - ◇ Look for unused areas.
 - ◇ Look for thirsty vegetation that can be replaced with native trees and plants.



- Create focal, natural and or educational areas
 - Are there areas that can help promote health and exercise?
 - ◇ Look for areas that can increase walkability and access to nature.
 - Are there areas that can be used for educational purposes?
 - ◇ Look for areas where you are using sustainable practices to provide signage and interpretation for the community.
 - Are there areas that can enhance biodiversity?
 - ◇ Look for areas to create a bird habitat and/or a butterfly garden.
 - Are there areas that can promote beauty and tranquility?
 - ◇ Look for walls or fences that can be covered in vines.
 - ◇ Look for areas that are loud or exposed to traffic.

Site Map



Rain Garden Project Toolkit

This toolkit explores the growing water need in Los Angeles and the importance of collecting and/or infiltrating what little rainfall we get. This exploration will help determine how your group can help both the quality and quantity of our water by designing and installing a rain garden of native plants.

How It Works

1. Assess

Map your site and assess the needs of the project.

- Use the Project Assessment Tool to map and explore your site.

2. Create a rain garden of native plants.

Follow the guidelines to create a rain garden at your site

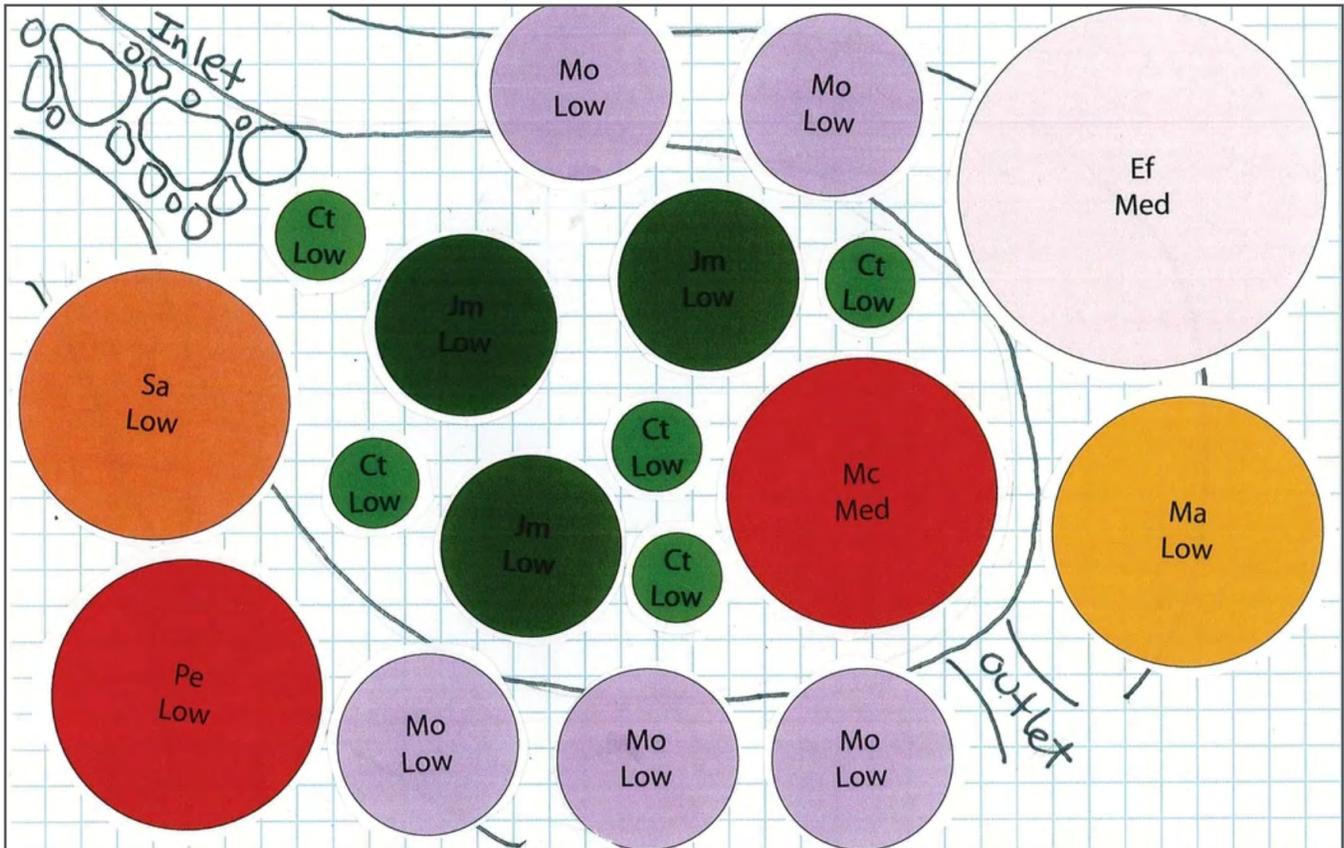
- Confirm site appropriateness
- Choose your plants and design your rain garden
- Finalize your plans
- Prepare for your event
- Create your rain garden
- Maintain your rain garden

Use your assessment map to answer questions about your site and then additional questions to determine its feasibility.

