

## CLINICA SIERRA VISTA - ARVIN COMMUNITY DENTAL CENTER

# Simple Sustainability

The Arvin Dental Center uses proven green strategies to create an integrated sustainable building.

### PROJECT BACKGROUND

Arvin Dental Center, located at 1305 Bear Mountain Blvd. Arvin, CA, is a new one-story project for Clinica Sierra Vista. Designed by KSA Group Architects with the local community and environment in mind, the dental center achieved a LEED for New Construction v2009 rating of Silver. At roughly 3,865 sq. ft., this center was completed in September of 2010. As the first LEED certified building in Arvin, the building demonstrates that sustainability can be integrated into any and all buildings, no matter the design, size or location.

### STRATEGIES AND RESULTS

The building itself is a wood framed single story building with a concrete tile mansard roof disguising the flat high-albedo TPO membrane roof behind. A large waiting area utilizes natural daylight through side-lighting and Solatubes to minimize the artificial light needed to illuminate the space. A highlight of the building's design is the integration of daylighting and views throughout the building. Arvin Dental Center contains other energy efficiency strategies including occupancy sensors, high efficacy lighting, and an improved thermal envelope to exceed Title-24, 2005 energy standards by 24%.

The site incorporates several sustainable strategies to reduce the project's impact on local air and stormwater quality. Preferred parking spaces for Low-Emitting and Fuel-Efficient Vehicles as well as Carpool/Vanpools are provided to encourage alternative transportation. Kern County maintains stormwater treatment and retention a high priority. The roof and associated grounds for the building force rainwater towards catch basins where it is directed into the onsite retention sump and allowed to infiltrate back into groundwater aquifers.

Arvin Dental Center saves more than 40% over its baseline annual water usage as defined by the EPA Act of 1992. This is accomplished by utilizing three water saving fixtures: aerators reduce flow rates in all lavatory faucets and sinks to 0.5 gpm and high-efficiency 1.0 gpf water closets.

The mechanical system is designed to take advantage of the added benefits of a green design. Four rooftop energy recovery ventilators HVAC units provide both the heating and cooling for the building. Occupant's thermal comfort was a priority in designing the mechanical layout for the project. Thermal comfort was tested during the Commissioning process at the end of construction and will be verified through an occupant survey months after initial occupancy. R-410A, a non-CFC refrigerant, was selected for all units to reduce potential environmental impacts. Indoor air quality was also a factor in the design. Low-emitting paints, coatings, adhesives, sealants, carpets, resilient flooring, and composite wood products were all purchased to minimize or eliminate total Volatile Organic Compounds (VOCs) and other toxins off-gassed by conventional building materials.

Carvalho Construction diverted over 75% of all construction and demolition waste generated throughout construction from the landfill. Approximately 87% of all wood purchased for the project is certified by the Forest Stewardship Council and considered sustainably harvested. Lastly, Clinica Sierra Vista is contracted with a pest control company utilizing only Integrated Pest Management strategies and a cleaning company utilizing only environmentally-sensitive cleaning products and practices.



**Owner:** Clinica Sierra Vista  
**Architect:** KSA Group Architects  
**Structural Engineer:** Parrish-Hansen Inc.  
**MP Engineer:** Mechanical Design Concepts  
**Electrical Engineer:** Peter Kwan Engineering  
**Civil Engineer:** McIntosh and Associates  
**Landscape Designer:** Landscape Architecture  
**LEED Consultant:** Green Dinosaur LLC  
**Contractor:** Carvalho Construction  
**Commissioning Agent:** Green Dinosaur LLC

**Project Size:** 3,865 sf  
**Total Project Cost:** \$  
**Cost per square foot:** \$

### ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high performance green buildings. Visit the USGBC's website at [www.usgbc.org](http://www.usgbc.org) to learn more about LEED and green building.