

Conservation Design Internship - Native Landscape Design Program

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Cal Poly Pomona - Master of Landscape Architecture

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Chino Basin Water Conservation District

Table of Contents

1	Acknowledgments
2	Final Report
4	Native Plant PNG Database
5	Native Landscape Design Guide
9	DIY Cost Estimate Brochure

Acknowledgements

The Community Water Internship is supported through SAWPA's Disadvantaged Communities Involvement (DCI) Program and Proposition 1 funding from the California Department of Water Resources (DWR)

This internship took place at the Chino Basin Water Conservation District's Waterwise Community Center in Montclair, under the supervision of the Conservation Programs Manager, Scott Kleinrock.

Final Report

Executive Summary

The Chino Basin Water Conservation District (CBWCD) has partnered with Valley View High School's Career Technical Education (CTE) program to implement a Native Landscape Design course. My project was to create some helpful assets that would make this course possible and also serve as useful resources for the DIY programs at the CBWCD Waterwise Community Center.

Project Objectives

The first main goal of this project was to create a database of drought-tolerant and native plant images that had been clipped out, touched up and ready to use for a computer landscape design program (pg.4). The next goal was to create a basic, beginner how-to guide for native landscape design. This guide will be used in the Valley High School course as well as at the Waterwise Community Center for residents interested in converting their yard to a native landscape (pg.5). I also assisted in creating some other visual resources for the DIY programs through the CBWCD (pg.9).

Project Approach

My approach to achieve the first goal involved a series of steps. First, I was given a few spreadsheets of native plants that we wanted to include in the database. I consolidated the spreadsheets and updated them with the plants' common names. Once the spreadsheet was refined to about 75 plants, I collected high-resolution images of each plant through searches and also took photos of plants out in the demonstration garden and Wilderness Park located on site. Once a majority of the images were collected I would edit, clip out, and save them as PNG files named with the botanical and common name for the plant.

The second goal involved quite a bit of research. I utilized the CBWCD Waterwise Community Center library to read up on DIY landscape design, California native plants, rainwater harvesting, and other topics that I felt would have beneficial information for the how-to guide. I also used some reputable California native plant online resources to gather information. I created an in-depth outline that I later thinned out myself and with my supervisor to make sure we hit only the key points that we wanted to include. A second intern on the project, along with our supervisor, also worked on creating a comprehensive introduction for the guide to provide context to ensure that the guide was as inclusive as possible for those who were entirely new to the idea of native landscape design.

The other various projects that I worked on during this internship mostly involved taking preexisting resources or information and putting them into an easy to use/read graphic layout.

