



Phillip S. Raine Roadside Rest Area Case Study

LEED Certified, Platinum, October 2013

Winner, Caltrans 2014 Excellence in Transportation Award, Stewardship of the Environment

When thinking of LEED certification, a roadside rest area is probably not the first project type that comes to mind, but the Philip S. Raine Safety Roadside Rest Area has recently achieved LEED Platinum, showing that a little project can have a big impact. Located 7 miles south of Tulare, CA on Highway 99, Raine Rest Area received a much needed makeover, with a result that is not only LEED certified, but also beautiful and functional, earning one of the “Awards of Excellence” by the California Transportation Foundation.

The extensive renovation included mitigation of asbestos and lead paint, men’s and women’s accessible restrooms, outdoor shaded and open seating space, and vending. It also included two offices for the California Highway Patrol. Caltrans provided the design and LEED oversight in-house, and set high goals for efficient water, energy, and materials use. In Balance Green Consulting provided LEED construction administration services to reach the LEED v2.2 Platinum rating.



Energy

The Rest Area reduced its energy demand by 25% compared to typical facilities using effective daylighting techniques, cool roof and efficient equipment and lighting fixtures. The project included commissioning and enhanced commissioning to fine-tune and review performance.

The project offset 27% of its energy use with solar energy featuring an integrated PV shade structure. Each side has approximately 20.5 kw of panels installed at a 20 degree slope due South. Panels are spaced so non shade adjacent ones and there are no trees in the general area to shade any in the future. The project also contributes to further development of renewable energy by purchasing 35% of energy use in a 2-year period from green energy providers.



Water

California's concern for water use was paramount in the implementation of this project. Water efficient landscaping reduced potable water irrigation use by 84%. Further water savings were accomplished with efficient plumbing fixtures reducing indoor potable water use by 42%. Remote from any municipal sewer treatment facility, the Rest Area treats all of its wastewater to a tertiary standard on site. The treated water is percolated back into the groundwater supply using 4 retention ponds on the northbound side.

Combining indoor and outdoor water use, the savings are 73%, or 12 million gallons of water per year.

Stormwater is managed completely on site using bio swales, permeable paving and other low-impact development strategies. In addition, the new landscape restored over 50 percent of the site with native and drought-tolerant plants

Materials

Fulfilling a regional priority, the project purchased over 41% of its materials within 500 miles of the site. Another 20% of the material contains recycled content. The respect for material use extended to using over 85% FSC Certified lumber and recycling over 97% of the construction waste. Indoor finishes installed are VOC compliant and all spaces were vented during construction and before occupancy.

Innovation and Community

The project thoughtfully celebrates regional features in many details. Prefinished panels provide highlights of the region's indigenous peoples, agricultural history, historic transportation and development, and plants and wildlife. Silhouettes of local plants and animals are cast into the concrete benches, walkways and walls and set into metal grates. A tile mosaic reflects art work of the indigenous people. Other metal panels highlight fruits and vegetables that grow in the region.



The Phillip S. Raine Roadside Safety Rest Area is an excellent example of the State of California's dedication to green building and is an excellent tool to educate Californian travelers on effective and exciting architecture. Stop by and take a look next time you are travelling through the San Joaquin Valley!