Answer the questions below to determine project readiness.

- Do you want to plant a small rain garden?
- Do you have location for a rain garden?
- Look at your map. Are there areas that can redirect water? Look for:
 - downspouts from a rooftop that could be redirected to flow into a rain garden instead of a hard surface or drain.
 - areas where water flows across hard surfaces and pools up in a grass or garden area.
 - areas where pooled water creates muddy or flooded areas.
- Are any of these areas located:
 - in full or partial shade? (Rain gardens should not be located in a shady area or under the canopy or roots of a tree.)
 - at least 5 feet from a building foundation?
 - at least 3 feet from a sidewalk?

Sample Design and Plant Templates



Sample Design Key

- Low = up to 3 feet tall
- Med = 3-5 feet tall
- Tall = 5 feet and higher

For specific height information for each plant, visit calscape.org

Width: Each circle, representing a plant, is scaled at: 1 inch = 2 feet.

Letters: The letters represent the type of native plant, using the first letters of the botanical name.

Color: The color of the circles represent the approximate color of the flower or plant.

Plant Templates: Berm and Surrounding Garden

Sb
Low

Sisyrinchium bellum

Bg
Low

Bouteloua gracilis

Dh
Low

Dudleya hassei

Mo
Low

Monardella odoratissima

Ap
Low

Artemisia pycnocephala

Sa
Low

Sphaeralcea ambigua

Ph
Low

Penstemon heterophyllus

Ma
Low

Mimulus aurantiacus

Pe
Low

Penstemon eatonii

Ef
Med

Eriogonum fasciculatum

AcM
Low

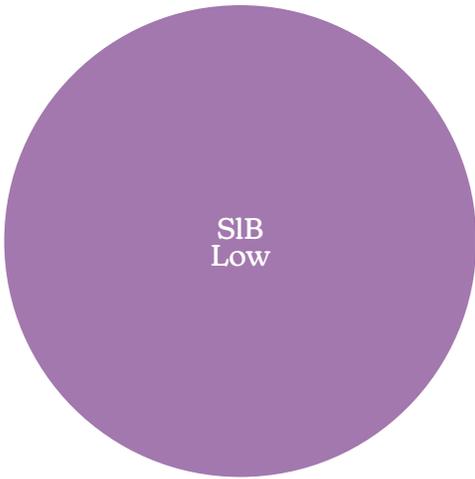
Artemisia californica 'Montara'

Sc
Tall

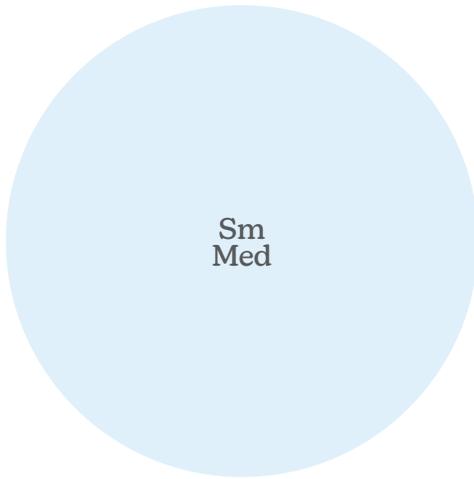
Salvia clevelandii

Ec
Med

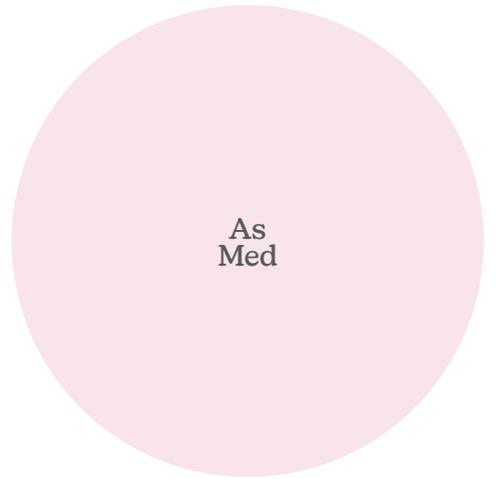
Encelia californica



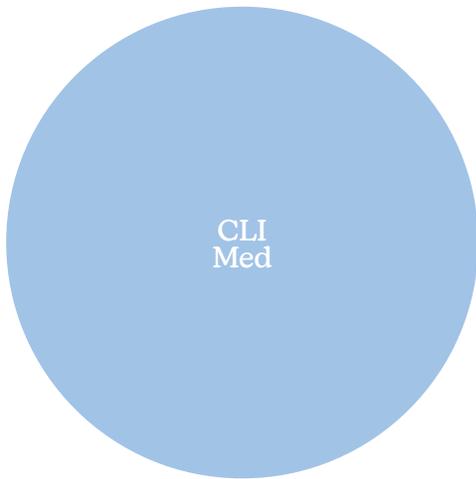
Salvia leucophylla 'Bee's Bliss'