Project Outcomes

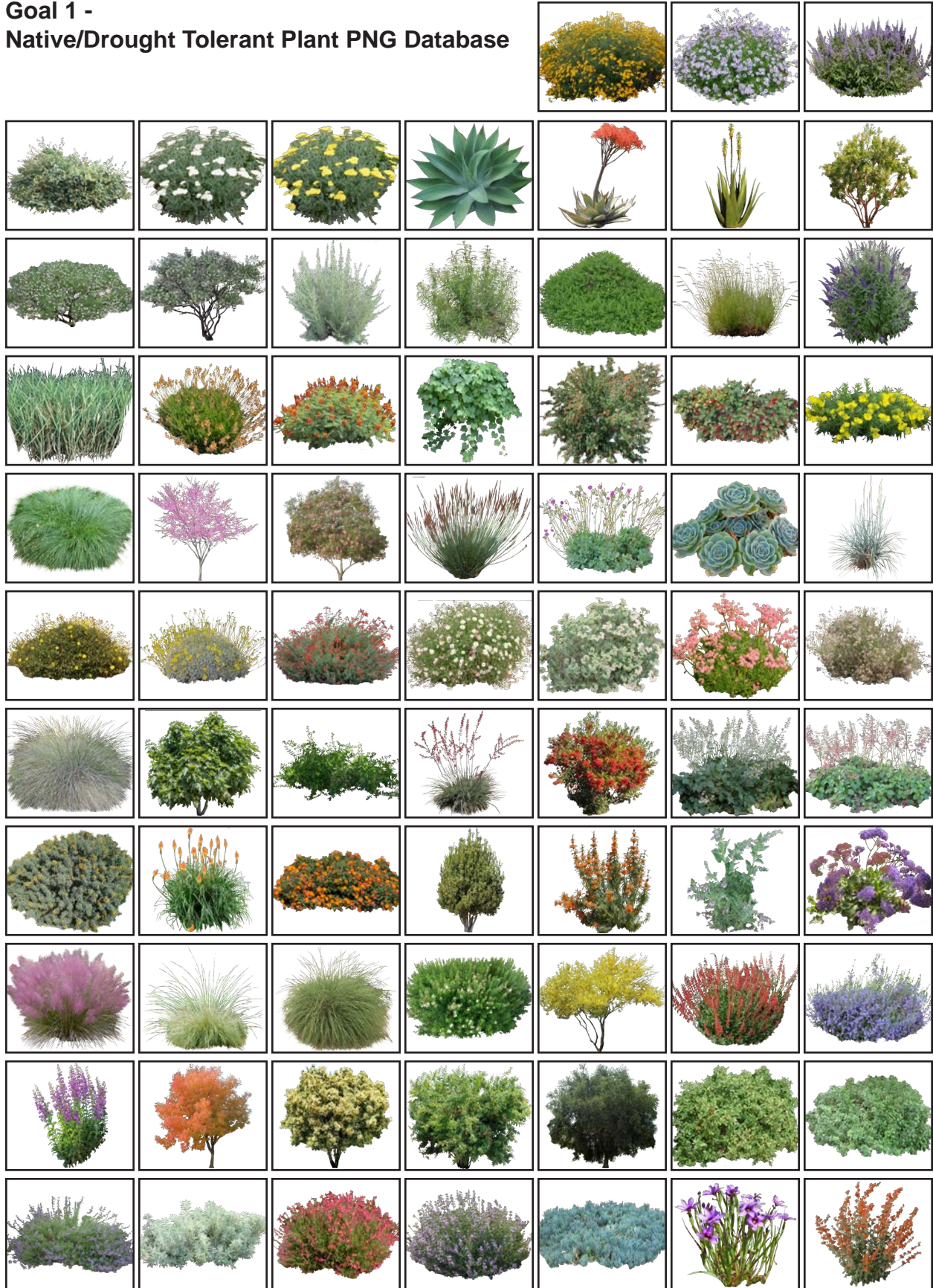
I was able to complete the database of native plant PNGs and import them into the computer design program that will be utilized by the high school students. The how-to guide is a 15 page booklet complete with copy, graphics, images, examples, and outside resources to reference for further information. There is a printable version and a

digital version. So far, around 200 copies have been handed out to various DIY program participants and community center visitors. CBWCD also has access to the working file in case the need for updates arises in the future. It is currently in the process of being translated into Spanish.

Conclusion

During my time interning at the Chino Basin Water Conservation District I was able to create a database of Southern California native plant PNGs for Valley View High School's CTE horticulture program to be utilized in their new native landscape design course. I also helped to create and complete a native landscape how-to guide for the students of the course, as well as interested visitors of the CBWCD's Waterwise Community Center. Each component of this internship was extremely beneficial for my future endeavor of becoming a landscape architect. I was able to practice and refine some of my computer program skills that are necessary for landscape design, as well as dive into some very practical, technical, and crucial knowledge about the field I am entering and the positive impact it can have. I gained a greater understanding about the importance and benefits of landscaping with native plants in terms of sustainability, biodiversity, and low water use, and plan to utilize and spread this knowledge throughout my future career.

**Goal 1 -
Native/Drought Tolerant Plant PNG Database**



Inland Valley Native Landscape Design Guide

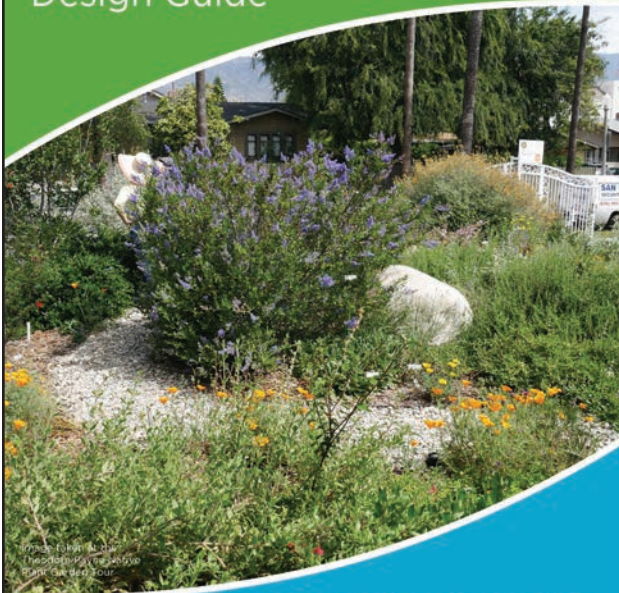


Image taken at the Theodore Payne Native Plant Garden Tour



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Conservation District

Resources

Online/Digital

- cbwcd.org/
- inlandvalleygardenplanner.org/
- www.cnps.org/
- theodorepayne.org/
- californianativeplants.com/
- www.nwf.org

