

# Sustainable Landscape

## The Numbers Speak for Themselves

Case Study: garden\garden, Santa Monica, California



**Type of Project:** Adjacent bungalows used as office buildings for Santa Monica College

**Objective:** compare sustainable and traditional landscaping practices

**Size of Project:** two front yards approximately 1,900 square feet each

**Location:** 1718 and 1724 Pearl St., Santa Monica, CA 90405

**Total Budget:** \$29,100

**Project Date:** March 2004 – March 2013

### Project Summary

The initial challenge was to persuade homeowners and landscape professionals that sustainable landscaping, with climate-appropriate plantings and efficient water use, was not only better for the environment than traditional landscaping with exotic plants and inefficient water use, but was just as attractive and made good economic sense. To prove its case, the City of Santa Monica partnered with Santa Monica College and the Metropolitan Water District of Southern California to create **garden\garden**—two gardens in adjacent residential front yards: the *Native Garden* with a climate-appropriate, sustainable design; and the *Traditional Garden* with high-water use plants and inefficient irrigation. The side-by-side landscape comparison provided a unique introduction to the proven benefits of sustainable landscaping practices.

Since 2004, the City has been collecting data on the amount of water used, green waste generated, and maintenance hours for both gardens. The data shows that the sustainable landscaping principles demonstrated in the *Native Garden*, are cost-effective, environmentally beneficial, and easy to replicate. On average the *Native Garden* uses **83% less water**; generates **56% less green waste** and requires **68% less maintenance** than the *Traditional Garden*.

**garden\garden** has served as a learning laboratory and working example for the local and regional communities. More than 200 local residents have transformed their gardens into sustainable landscapes by participating in the City's Sustainable Landscape Grant and Rebate programs. More than 200 landscape professionals have attended City sponsored workshops that feature the lessons **garden\garden** has to offer. There is still much work to do to transform the landscaping industry, but this study points to results - undeniable results - that should influence homeowners and professionals alike.



*Native (Sustainable) Garden*  
1724 Pearl St., Santa Monica, CA



*Traditional Garden*  
1718 Pearl St., Santa Monica, CA

**Project History**

Although, the City had for many years provided seminars and tours of local sustainable landscapes, and installed a large demonstration garden at City Hall, most residents were not moved to alter their landscaping practices. Similarly, members of the landscaping community were still inclined to recommend and install the traditional landscapes with which they were most familiar, e.g. lawn with sprinklers.

The concept of a comparison garden, it was thought, would help homeowners and professionals make the connections, demystify complex concepts and provide a viewable template for any residential property in the region.

**Project Site Information**

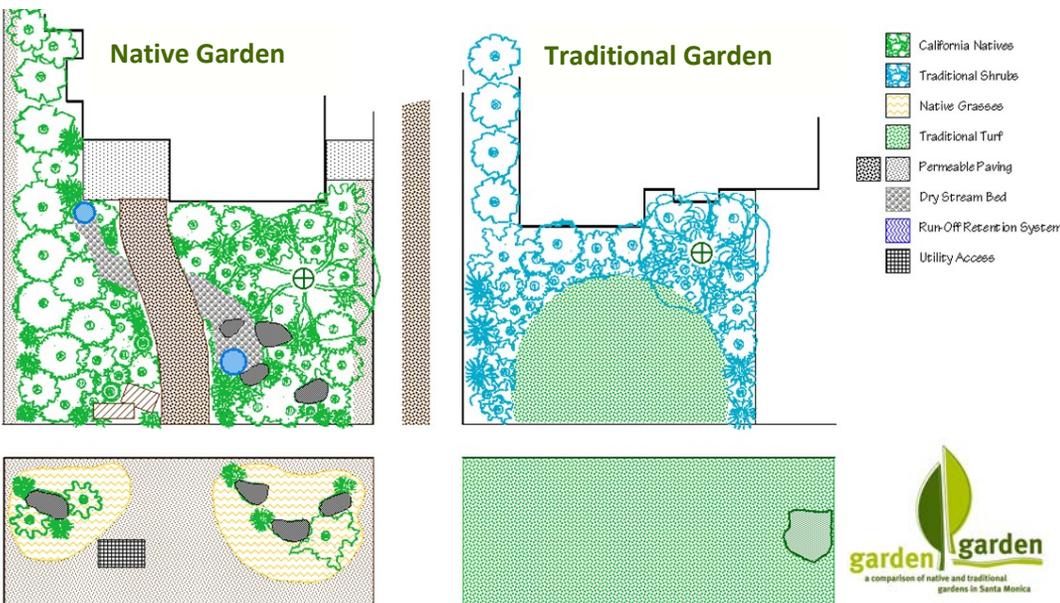
Santa Monica’s climate is coastal Mediterranean and is dominated by the Pacific Ocean. Average daily temperatures are mild and morning fog is common with daily on shore afternoon winds. The air tends to be salt-laden, and the average annual rainfall is 14 inches. The soils are commonly alkaline and sandy in texture.