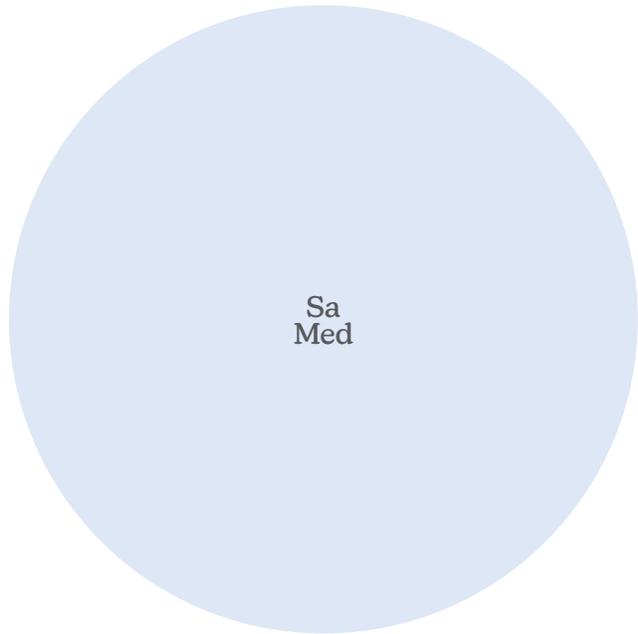
Salvia mellifera



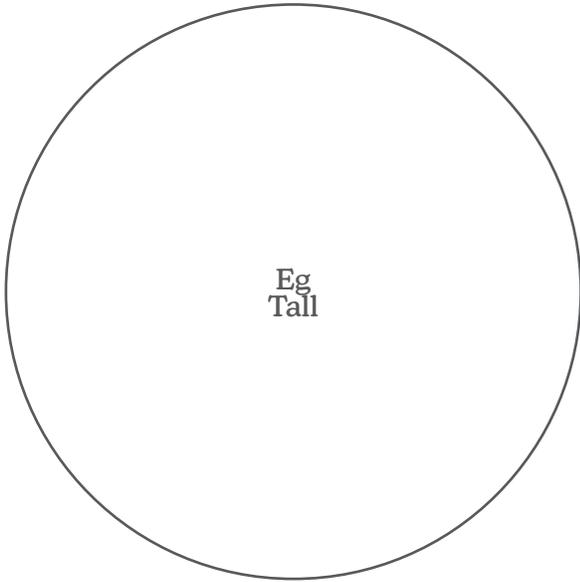
Asclepias speciosa



Ceanothus 'Lemon ice'



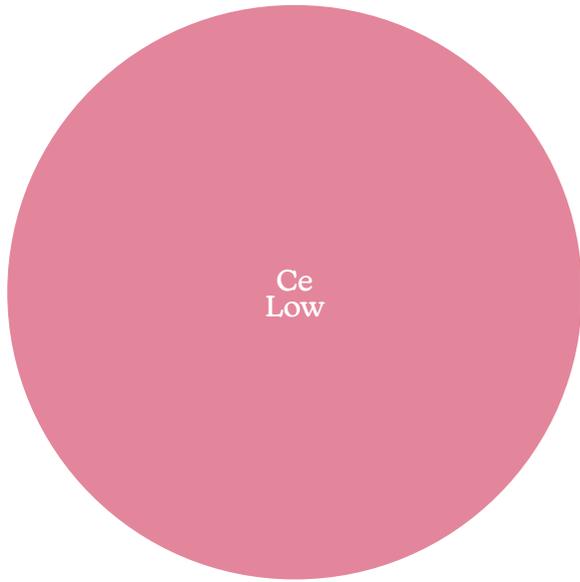
Salvia apiana



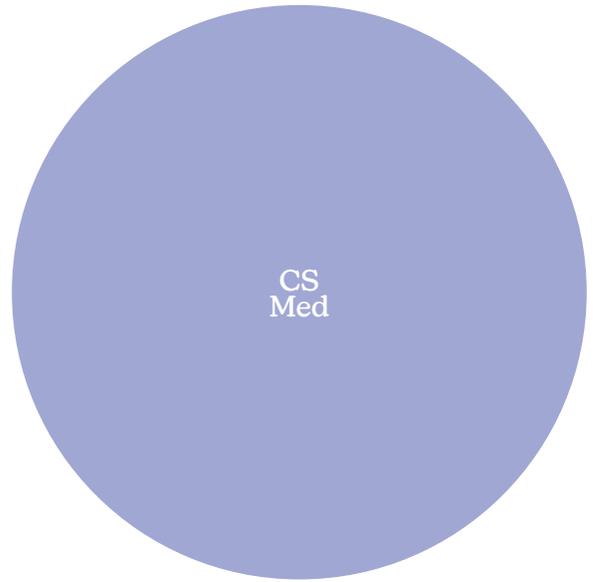
Eriogonum giganteum



Nolina bigelovii



Calliandra eriophylla



Ceanothus 'Skylark'

