Rancho Mirage City Hall Undergoes Site Renovation

Sustainable Sites Initiative - A case study

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The American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center and the U.S. Botanical Garden have teamed up to collect and publish case studies for sustainable sites. Their ***Sustainable Sites Initiative*** is promoting national guidelines for performance benchmarks and practices for sustainable land design, construction and maintenance.

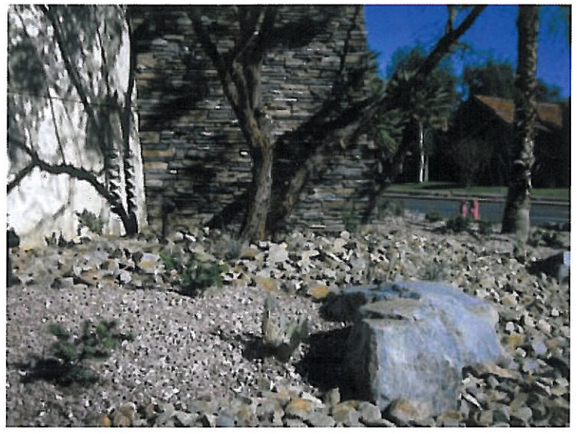
The Rancho Mirage City Hall Site Renovation was selected as a case study project earlier this year and was identified as an exemplary project. As there may be opportunities for similar practices to be incorporated in a future project in your City, the following abridged version of the case study documentation is presented for your review.

Project Overview

The Rancho Mirage City Hall site improvement project was initiated by the city's elected officials to improve the work environment and to set an example for high quality sustainable site development within the city. The design criteria and program emphasized compatibility with the local environment, sustainable practices, and improvements to this public landscape for employees and for visitors to City Hall. The project program included a drastic reduction in water usage and reduced maintenance needs. The proposed aesthetic and environmental improvements were to take advantage of the sites' immediate and surrounding desert landscape for a greater affinity to the nature and to promote the well-being of site users.

Sustainable Practices

Reduction in Maintenance Requirements: The previous landscape could be characterized as a "turf and trees" landscape. The new desert-oriented plantings, both native and climate appropriate vegetation, were designed to deliver significant savings in labor and maintenance costs. The previous landscape required a three-person mowing crew and a three- to four-person shrub and clean-up crew once per week compared to the new landscape maintenance crew which is two to three people once per week. The new landscape has no mowing or wash down requirements. This helps to reduce fuel use, emissions, water use and most power-equipment requirements.



Reduction in water use and runoff: The new "celebrate the desert" landscape required a re-working of the water supply system that had previously been shared with the City Hall building and other site uses. The new irrigation system has eliminated runoff, a common occurrence in the former landscape. Water use is calculated to be reduced by 80 percent. The new landscape incorporates a low precipitation, point-of-use (each shrub and tree has dedicated emitters) irrigation delivery system.

Runoff reduction was a major consideration in the redesigned landscape. Irrigation runoff and natural runoff from occasional desert rains was addressed through the use of permeable pavement, large areas of rock and boulder ground cover on native sandy soil, and the elimination of spray-head irrigation.

Reduction in Fertilizer and Chemical Use: Elimination of the turf grass from the project site has resulted in a great reduction in fertilizer and chemical use. The yearly turf scalping and overseeding operation required human resources, trash haul away and fertilization with the annual overseed mix. This entire operation has been eliminated. With the elimination of all turf grass the amount of fertilizer used onsite has been reduced by 60 percent.

Waste Reduction and Reuse: In order to reduce construction waste, appropriate disposal of haul-off items to re-use facilities was a construction contract requirement. Virtually all construction waste was diverted from the regional landfill program. Green waste, after being significantly reduced by on-site dehydration where the cut grass crop was left to dry, was taken to a regional composting facility. On-site rocks and soils were re-used within the new landscape development. Miscellaneous metals, electrical equipment and wiring were sent to a recycling center. On-site garden walls, the bus stop and employee picnic areas were refurbished in place.

Local Sourcing of Construction Materials: Over 90 percent of the construction material selected was obtained from local sources. The largest materials (by tonnage) were decorative rocks that were salvaged from a large quarry operation less than 50 miles from the project site. Ground cover for this desert landscape is an artistic emulation of the boulder-strewn, rocky foothills found in the surrounding environment. The ground cover design relied on locally selected boulders, rocks and decomposed granite. The plant materials were locally grown.

Use of Native and Adapted vegetation: The plant palette reflects the local ecosystem and improves the community's sense of place. The existing turf grass was replaced with drought-tolerant natives and adaptive species. The desert environment, though harsh and dry, produces several stunning and architecturally interesting plants. The new gardens incorporate Golden Barrel Cactus,*(Echinocactus grusonii),* beautiful Red Yuccas*(hesperaloe parvifolia)* and several blooming desert plants, for example, the Red Bird of Paradise*(Caesalpinia pulcherrima).*

Monitoring Information

The new landscape has saved more than 50 percent of the maintenance cost over the previous planting concept. Early calculations projected water-use savings of more than 80 percent over the turf and trees landscape. The city now has the means to collect landscape water-use data through a dedicated meter. This monitoring provides monthly water-use data as a comparison and back check to ensure that the programmed use level stays within the parameters of the design projections.

Maintenance

A major motivation for moving ahead with this project was maintenance reductions. The improvement plans included several elements that will be valuable tools for ongoing maintenance work.

The cost of labor and resources has been monitored and compared to pre-project cost through collection of data on maintenance contract costs and required staff hour monitoring. The new yearly maintenance contract saves the City more than $27,000 annually. The pre-project annual maintenance contract was $64,800; the new contract amount is $37,440.

Conclusion

The full version of this ***Sustainable Sites Initiative*** case study and about twenty other case studies from around the country can be found at ***sustainablesites.org***. Any questions about this project or the sustainable measures sited can be addressed to Mr. Bruce Harry Public Works Director, City Rancho Mirage (bruceh@ci.rancho-mirage.ca.us) or David Volz, Landscape Architect, LEED AP, David Volz Design (dvolz@dvolzdesign.com).