

DEMONSTRATION GARDEN: WATERWISE RAIN GARDEN

RELEVANCE

This is a crucial time to make choices that support the health and survival of pollinators; this landscape with all its biomass, biodiversity, and flowering native plants supports pollinators and other players in the ecological web of life. Lawns are often the default, go-to landscaping “solution” due to lack of knowledge or imagination, yet lawns lack all of this richness that supports the tapestry of life. Lawns should be planted for specific purposes only, and used sparingly and intentionally.

Now, as there has been news of the Colorado River drying up - impacting the drinking water, power, and irrigation abilities of communities across the Southwest - is also a crucial time to make fresh water resources stretch. Watering lawns and landscapes with treated drinking water is not the highest use of this precious resource. Waterwise landscapes and Rain Gardens provide a path forward in how we design and plan for landscapes in our region.

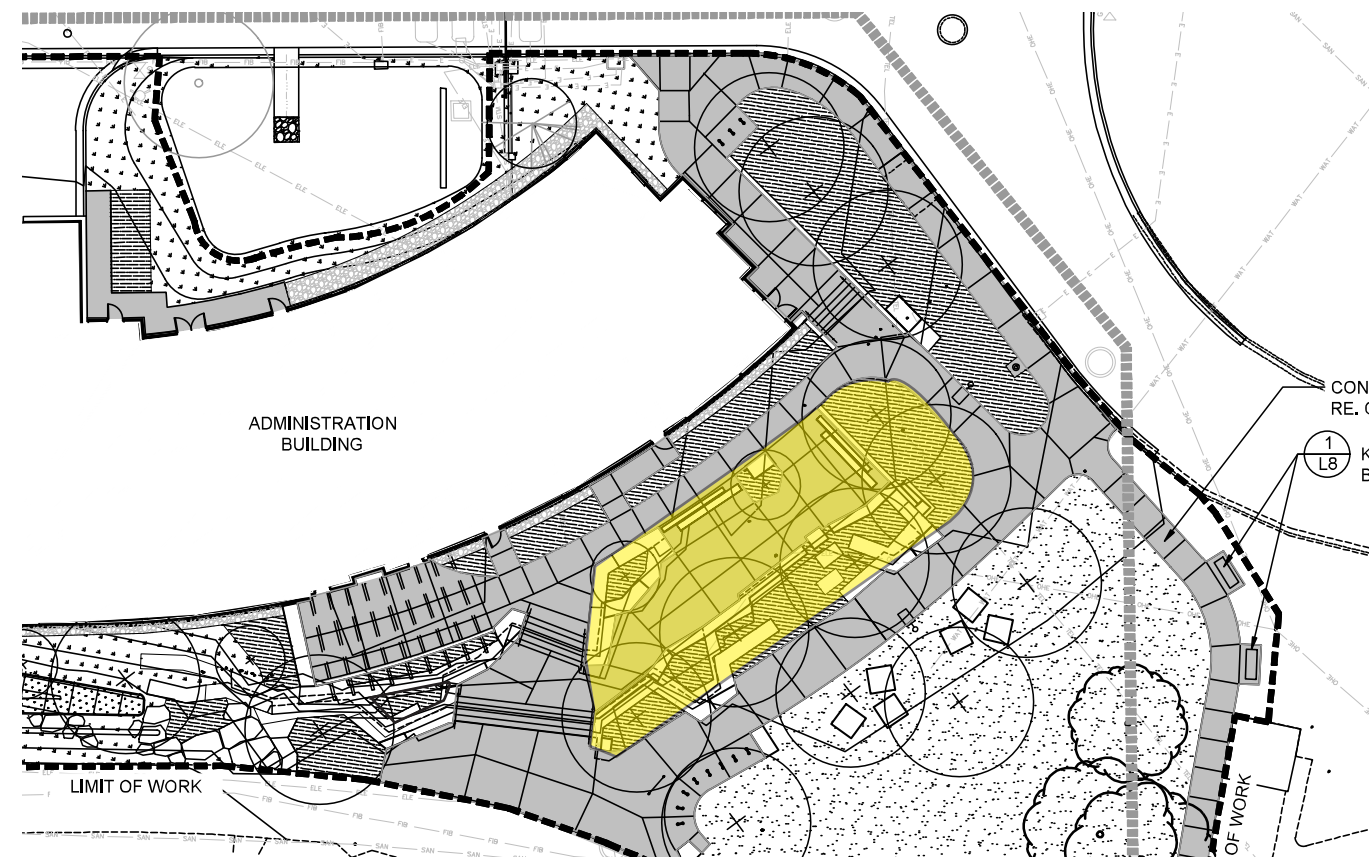
OBJECTIVES

1. What constitutes a low-maintenance landscape?
2. What to expect with a new landscape
3. Strategy for planting
4. Functions and benefits of a Rain Garden

BENEFITS

- Low-maintenance
- Conserves **water**
- Conserves **resources** by employing living mulch
- Showcases a **regional aesthetic**, creating a sense of place
- Provides **habitat** for pollinators and others in the ecological web
- Increased **beauty** and interest for human stewards and admirers

SITE CONTEXT AND FINDINGS



IMPORTANT FINDINGS FROM SITE ANALYSIS:

- This portion of the landscape gets direct sun all day.
- Watering the landscape with rain only was not considered when the building was designed to drain all the water to the side opposite the landscape.