Plant Templates: Basin



Carex tumicola



Juncus mexicanus



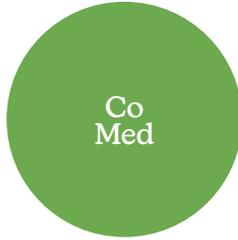
Juncus patens



Koeleria macrantha



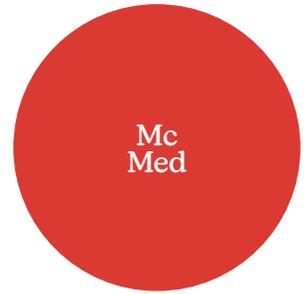
Muhlenbergia lindheimeri



Carex obispoensis



Artemisia douglasiana



Mimulus cardinalis

Groundcover and Spreading Plants

The following groundcovers can be used to cover large areas.

- *Artemisia californica* 'Canyon Grey' - low growing and spreads 10 feet
- *Asclepias fascicularis* - medium growing and spreads as it grows
- *Salvia spathacea* - low growing and spreads as it grows

Write in the name of the plant on your plan to indicate use.



Muhlenbergia rigens

Shrubs

Place a dot on your map to indicate where you would like to plant the following shrubs.

- Use a dotted line to indicate the width at maturity going out 1/2 inch for every 1 foot of width.
 - *Carpenteria californica* - shrub that grows 6-8 feet wide
 - *Ceanothus* 'Centennial' - shrub that grows 4-10 feet wide
 - *Ceanothus* 'Yankee Point' - shrub that grows 10-12 feet wide
- Write in the name of the plant on your plan to indicate use.

Create Your Rain Garden

Garden Planting Steps

Attach a Downspout Extension

If the water for the rain garden is coming from a downspout you will need to attach a downspout extension.

Use the following as a guide when attaching an extension to your downspout.



1. Decide on the length and angle of your extension.

Keep it at a 2% slope to ensure water flows through it.

Rain water should be directed at least 5 feet from the foundation of the building.

2. Mark approximately 12 inches from the ground to the downspout.

This height should work for up to a 6-foot extension.

Mark the downspout higher for longer extensions.

3. Using a hacksaw, cut the downspout at the mark.

Remove the cut piece.

4. Attach the elbow over the downspout.

Use needle-nose pliers to crimp the ends of the cut downspout and slide it inside the elbow.

Attach the elbow to the downspout with screws, or for added stability, consider securing the elbow to the building with a bracket or strapping.

5. Do the same steps as above to attach the extension to the newly installed elbow.

If additional stability is needed for the extension, consider a support like a cinder block or large stone.

6. To prevent erosion, depending on your site, place pavers, large stones or gravel where the extension directs water into your rain garden or swale.



Create a Swale

To help direct the flow of water into the rain garden, create a swale.

The beginning of the swale should be 2 feet away from the foundation of a building.

The swale needs to slope at least 1-2% grade (1-2 inches for every 8 feet of length) to direct water.

The swale needs a depression to correctly direct water.

- The sides of the swale should slope down at about a 4:1 ratio—for every 1 inch of depth, there are 4 inches of width.

High point
where water enters
the site

Low point
where water enters
the rain garden

Slope

Create a V- or U-shaped slope from the center depth to the outside edges creating a depression.

Place rocks or gravel within the swale or, use stone pavers.

- Mulch can also be used.

Create a Basin

1. Using the size calculation to determine for the rain garden's area, outline the area using flour or chalk to show where to dig the basin.

2. Dig out the basin using the excavated soil to form a raised berm on the downstream side of the rain garden.

Dig down to a depth of 9 inches (6 inches recommended ponding depth, plus an additional 3 inches to accommodate mulch).

The basin should be flat across the bottom.

3. Compact the berm by jumping up and down on it and/or tamping it down well.

This will ensure it doesn't collapse when it rains.

4. Create an over flow outlet

In the event of a heavy rain storm, the basin may get filled and will need an outlet to drain.

Create a U-shaped outlet at the top of the berm.

Utilities

Check your map to see if there are underground utilities or waterpipes to avoid when digging.

Install Plants

Based on your design, use the following as a guide to install plants. Remember to space them for growth!