**garden\garden** is located in an urban residential neighborhood in front yards of two adjacent bungalows, which house offices for Santa Monica College. Each front yard is approximately 1,900 square feet. In both gardens, the soil type is sandy loam (moderate permeability), poor in organic matter, and



highly compacted from decades of lawn. Tests also indicated high alkalinity and high levels of toxic metals, including zinc and copper.

The existing landscape, for both properties, was completely removed to create an identical base condition for study, with all waste exported for recycling. Soil amendments were applied as appropriate for the respective plant material.



The intent was to bring the soil to a basic level of balance, facilitating a long-term development of healthy soil life and increased plant health. As public garden sites, both gardens also are exposed to high foot and vehicular traffic and the resulting air pollution.



## Construction Costs

Total cost of *Native Garden*: \$16,700

Total cost of *Traditional Garden*: \$12,400

The Native Garden's costs were slightly higher due to:

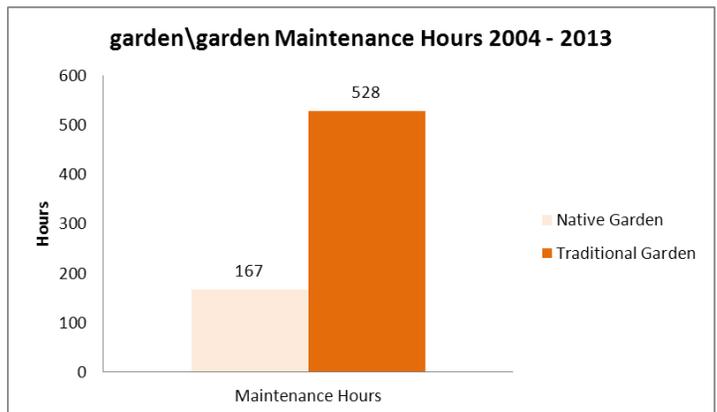
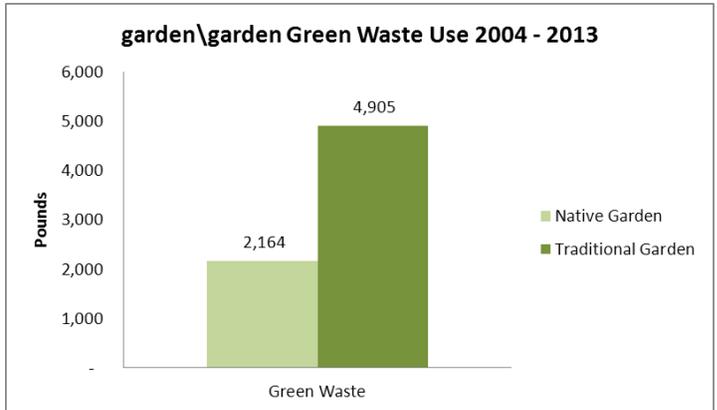
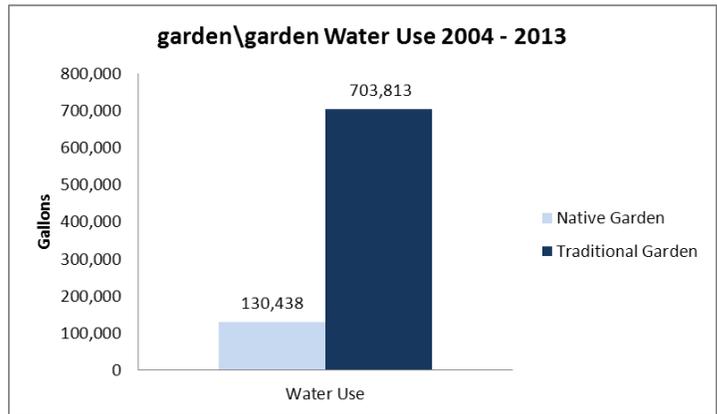
1) the existing concrete walkway was removed and replaced with a permeable handicap accessible walkway, and 2) rain gutters were installed to direct rainwater into the landscape.