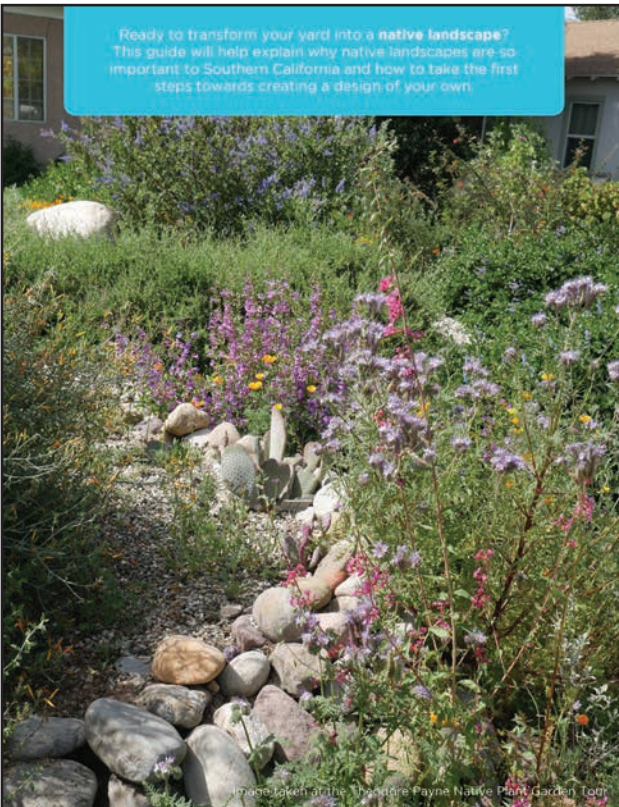
Books/Print

- "SoCal Yard Transformation - A Step-By-Step Guide to Get the Yard You Want" available at no cost at the Waterwise Community Center
- "Inland Empire Landscape Guidebook" available for download at tinyurl.com/ielandscapeguide
- "The California Wildlife Habitat Garden" by Nancy Bauer
- "Wild Suburbia: Learning to Garden with Native Plants" by Barbara Eisenstein



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Community
Center**

A program of the
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Conservation District



Ready to transform your yard into a **native landscape**? This guide will help explain why native landscapes are so important to Southern California and how to take the first steps towards creating a design of your own.

Image taken at the Theodore Payne Native Plant Garden Tour

Table of Contents

2	Intro
3	Definitions
4	Site Analysis
6	Design Considerations
8	Design
9	Picking Plants
10	Plant Profile
12	Garden Inspiration

Introduction

California is a "biodiversity hotspot" with over 6,000 native plant species and subspecies and thousands of native insect species which depend on native plants to survive (and birds which depend on the insects, and on and on in a complex environmental web). "Native plants" are commonly defined as plants that have naturally grown in a specific region since before human settlement. They are inherently adapted to life in the places in which they evolved to live. Coast live oak, California buckwheat and Black sage are just a few native plants local to this area.

Due to habitat loss, ecosystem degradation, and other environmental issues, many native plant communities, and the animals that depend on them, across California are at risk. At the same time, our urban landscapes (think boring and unused lawns) usually require a lot of water and frequent use of gas-powered equipment to maintain, creating further environmental and resource issues.

But what if there was a better way to re-imagine and rebuild our urban landscapes?

We can do something better at our homes, schools, businesses, and public places in a way that is not only beautiful, but that makes an active contribution to the environment by including native plants, capturing and cleaning rainwater, and providing habitat and food for beneficial insects, birds, lizards, and more! Many species of beneficial insects are "specialists," which means that they require specific native plants that they evolved with at some point in their life cycle. Lawn and a few rose bushes will not do it for them. They need the presence of native plants, and by providing them, we can unlock supporting a whole dynamic, and entertaining to watch, ecosystem in our urban landscapes.