SITE CONTEXT:

- The slope lends itself to walking the water throughout the landscape for maximum opportunity of deeply hydrating the soil using rainwater.

CONCEPTS

WATERWISE LANDSCAPE

This section of the design demonstrates a Waterwise landscape. This is essentially the same thing as what used to be called “Xeriscape”. The trend away from using the term Xeriscape is due to the misperception borne out of the all-too-common mispronunciation ZEROScape, which lent itself to the misguided suggestion that the landscape had little to no life growing on it. Well-executed Waterwise landscapes are lush and compelling, with the use of little to no supplemental water once established.

RAIN GARDEN

A landscape can certainly be Waterwise without being a Rain Garden, but this one demonstrates both. Rain Gardens sculpt the land to move water throughout the landscape, and specifically away from hardscape like paths and patios, and into planted areas.



EXPLANATION OF OBJECTIVES

1. WHAT CONSTITUTES A LOW-MAINTENANCE LANDSCAPE?

Nature is a powerful force. Working with it produces better results with less effort. These are some of the most impactful ways of working with nature for a low-maintenance landscape:

- Choose Carefully.** Plant selection is key. Appropriately selected native and adapted plants will be able to survive without external inputs of water once established and will never need fertilizer.
- Less is More.** Many native and adapted plants do not require deadheading - or much of anything! - to look their best throughout the season. One treatment for perennials - generally speaking this would entail being cut back - per year, or less, is the bar for low-maintenance plantings.
 - Proper maintenance practice includes bypassing fall clean up which results in greater winter interest, one less thing for you to do, and increased habitat and resources to nourish pollinators.
- Embrace Wildness.** Allowing for natural evolution of the garden creates a lower maintenance landscape than one where each plant has its spot where it must be, and can only be, which creates a lot more work for the gardener, and less delightful surprise of unintended combinations. Plants often migrate within a space to find niches and microclimates where they will do best. Allowing for this natural reorganization sets us up with greater success and less work. There is great value in permitting wildness in our designed areas. Tamed is not always the best approach.
 - For example, allowing insects to exist in our gardens invites birds which feed on them and can naturally keep insect populations in check, eschewing the need for harmful chemical insecticides.
- Mulch Mindfully.** A gravel or woody-based top dressing of mulch can have a dramatic effect in reducing weeds, and retaining moisture.

- Living mulch... Until the plants fill in to achieve this effect, a fine organic mulch can be used. Ideally the mulch breaks down, adding organic matter to the soil by the time the plants fill in, and no other mulch will need to be applied again.
- Avoid **WEED MAT**, aka **LANDSCAPE FABRIC**. These petroleum-based products result in diminished soil health and less water permeating into the soil. They limit the growth of desirable plants and deter them from spreading by root and seed.
- Mulch slides off them, especially on slopes like this one, leaving the mat itself visible and unsightly.
- As mulch breaks down on top of the mat, soil forms that weeds take root in; when their roots weave through the fabric into the earth below, they are harder to remove than if no fabric was there.
- Over time they break down and contribute to landfills. Removing or replacing them from a mature landscape disrupts the roots of established plants.



2. WHAT TO EXPECT WITH A NEW LANDSCAPE

In the early years of a new landscape, it is helpful to understand the tenets of the adage Sleep, Creep, Leap regarding plant establishment. After 3-5 years in our region, the incidence of weeds dramatically diminishes, as does the need to water a properly planned Waterwise landscape.