## Maintenance

When the installing contractor's 90-day maintenance period expired, a landscape maintenance company was hired to maintain both landscapes. In the first year, both gardens were visited weekly. The company was asked to keep separate records of material costs, labor hours, and green waste production for each garden and to report that data monthly.

In the *Native Garden* after a 12-month establishment period, the garden received a yearly pruning and once per-month maintenance. The drip irrigation system was checked at each visit. Mulch was replaced as needed.

In the *Traditional Garden*, the exotic plants required more water, fertilizers, and pest management. Lawn areas were mowed and edged weekly. Annual plants were replaced two to three times a year. Occasional treatments were required for diseases and insect attacks. The sprinklers were checked bi-monthly.



### Traditional Garden Landscape Practices

- No chemical herbicides or insecticides (per Santa Monica City policy) but occasional use of blood meal
- Commonly used exotic plants from Northern Europe and the Eastern United States
- 95% of landscaped area is lawn
- Standard inefficient sprinkler irrigation system in the lawn and parkway; sub-surface drip used to limit irrigation runoff from the lawn edges bordering the street and sidewalks
- Standard automatic sprinkler timer
- Weekly maintenance schedule

### Native Garden Landscape Practices

- No chemical herbicides or insecticides (per Santa Monica City policy)
- Native California plant palette with colorful blooms throughout the year designed to replicate the chaparral of the Santa Monica mountain
- Weather-based irrigation controller w/ low-volume drip irrigation
- Dry creek bed and infiltration pit for infiltrating rainwater into the ground
- Wildlife habitat for local and migratory fauna

## Lessons Learned

Landscaping that follows the principles demonstrated in the *Native Garden* are cost-effective, environmentally beneficial, and easy to replicate. When properly designed and installed, these landscapes need minimal maintenance. The successful practices put into place in the *Native Garden* were the foundation for the City's adoption of local landscape and irrigation standards.

In order for sustainable landscaping to become the predominate style of landscaping, the landscape industry must take ownership of it. Much outreach is needed in this industry from educating landscapers on design, installation and maintenance to stocking efficient irrigation parts and climate-appropriate plants in stores. One city cannot do this alone; regional and state collaboration is required for the successful transformation to sustainable landscaping.



## The Numbers Speak for Themselves

### Traditional Landscape



### Sustainable Landscape



Consumption for one year based on 2005-2006 data.

More project details: [sustainablesm.org/gardengarden](http://sustainablesm.org/gardengarden)

#### Project Team:

##### Project Coordinator

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##### Irrigation Designer

Bob Galbreath, City of Santa Monica

##### Landscape Contractor

Live Art Landscapes

##### Maintenance Contractors

Form LA Landscapes  
 RK Landscapes