But it's not only about habitat. Native landscapes often rely on a mix of specific native plants that can thrive in our gardens and add an elevated look to our landscapes, with a colorful and year-long display of flowers. These plantings truly thrive in this environment, usually requiring little water and no fertilizer or soil amendments.

This booklet will provide you with the basic fundamentals needed to design a California native landscape and connect you with additional resources where you can learn more about this exciting way to contribute to the environment while beautifying your home or community.



Image taken at the Theodore Payne Native Plant Garden Tour

Definitions

Terms to know that will help you as you explore California native landscape design.

Native plants:

Plants that grew in California before European contact. They co-evolved over a very long time with other essential lifeforms becoming the foundation of our native ecosystems. They are also most fit for California's climate.

Invasive plants:

Non-native plant species that tend to take over natural areas and limit or prohibit native plants to grow. These plants act in such a way due to the absence of their native predators, such as pests, foraging animals, diseases or weather conditions that kept the balance among the plants ability to grow and spread. These invasive species did not evolve with California's natural communities and therefore do not provide much food or habitat for the native animals.

BEST PRACTICE
Avoid using invasive plants in order to protect our natural ecosystems.

Here are some common invasive plants to avoid using that we often see in Southern California:



Ecosystem

Community of living organisms that are linked to each other along with the non-living components of their environment. Members of the community function together as a system.

Microclimate

The distinct climate of a small area regardless of the local region's climate. This could be a few square meters around a water feature that are always cooler than the surrounding area, or the area of a driveway that is typically warmer due to the reflected heat off of the pavement, etc.

Watershed

An area of land where rainfall and/or snow melt drains into a common waterway. The areas served by the Chino Basin are a part of the Santa Ana River Watershed that drains all the way from the San Bernardino Mountains down to the ocean around Huntington Beach.

Rainwater Harvesting

Intentionally capturing and holding onto water when it rains, and allowing it to absorb into the landscape, rather than being redirected into the streets and gutters.

Hardscape

The hard, non-plant materials that are used in a landscape such as pathways, retaining walls, patios, rocks, etc.

Permeable Paving

Paving that allows permeability, or the infiltration of water. This type of paving allows water to soak back into the ground rather than be immediately diverted off the site.

Here are some examples of permeable paving:



Site Analysis

What to look at on your site and how to let those observations guide your design.

Step back and look at your site. Here are the general questions to ask yourself:

1. How large is your site?

- How much space do you have to work with?
- This will affect your use of the site and perhaps the types of plants you choose later on.
- Start to think about how the site may be divided by paths, patios, etc. and how large each of these sub-sections would be.

2. Where are the permanent features?

Make note of the features you will need to design around such as:

- House - include windows and doors
- Garages
- Driveways
- Walkways
- Patios
- Mature trees and shrubs you plan to keep
- Gates
- Fences
- Crawl space entrances
- Water shut-offs
- Telephone poles
- Manholes
- Any other utilities including your water meter, sewer clean-outs, irrigation valves, hose bibs, etc.

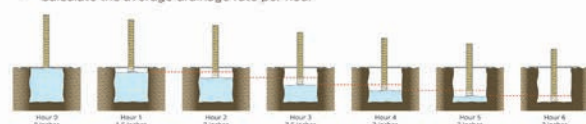
3. What will you remove in preparation for your project?

As you think about what existing elements you may want to get rid of, also consider ways of reusing those materials. A couple examples would be re-purposing broken concrete as permeable pavers, reusing existing pavers in a different area, and utilizing chopped tree trunks or branches in the landscape to create habitat for small animals.

4. What kind of soil does your site have?

This doesn't have to get too scientific. You mostly need to know if your soil is slow or fast draining. Perform this test to find out:

- Dig a 1 sq. foot hole in your soil (the bottom does not need to be completely square)
- Fill it with water and let it drain completely (this may take overnight)
- Put a straight edge across the top of the hole for measuring reference
- Fill the hole with water again
- Once every hour measure the amount of drainage in inches until the hole completely drains
- Calculate the average drainage rate per hour



Calculating Average Drainage Rate:
 $\frac{\text{Total inches drained}}{\text{Total hours of drainage}}$
 $\frac{12 \text{ inches}}{6 \text{ hours}} = 2 \text{ inches per hour}$

More than 2" per hour = very fast drainage - organic matter may need to be added to improve the soil
 Less than 1" per hour = poor drainage - you likely have clay or compacted soil and will need to pick plants accordingly
 1" - 2" per hour = good drainage - this is ideal!