- 1. Dig a hole twice as wide as the root ball and slightly shallower than the root ball.**

The root ball is comprised of all the roots contained in a pot.

- 2. Hit the bottom and sides of the container until the root ball is loosened.**

- 3. Slide the pot off the root ball.**

Be careful not to pull the plant out by the main stem.

- 4. Lightly massage the roots to loosen the root ball.**

- 5. Place your plant in the soil.**

- 6. Fill the hole with soil.**

Tamp the soil firmly as you backfill to eliminate any air pockets.

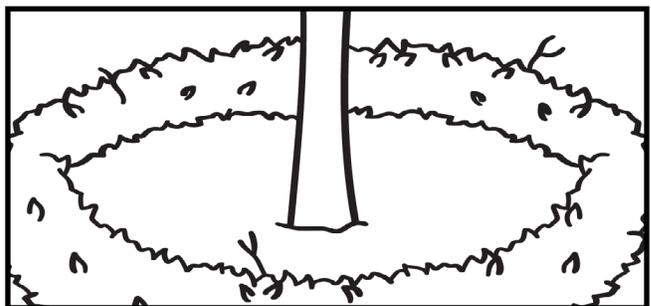
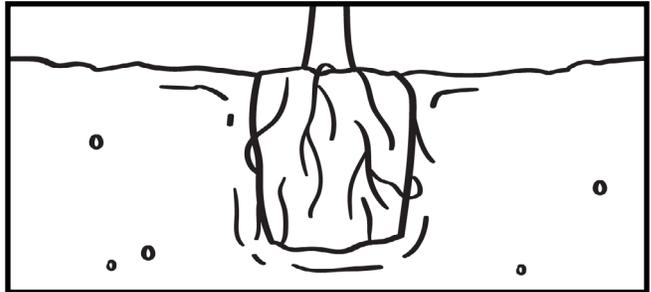
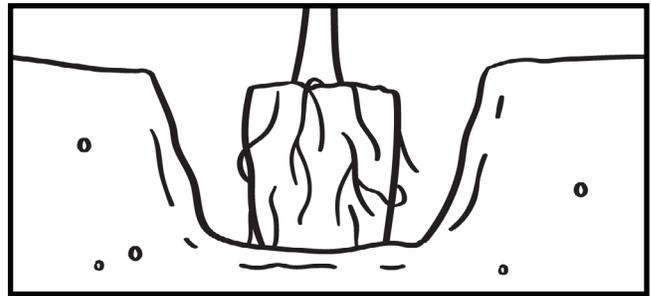
- 7. Create a small basin around the plants to help hold in water until they become established.**

- 8. Slowly, deep water your plants with the following:**

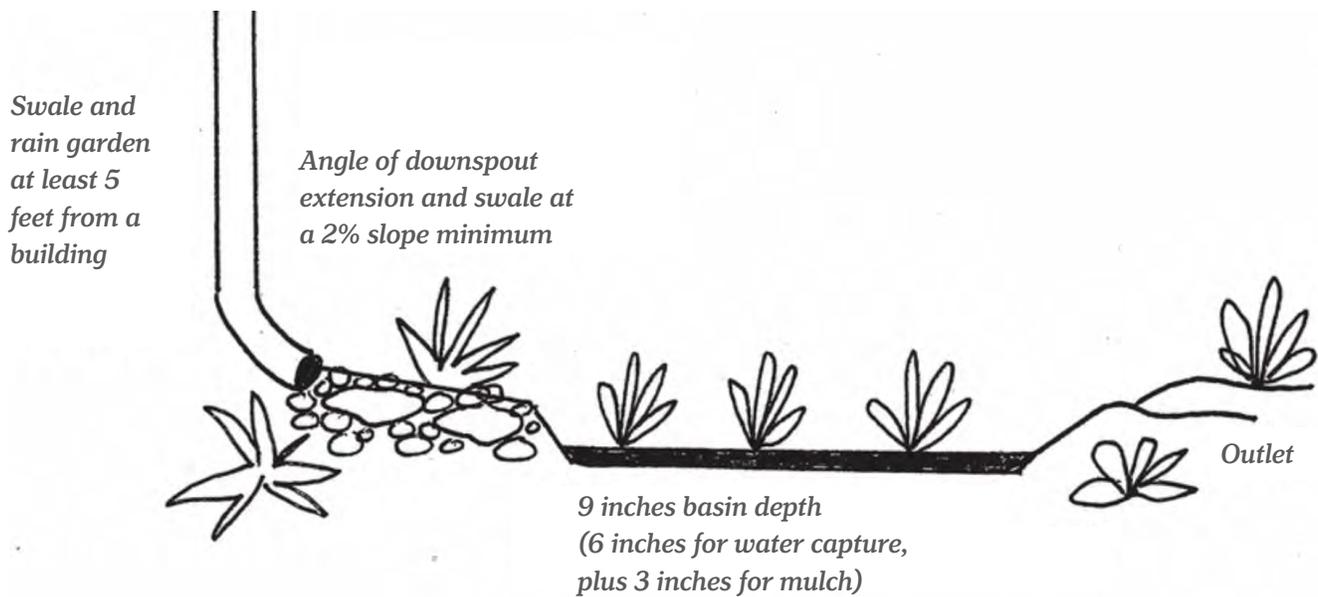
- 1-gallon potted plants: 2 gallons of water (1/2 bucket)
- 5-gallon potted plants: 5 gallons of water (1 bucket)

- 9. Place a 3-inch layer of mulch over the entire area.**

Keep mulch at least 2 inches away from the base of the shrubs.