3. STRATEGY FOR PLANTING

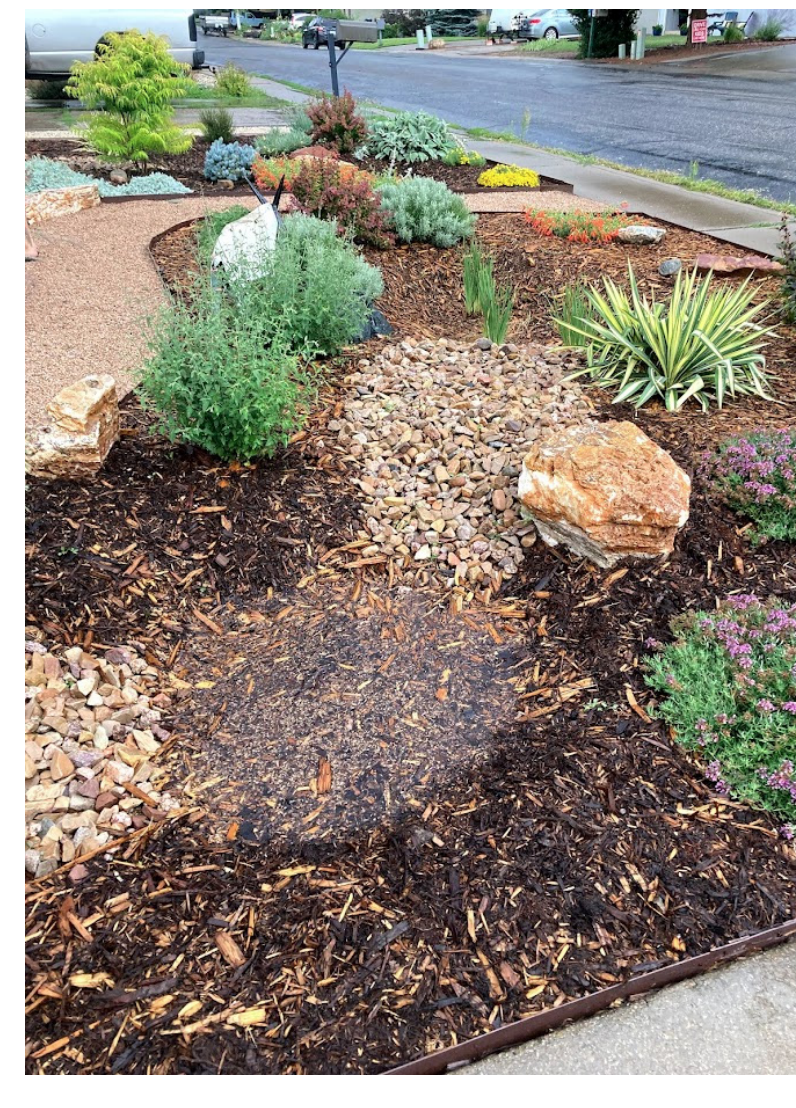
This section of landscape is intended to demonstrate the beauty of xeric (dry loving) native and adapted plants. The foliage is considered as much as the flowers, and creating season-long color and year-round interest are paramount. By thoughtfully arranging the plants to best show off their attributes by adjacent plantings of contrasting texture, size, structure, form, and color, each species stands out for its unique features. There are a few specimens - plants that have attractive elements throughout the growing season or entire year - and many groupings, so each species can be seen en masse and more readily appreciated.

- Interplanting** places more than one species in an area for the benefit of maximizing flowering. An early flowering plant grouping interplanted with a late season plant grouping results in more flowering in a given area. This method lends itself to creating the desirable living mulch effect.

4. FUNCTIONS AND BENEFITS OF A RAIN GARDEN

Gravity moves everything to the lowest spots and gravity is leveraged in the Rain Garden where the planted areas benefit from both water and organic matter settling into the lowest areas. Whenever possible, rain from impermeable surfaces on the site, like roofs, sidewalks, and patios, is directed into the landscape. The moisture helps organic matter that blows in or is intentionally put there, to decompose more quickly and thereby return nutrients to the soil.

- Chop & Drop** is a technique used in Rain Gardens where any soft, herbaceous plant matter that is collected in the maintenance of the landscape, is chopped into small pieces and dropped into the basins. The basins are the depressions that allow water the chance to pool, so it can soak into the land, rather than running off the surface. Putting these bits of organic matter into the basins act as mulch and have a sponge effect. It helps to keep moisture in the soil, while speeding up decomposition, returning the nutrients to the landscape for a closed loop system.
- Flat is not where it's at.** Besides functioning to infiltrate water and recycle old plant matter, the topography of a rain garden creates interest in the built landscape.



INSPIRATION

Nature is the inspiration for the best and most successful garden spaces. Mimicking nature makes our designed landscapes fit with the natural surroundings and highlights their beauty. Such landscapes become uniquely expressive of the geographic region, and demonstrate a sense of place.

DESIGN PRECEDENTS

- Lauren Springer-Ogden's method of living mulch demonstrated in her renowned naturalistic garden style, on display at Denver Botanic Gardens and showcased in her book *The Undaunted Garden*, within which there's a chapter featuring on the Lush Dry Garden.
- Brad Lancaster, author of *Rainwater Harvesting for Drylands and Beyond*, and his Tucson neighborhood.
- Doug Tallamy's *Bringing Nature Home* details the importance of planting native species to create mini ecosystems that support pollinators in travels between fragmented habitat.