5. Where is the sun and shade throughout the day?

Make a note about which part of your site are primarily facing north, south, east, west, or somewhere in between. For example, a landscape area directly on the north side of a house will primarily face north, because the house blocks the south side. Some areas that are never blocked by the shadow of a building or tree may be open in all directions.

- Make note of which areas get:
 - Morning sun
 - Afternoon sun
 - Hardly any, or no sun at all
- Consider shade that may be cast from your own, or a neighbor's structures, walls, trees, etc.

HINT: Take pictures of your yard throughout the day, documenting the time of the photo to see how the sun exposure changes throughout the day.

Why does it matter which direction your garden is facing?

- A **SOUTH FACING** garden is in the sun all day throughout the year. The summers will be HOT.
- A **NORTH FACING** garden is particularly shaded much of the year near tall objects that are located to the south. However they are often in direct full sun in the summer. This is because the sun remains lower in the south sky in the winter, but by summer, the sun is directly overhead mid-day.
- An **EAST FACING** garden can have full sun, but benefits from afternoon shade in the heat of summer.
- A **WEST FACING** garden is shaded in the morning, but hot in the afternoon full sun, especially in summer with reflected heat from nearby structures or pavement.



6. Does your property slope up or down anywhere?

- Where is there a slope? And which direction is the slope going?
- Do you need/want to change or flatten any of the sloping areas?

HINT: Any slope directly next to a structure should slope down away from the structure to avoid issues with water runoff/pooling at the base of the structure.

Have a steep slope you plan on keeping? Check out our [Plants for Slopes](https://inlandvalleygardensplanner.org/lists/plants-for-slopes/) list online at the Inland Valley Garden Planner: inlandvalleygardensplanner.org/lists/plants-for-slopes/ for great hillside plants that can help prevent erosion

7. Where does the water go?

This likely relates to the first question about slope, since water will flow downhill.

- Do you have rain gutters?
- No = look at the slope of the roof to see where the water will be directed during a rainstorm
 - Yes = where are these rain gutters directed? Do they go all the way around? Is there anywhere on the property where water tends to pool during a rainstorm?
 - Is water directed into the street or sidewalk gutters somehow? If so, what is the route it takes?
 - Start to use these observations to get ideas about a good place to locate a dry stream bed or planted infiltration basin in your new design. If this makes sense for your site, start to picture somewhere where it can naturally accumulate this water flow, and will contribute to the look and feel of your landscape.

Design Considerations

Goals for your site.

4

1. Who are you designing for?

Are you interested in creating a wildlife habitat within your site? If so, you just need to provide:

- Food - by planting the right plants (reference the <https://inlandvalleygardenerplanner.org/> bird and wildlife plants list)
- Water - with a bird bath and/or water feature
- Cover - having trees and shrubs
- Places to raise young - a few dense shrubs along a fence or a wall are especially good for this

Will children or pets be using this site?

For children you want to think about safety, entertainment and room for growth. Same goes for your furry friends! Here are some kid and pet specific considerations:

- Avoid toxic plants or plants with thorns near accessible areas that could cause harm if ingested or rubbed against.
- Consider meandering paths for exploration and open areas for running around.
- Gardening for wildlife offers children opportunities to learn and endless entertainment.



DID YOU KNOW?
You can get your yard certified as a wildlife habitat? See how at www.nwf.org

Reference the Lawn Alternatives List on our Inland Valley Garden Planner website at inlandvalleygardenerplanner.org/lists/lawn-alternatives/ for less thirsty options for a natural lawn area.

2. What views are important to you?

- How will your site look from the street or sidewalk looking inward?
- How will it appear from the inside looking outward?

How will the view appear from each window/room?

- Low plantings throughout the site will create a sense of openness and allow you to see out past your project boundary.
- Tall plantings setback from the window will provide a sense of privacy, but perhaps still allow for some line of site.
- Tall plantings close to the window promote a sense of enclosure.
- Plants right underneath or to the side of a window that only block the view partially can also create some privacy, while maintaining a partial line of site.

How open/closed/private do you want your site to feel from inside? This will help determine the height of plants you use and where they are placed throughout the yard.

3. How do you want to layout your site?

Most California Native landscapes are designed with an organic, informal, and somewhat "natural" feel, but native plants can be used in other ways as well. If you prefer a more formal look or layout to your site, it is totally up to you!



