

# GREEN BUILDING AND DESIGN

## Smarter Land Use

Smarter land use is step 1. Compact development in Alternatives 2 and 3 reduce the energy—and costs—needed for transportation and household use.

## Getting to Zero-Net Energy Impacts

The state is developing standards that will require development to have zero-net impact on emissions and existing power systems.

## More Efficient Buildings

*By applying efficiency standards that increase over time, SEGA development can reduce energy requirements by as much as 70%.*

## Clean Energy Production

Renewable power generated on-site can make up the remaining need without producing harmful greenhouse gases or other emissions.

## Green Building Standards

There are a number of green building certification systems in use today. They include the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) family of programs; the U.S. EPA's Energy Star program; Built Green's GreenPoint Rated program; LEED Green programs; and many other national and local programs.

Many cities, including Los Angeles, San Francisco, Santa Cruz, and Austin, now require new construction to meet one or more of these standards. More cities are planning to adopt requirements. Fresno is taking its first step with Fresno Green, the city's new voluntary, incentive-based green building program.



## CaIPERS HEADQUARTERS COMPLEX

Sacramento, California

CaIPERS wanted to produce a highly efficient building that would project an image of stability and permanence, providing a productive and comfortable work environment, and creating a lasting and meaningful contribution to the organization and community.

- Two buildings on two city blocks
- 550,000 square feet of office space
- 25,000 square feet of retail space
- U-shaped building permits daylight to reach interior space
- Below-grade parking (1,000 cars)
- Efficient landscaping with native plants
- Exterior and interior light shelves
- Photovoltaic array (solar panels)

*Gold LEED® certified uses 38% less energy*



## MAYWOOD ACADEMY

Los Angeles, California

Maywood Academy is in the Collaborative for High Performance Schools (CHPS) program. By providing a more efficient, comfortable, and healthy learning environment for students and teachers, it is resulting in better performance and attendance, and increased teacher satisfaction and retention.

- Five three-story buildings
- 132,000 square feet on 9 acres
- 1,500 students
- Located within walking distance for most students, near public transit, provides bike lanes and bike racks
- Daylighting and natural ventilation
- Reclaimed water for landscaping
- Lower operating and maintenance costs
- Facility open to the community, providing more efficient utilization of built space.

*Energy performance 30% better than Title 24*



## DEPOT WALK

Orange, California

With its location near Old Towne Orange (the town center) and Depot Walk is locationally efficient and built to high standards of energy efficiency.

*Silver LEED® certified – Orange County's first all-solar multifamily community*

- 32 three-story California brownstones (3 live/work and 5 affordable units)
- Infill site adjacent to Orange Metrolink Station
- SunPower solar system
- Permeable concrete for parking and walkways
- Shade trees and water-efficient landscaping
- Construction using recycled materials
- Ventilation and exhaust systems that minimize heat loss and entry of particulates



## STAPLETON

Denver, Colorado

Forest City Stapleton Inc. works on a continual basis with all Stapleton builders to achieve and maintain the highest possible ratings for single-family homes throughout the community.

- 7,000 current residents (12,000 units at build out in 2020) on 4,700 acres
- Builders can participate in any of the green certification programs, including BUILT GREEN COLORADO, the ENERGY STAR program, BUILDING AMERICA, and LEED RESIDENTIAL as long as minimum levels of performance are met.
- Benefits include better efficiency, reduced pollution generation, healthier indoor air quality, reduced water usage, preservation of natural resources, improved durability and reduced maintenance.
- E-STAR COLORADO verification program ensures buildings meet the standards.

*100% builder participation in green building programs*



Green Buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

ENHANCE and PROTECT BIODIVERSITY and ECOSYSTEMS

IMPROVE WATER and AIR QUALITY

REDUCE WASTE STREAMS

CONSERVE and RESTORE NATURAL RESOURCES

REDUCE OPERATING COSTS

CREATE, EXPAND, and SHAPE MARKETS for GREEN PRODUCT and SERVICES

IMPROVE PRODUCTIVITY

OPTIMIZE LIFE-CYCLE ECONOMIC PERFORMANCE

ENHANCE COMFORT and HEALTH

HEIGHTEN AESTHETIC QUALITIES

MINIMIZE STRAIN ON LOCAL INFRASTRUCTURE

IMPROVE OVERALL QUALITY OF LIFE