Completed Rain Garden Sample



Maintain Your Rain Garden

1. Water the plants.

Provide supplemental water for about 2 dry seasons or until plants are established.

Water during the early morning or late afternoon.

Do not water if the soil is wet.

2. Weed the garden.

Weed the garden as needed for the next 2-3 years.

Once plants are established (roughly doubled in size), little or no weeding is needed if the area is kept mulched.

3. Maintain mulch.

Maintain mulch at about a 3-inch depth.

Apply a layer twice a year, in the spring and fall, as needed.

Plant Care by Species

Create your own plant care guide

Using the [Native Plant Care Guide](#), highlight the specific plants used in your garden.

Create a timeline for care.

Things to remember

- Follow the water frequency given. However, when we have below average rainfall in winter, it's important to water the plants to make up the difference. Deep soak the plants once (or twice in extremely dry winters) a month until the end of April.
- The plants listed as summer dormant do not need water in the summer. They need to rest and will come back with the winter rains.
- Do not fertilize the garden. Most California native plants prefer well-drained soil that is nutrient poor. If they are fertilized, or grown in organic-rich soil, they may die.
- Check the chart for specific pruning guidelines. Most plants will do well with just pinching back stalks after flowering.

Native Plant Care Guide

Top of Rain Garden

Low to very low water needs (very low water needs in summer)

Scientific Name	Common Name	Water Frequency	Pruning and Care
<i>Artemisia californica</i> 'Canyon Grey'	Canyon Grey California sagebrush	No supplemental water once established, except for dry winters.	Prune out arching stems before new spring growth.
<i>Artemisia californica</i> 'Montara'	Montara California sagebrush	No supplemental water once established, except for dry winters	Prune back as needed before new spring growth.
<i>Bouteloua gracilis</i>	Blue grama grass; Mosquito grass	Once or twice a month during warm weather if needed.	Used as turf- mow to 2 or 3 inches once a month during the warm months, or leave it unmowed for a natural look. Needs less water if left tall. Cut back clumps in late winter before new growth begins.
<i>Dudleya hassei</i> (<i>D. virens hassei</i>)	Catalina Island dudleya	Needs good drainage. Very little water needed. Can be summer dormant.	Remove flower stalks after blooming. It's better not to remove any dead leaves.
<i>Eriogonum fasciculatum</i>	California buckwheat	Once a month during warm weather if needed.	Lightly prune in late fall to late winter. Do not cut into stems without leaves.
<i>Eriogonum giganteum</i>	Saint Catherine's lace	Once or twice a month during warm weather if needed.	Lightly prune in late fall to late winter or as needed.
<i>Eriogonum grande rubescens</i>	Island buckwheat; red buckwheat	Once or twice a month during warm weather if needed.	Cut back flower stalks after bloom.
<i>Eriogonum umbellatum</i>	Sulfur buckwheat	Once or twice a month during warm weather if needed.	Cut back flower stalks after bloom.

<i>Mimulus aurantiacus</i>	Sticky monkeyflower	Once a month during warm weather if needed.	Pinch back young stems a few inches throughout the spring growth to make it denser and prevent branch breakage. Prune out flower stalks after blooming. Prune in late fall if needed.
<i>Monardella odoratissima</i>	Mountain pennyroyal; Western coyote mint	Once or twice a month during warm weather if needed.	Cut back flower stalks after bloom.
<i>Nolina bigelovii</i>	Desert beargrass; Bigelow's nolina	Needs good drainage. Very little water needed after establishment	Cut back flower stalk after bloom and once completely dried.
<i>Penstemon eatonii</i>	Firecracker penstemon	No supplemental water once established, except for dry winters.	Cut back flower stalks after bloom or leave to release their seeds, then remove them.
<i>Penstemon heterophyllus</i> 'Margarita BOP'	Margarita BOP penstemon	Once a month during warm weather if needed.	Cut back flower stalks after bloom or leave to release their seeds, then remove them.
<i>Salvia apiana</i>	White sage	No supplemental water once established.	Remove old flower stalks. Pinch back branches on younger plants to encourage a denser plant.
<i>Salvia clevelandii</i>	Cleveland sage	No supplemental water once established.	Cleveland sage and its hybrids (Allen Chickering, Aromas, Pozo Blue, Whirly Blue) are vigorous and need a heavy pruning. In winter to prevent the branches from breaking. Prune back the plant by 1/2 to 1/3 in winter, leaving 2 sets of leaves or buds.
<i>Salvia leucophylla</i> 'Bees Bliss'	Bee's Bliss sage	Once or twice a month in the warm months if needed.	Lightly cut back stems in the center of the plant when young during winter.