4. How do you want/need to move throughout your site?

- Consider points that will need to be accessed for maintenance. Paths for this purpose can be clearly defined by a walkway or kept more discrete by saving some walking room between plants.
- Also, think about how you want to move about the garden for leisure, activity, or entertainment. This may require some open space, alcoves or paths.

5. Last, but definitely not least, how and where will you capture rainwater on your site?

NOTE: You might see a lot of different terms for capturing rainwater, such as rainwater harvesting, rain garden, dry stream bed, bioswale, etc. For our purposes here, they all basically do the same thing. Essentially, landscape rainwater capture systems create or use a low point to intentionally hold onto and absorb water when it rains. Your rainwater harvesting feature should be designed in a way that when it overflows, the water safely continues through the landscape. It is a great way to prevent rainwater from running off of your site directly into the street or gutters, and instead utilize this necessary resource within your landscape. To prevent mosquito issues make sure all water will completely infiltrate within 72 hours of a rain event.

TIP: The first rain of the season washes away pollution that has built up since the last rain. Your landscape can help filter this polluted runoff before the water continues to travel down the watershed.

Here are your rainwater capturing goals:

- Slow the water down for easier absorption into the landscape
- Spread the water throughout your landscape as much as possible.

This can be accomplished by creating a dry stream bed starting near an area where water typically collects and then moving through your landscape, with an area to let the water settle and infiltrate into the ground. This main infiltration area should be sited at least 10' from houses, garages, and other structures.

HINT: When picking plants for a bioswale make sure to avoid plants that mind having wet feet

A dry stream bed can also act as a bioswale for your yard. A bioswale is a shallow channel covered in permeable materials and plantings. The roots of the plants in and around the swale add extra assistance in capturing some of the water, cleaning it through relationship with beneficial soil microbes, and sinking it into the ground.

Refer to the Inland Empire Landscape Guidebook (pg.38-39) for more in depth information on capturing rainwater in your site. Download at tinyurl.com/ielandscapeguide



Design

Applying your analysis and considerations to your site!

5

Start by looking up your site on Google Earth and taking a screenshot using the Snipping Tool on a PC or shift+command+4 on a Mac. Map out and make a note of the observations from your site analysis on this site image. This includes mapping out your microclimates, which consist of the following:

- All-day sun areas
- Shade areas - is it dense shade, or dappled "part shade"?
- Morning or afternoon sun only areas
- Where water goes/pools
- Seek opportunities for capturing rainwater
- Keep away from the house (at least 10')
- Existing hardscape
- Existing plants that will remain

Keeping your site analysis in mind, consider drawing out a site plan to scale. (Reference the Inland Empire Landscape Guidebook (pg.46) on how to properly do this.) Once you have your site plan drawn out, you are ready to design! Throughout this process make sure to remember your goals, design considerations and site analysis.



If drawing out the site plan to scale is not for you, and you prefer to work in a "loose" way, that's fine too! You can print out your Google earth image and work with layers of tracing paper on top of it, taking your best guess as to the size of the features you're drawing. Drawing the plan to scale on graph paper will be more accurate, and will be easier for understanding the size and quantities of the plants that should go into your design, but different people prefer different approaches, and there is no single correct way to do design!

1. Draw out any newly planned hardscape (paths, patios, etc.) in addition to what already exists. Remember to make it permeable!
2. Decide how you want to capture rainwater and map it on your plan. This way you can place plants accordingly. Remember that your rainwater capturing system should usually start where water is already directed and the water should settle no closer than 10' from the house or garage.
3. Create a general planting plan according to your microclimates.
 - In general, unless you have a specific purpose to do otherwise, space out smaller plants along the perimeter and larger/taller plants towards the center or background and closer to the house. This would also be the time to think about your preference for privacy, enclosure or openness.
 - Consider adding a statement plant near the entrance, whether it be a tree or something sculptural that will stand out.
 - Leave access space throughout the site for maintenance

Picking Plants

Pick the right plants for the right place.

5

Now that you have your design layout with your general planting plan, it is time to pick your specific plants! You will want to select several plants with similar needs that can be grouped together. Using your mapped microclimates, pick the right plants for the right place.

Ex. For sunny spots, most beginning designers or gardeners will be most successful by picking no more than 10 or so (it may be less) different plant choices, that have similar water needs and can handle all-day sun exposure. Then repeat those plants throughout the areas of your site that meet those conditions. This will ensure the most success for your plants and the repetition will create continuity throughout your site.