<i>Salvia mellifera</i>	Black sage	No supplemental water once established.	Pinch back when young to encourage a dense plant. Can also prune back by 1/2 to 1/3 in winter, but not into wood without buds or leaves.
<i>Salvia spathacea</i>	Hummingbird sage	Once or twice a month in the warm months if needed. Do not get leaves wet when watering.	Can have a problem with powdery mildew. Keep good air circulation and don't use a sprinkler which gets the leaves wet. Cut out old flower stalks.
<i>Sphaeralcea ambigua</i>	Desert mallow Apricot mallow	Once a month during warm weather if needed.	Cut back in the fall after bloom.

Moderate to low water needs (low water needs in summer)

Scientific Name	Common Name	Water Frequency	Pruning and Care
<i>Artemisia pycnocephala</i> 'David's Choice'	David's Choice sagebrush	Once a month during warm weather if needed.	Cut back in the fall after bloom.
<i>Asclepias fascicularis</i>	Narrow-leaved milkweed	None to twice a month during warm weather.	Winter dormant. Cut back old growth before new growth begins March to April.
<i>Asclepias speciosa</i>	Showy milkweed	None to twice a month during warm weather.	Winter dormant. Cut back old growth before new growth begins March to April.
<i>Calliandra eriophylla</i>	Fairy duster	None to once a month in warm weather.	Not much pruning needed.
<i>Carpenteria californica</i>	Bush anemone	Twice to four times a month in warm weather.	Not much pruning needed.
<i>Ceanothus</i> 'Centennial'	Centennial ceanothus	Once or twice a month in the warm months if needed.	Prune as needed after bloom.

<i>Ceanothus</i> 'Lemon ice'	Lemon Ice ceanothus	Once or twice a month in the warm months if needed.	Prune as needed after bloom. Prune out stems with solid green leaves.
<i>Ceanothus</i> 'Skylark'	Skylark ceanothus	Once or twice a month in the warm months if needed.	Prune flowers heads after bloom.
<i>Ceanothus</i> <i>thyrsiflorus</i> <i>griseus</i> 'Yankee Point'	Yankee Point ceanothus	Once or twice a month in the warm months if needed. Can take more water than other ceanothus.	Prune as needed after bloom.
<i>Encelia</i> <i>californica</i>	Bush sunflower	No water to once a month in the warm months.	Prune to 4-inch stubs in late winter.
<i>Erigeron</i> <i>glaucus</i> 'Cape Sebastian'	Cape Sebastian	Two to four times a month in the warm months if needed.	Prune back a few inches after flowering.
<i>Leymus</i> <i>condensatus</i> 'Canyon Prince'	Canyon Prince wild rye	Once or twice a month in the warm months if needed.	Prune to the ground late summer to early winter every year or two.
<i>Muhlenbergia</i> <i>rigens</i>	Deer grass	No water to once a month in the warm months.	Rake out old flower heads or cut to the ground every few years from May to June.
<i>Sisyrinchium</i> <i>bellum</i>	Blue-eyed grass	Needs winter and spring water once or twice a month. Do not water in summer.	Summer dormant. After leaves are totally brown, you can prune them off.