Factors to consider when choosing your plants:

The biggest priorities for picking your plants are:

- Water requirements
- Sun exposure
- Soil drainage

- Color palette/variations
- Plant textures
- Small plants and large plants - this includes height AND width
- Plants that flower at different times of the year (This gives you a pop of color year-round, as well as providing food sources for wildlife all year long!).

- Your goals! If your original goals included creating a wildlife habitat, peaceful sanctuary, exciting space for kids, etc., your plant selection plays a huge role in accomplishing these objectives.
- Also remember to use different kinds of plants! Here are some plant types to utilize:



Use the interactive plant finder tool on inlandvalleygardenerplanner.org/ to find top plant choices that are a perfect match for your site conditions. You will be able to see images and learn about each plant, including watering and maintenance needs.



Plant Profiles

Some of our favorite plants to get you started!

10

Overwhelmed with all the plant choices? Consider these low water, native plants to help get you started on your plant search.

Trees



Desert Willow
Chilopsis linearis
Mature size: 15'-40'H x 15'-40'W
Exposure Adaptations: Heat, Frost, Drought, Aridity, All day sun

Large shrubs

That can also be trained as small trees.



Toyon
Heteromeles arbutifolia
Mature size: 12'-18'
Exposure Adaptations: Morning sun, Heat, Drought, All day sun, Partial sun



Catalina Cherry
Prunus ilicifolia ssp. *lyonii*
Mature size: 30'H x 20'W
Exposure Adaptations: Morning sun, Heat, Drought, All day sun, Partial sun

Ornamental Grasses



California Fescue
Festuca californica
Mature size: 1'-2'H x 1'-2'W
Exposure Adaptations: Partial sun



Canyon Prince Wild Rye
Leymus 'Canyon Prince'
Mature size: 4'-5'H x 4'-5'W
Exposure Adaptations: Wind, Heat, Frost, Drought, Aridity, All day sun

Perennials



California Fuchsia
Epilobium canum
Mature size: 3'-4'H x 3'-4'W
Exposure Adaptations: Drought, All day sun



Margarita BOP Penstemon
Penstemon 'Margarita BOP'
Mature size: 1'-2'H x 1'-2'W
Exposure Adaptations: Heat, Drought, All day sun



Desert Mallow
Sphaeralcea ambigua
Mature size: 2'-3'H x 2'-3'W
Exposure Adaptations: Wind, Heat, Frost, Drought, Aridity, All day sun



De La Mina Verbena
Verbena ilicina 'De la Mina'
Mature size: 2'-3'H x 2'-3'W
Exposure Adaptations: All day sun



Deergrass
Muhlenbergia rigens
Mature size: 2'-5'H x 3'-6'W
Exposure Adaptations: Heat, Drought, Aridity, All day sun



Alkali Sacaton
Sporobolus airoides
Mature size: 4'-5'H x 4'-5'W
Exposure Adaptations: Wind, Heat, Frost, Drought, Aridity, All day sun

Shrubs



Indian Mallow
Abutilon palmeri
Mature size: 5'-8'H x 4'-5'W
Exposure Adaptations: Heat, Frost, Drought, Aridity, All day sun



McMinn Manzanita
Arctostaphylos 'Howard McMinn'
Mature size: 8'-10'H x 8'-10'W
Exposure Adaptations: Morning sun, Drought, All day sun



Montara California Sagebrush
Artemisia californica 'Montara'
Mature size: 3'-5'H x 5'-7'W
Exposure Adaptations: Heat, Drought, Aridity, All day sun



Baja Fair Duster
Calliandra californica
Mature size: 3'-4'H x 4'-5'W
Exposure Adaptations: Wind, Heat, Frost, Drought, Aridity, All day sun



Santa Cruz Island Buckwheat
Eriogonum arborescens
Mature size: 4'-5'H x 5'-6'W
Exposure Adaptations: Heat, Fog, Drought, Coastal salt air, All day sun



California Buckwheat
Eriogonum fasciculatum
Mature size: 5'-8'H x 4'-5'W
Exposure Adaptations: Heat, Frost, Drought, Aridity, All day sun



California Coffeeberry
Franksia (rhannus) californica
Mature size: 8'-10'H x 8'-10'W
Exposure Adaptations: Morning sun, Fog, Drought, All day sun, Partial sun



Allen Chickering Sage
Salvia 'Allen Chickering'
Mature size: 3'-4'H x 3'-4'W
Exposure Adaptations: Drought, All day sun



Pozo Blue Sage
Salvia 'Pozo Blue'
Mature size: 3'-4'H x 3'-4'W
Exposure Adaptations: Heat, drought, All day sun



Winifred Gilman sage
Salvia clevelandii 'Winifred Gilman'
Mature size: 3'-5'H x 3'-5'W
Exposure Adaptations: Drought, All day sun

For even more region appropriate native plants, check out the Plant Finder tool on our website: inlandvalleygardenplanner.org

Garden Inspiration

Southern California gardens seen on the Theodore Payne Native Plant Garden Tour

12

13



4 Mantillo

Asumiendo 4-6 pulgadas de profundidad

Mantillo



Gratis aquí el primer y tercer sábado del mes

\$0.48-0.63 por pie cuadrado

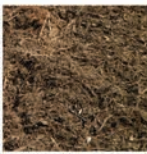
¿Quiere un mantillo lujoso? *\$1.53 por pie cuadrado and o llama un arborista.*



Gravilla de Granito Decompuesto

\$1.02 para patios y caminos (con estabilizador)

\$0.62 para su jardín (sin estabilizador)



Mantillo



Gravilla

Si Ud. quiere recoger mantillo gratis de nosotros recuerda traer sus herramientas para llevárselo.

*chipdrop.com



Waterwise Community Center

El Centro Comunitario para la Conservación de Agua
4594 San Bernardino Street
Montclair, CA 91763

Horarios:
lunes-sábado
8:00am-5:00pm

Teléfono:
909-626-2711

¡Vengan a saludar nuestro tortuga, Sam!

¡Síguenos!

cbwcd.org | @CBWCD

GRATIS Y ABIERTO AL PÚBLICO



¡Su Proyecto DIY!
¿CUÁNTO CUESTA TRANSFORMAR MI JARDÍN?

- Este folleto incluye los precios promedios por pie cuadrado
 - Los gastos proporcionados son una aproximación basada en una comparación de precios locales.
- Nota: Impuestos y entrega a domicilio no están incluidos*

(Noviembre 2018)

Waterwise Community Center

A program of the
Chino Basin Water
Conservation District

Hay 4 factores principales para tener en cuenta:

- 1 Sacar su zacate
- 2 Irrigación
- 3 Plantas
- 4 Mantillo

1 Sacar su Zacate

Hay 4 métodos comunes para matar su césped. Debajo tenemos los precios promedios por cada método.

Mantillo y cartón = ¡Gratis!

Aquí tenemos mantillo gratis el primer y tercer sábado del mes.

Solarización = \$100

El costo promedio para una caja de lamina de plástico grueso y transparente.

A Maquina

Rentar una maquina = \$100/día

Un contenedor depende de para el césped = su ciudad

Dejar el césped en un centro de reciclado de residuos verdes = \$50/tonelada

Herbicida* = \$24-60/botella

*su uso es controversial y esta información es solo para informarles no estamos pregoniendo su uso.

2 Irrigación

El promedio incluye las válvulas, aspersores o red de goteo, y cables electricos.



Riego Aéreo
\$0.44-0.66 por pie cuadrado

Riego por goteo
\$0.61-1.16 por pie cuadrado

¿Le hace falta un controlador?
Hay programas de reembolso y de instalación gratis para nuevos controladores basadas en el clima.



Por Ejemplo: Un jardín de 1,600 pies cuadrados en Ontario

¿Esta usando el reembolso?
\$3.00 x 1,600 = \$4,800
¡Su \$4,800 de reembolso le pueda ayudar con el total!
*Reembolsos más de \$600 sera sujetos a impuesto.

3 Plantas

1 galón \$0.65 por pie cuadrado
(precio promedio de una planta = \$13)

Generalmente sólo recomendado por árboles frutales y plantas cuales solo son disponible en este tamaño.



Si Ud. esta usando el reembolso se requiere 5 plantas por cada 100 pies cuadrados.

1 Sacar el césped
Mantillo y cartón = gratis

2 Irrigación
Riego por goteo: 1,600 x 1.16 = \$1,856
Controlador: \$120 - 80 = \$40
reembolso!

3 Plantas
1,600 x 0.65 = \$1,040

4 Mantillo
1,600 x 0.63 = \$1,008

Adoquines = \$500

Rocas = \$206

Banca = \$200

Fuente de agua = \$150

Total = \$5,000