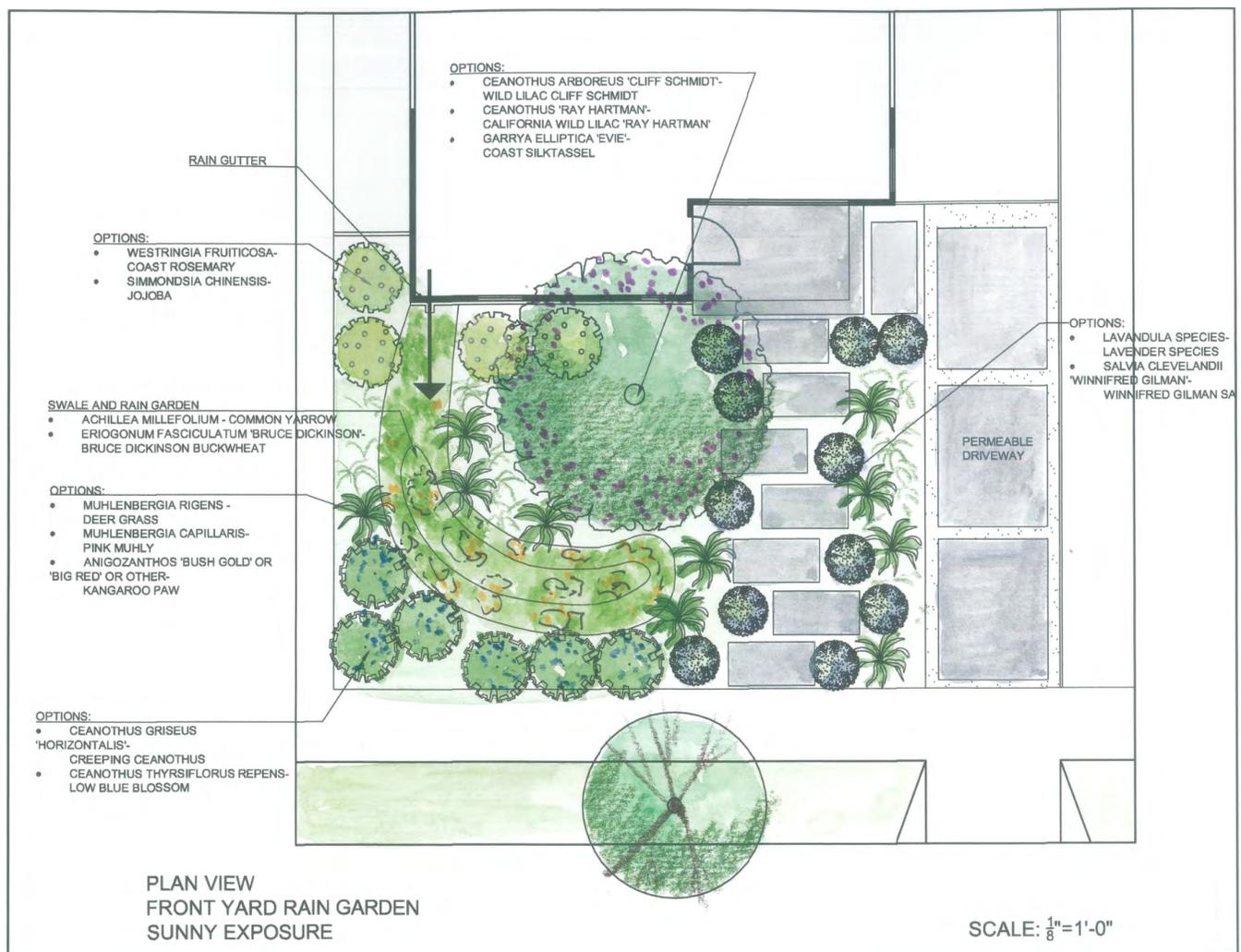
Rain Garden Basin

Moderate to low water needs (low water needs in summer)

Scientific Name	Common Name	Water Frequency	Pruning and Care
<i>Artemisia douglasiana</i>	Mugwort	Once every one to 4 weeks.	Cut to the ground in early winter.
<i>Carex obispoensis</i>	San Luis Obispo sedge	The most drought tolerant sedge. Once to twice a month when hot.	Cut back or mow late summer to fall.
<i>Carex tumicola</i>	Berkeley or foothill sedge	Once to four times a month when hot.	Best in light shade. Cut back once or twice a year, mainly late summer to fall.
<i>Juncus mexicanus</i>	Mexican rush	Once to four times a month when hot. Needs less water than <i>J. patens</i> . After 2 years needs less water.	A vigorous spreader. Rake out or cut back dead stalks as needed.
<i>Juncus patens</i>	Common rush	Once to four times a month when hot. After 2 years needs less water.	A slow spreader. Rake out or cut back dead stalks as needed.
<i>Koeleria macrantha</i>	June grass	Once to four times a month. Stop watering once dormant in summer.	Cut back once dormant in summer.
<i>Leymus condensatus</i> 'Canyon Prince'	Canyon Prince wild rye	Once or twice a month when hot.	Cut back once dormant in summer.

<i>Mimulus cardinalis</i>	Scarlet monkeyflower	Needs water once a week to stay moist.	More shade needed inland. Reseeds easily. Pinch back leggy stems to encourage stronger branches.
<i>Muhlenbergia lindheimeri</i>	Lindheimer's muhly	No water to once a month when hot.	Rake out old leaves or cut to the ground every 2-3 years in May to June. Must be planted on a mound if in clay or poor draining soil.
<i>Muhlenbergia rigens</i>	Deergrass	No water to once a month when hot.	Rake out old leaves or cut to the ground every few years in May to June.

Plans for a Rain Garden (Sunny)



Plans for a Rain Garden (Shady)





Implemented by:



TreePeople

Funded under:
The Budget Act of 2021

Administered by:

Urban and Multibenefit Drought Relief Program
California Department of Water Resources

