SHOWCASE PROJECT: EDEN HOUSING: CAMPHORA APARTMENTS

SOLUTION OVERVIEW

Camphora Apartments was formerly a labor camp built to house 500 migrant farmworkers. The site contained 44 2-bedroom concrete block units built in the early 1960s as part of the Bracero guest worker agreement with Mexico. The existing structures were demolished in 2008 making way for the 2- and 3-bedroom units geared to residents with annual incomes between 30 and 60 percent of the Monterey County Area Median Income, which equates to $21,500 to $43,000 per year for a family of four. In partnership with the City of Soledad and Monterey County, California, co-developers Eden Housing and South County Housing Corporation completed construction of this affordable housing property and community center in 2016.

SECTOR TYPE
Multifamily

LOCATION
Soledad, California

PROJECT SIZE
49,000 Square Feet

FINANCIAL OVERVIEW
Project Cost: $21,000,000

SOLUTIONS

The new 44-unit low-rise farmworker community has achieved net-zero electricity and LEED-H Platinum certified affordable housing status. The property includes a carport solar photovoltaic system and virtual net metering allocation of solar electricity for common area and resident loads.

Space heating is provided by high-efficiency mini-split heat pumps. Natural gas tankless water heaters were installed in all units, while two common laundries use heat pump tank water heaters. ENERGY STAR® certified appliances, R19 wall and R38 attic insulation combined with R42 attic hatches, and dual-pane windows keep energy use in the residential units 38 percent lower than the 2008 California Energy Code requirements.

The original developer's goal was to offset 100 percent of the owner-paid energy load, and as much of the tenant load as possible. This offset goal was achieved using a 60/40 (owner/tenant) virtual allocation of the energy generated by a 244-kW solar photovoltaic carport system. Metered annual production is 348,414 kWh, with total onsite electricity usage of 290,963 kWh. Annual net surplus

electricity production exported to the grid is compensated at a wholesale generation rate of $0.0288/kWh.

Residents that use less energy than they generate through the onsite solar system receive credits from the local electric utility. Credits may be sufficient to cover all electricity use and gas water-heating bills. Allocations of solar energy to residents is computed on the basis of unit square footage.

Whole Building Aggregate Annual Energy Consumption by Fuel

- Electric - Solar (kBtu) 905,776 (90%)
- Electric - Grid (kBtu) 99,927 (10%)
- Natural Gas (kBtu) 4,896 (0%)

Whole Building Annual Energy Costs

- Owner-paid electricity (common areas, well and sewer pump): -$2,429 (net surplus solar energy compensation)
- Aggregated resident electricity costs (44-units): $1,307
- Gas costs: $5,343 (resident meters only)

Camphora Apartments was funded with financial support from the U.S. Bank (equity investor and lender), U.S. Bancorp Community Development Corporation, California Department of Housing and Community Development, U.S. Department of Labor, County of Monterey, Eden Housing, South County Housing, Federal Home Loan Bank, NeighborWorks America, Century Housing, Rural LISC, and Monterey County Housing Authority.

OTHER BENEFITS

In 2018 local communities including Camphora Apartments created Monterey Bay Community Power, a locally-controlled public agency that provides electricity generated by carbon-free and renewable energy sources. MBCP is based on a local energy model called community choice energy, which partners with the local utility that continues to provide consolidated billing, power transmission and distribution, customer service and grid maintenance services.

*Modeled against 2008 California Energy Code

Annual Energy Use
(Source EUI)

Baseline(2016*)

| | 59 kBtu/sq.ft. |

Actual(2018)

| | 12 kBtu/sq.ft. |

Energy Savings
80%

Annual Energy Cost

Baseline(2016)

| | $41,000 |

Actual(2018)

| | $12,200 |

Cost Savings
$28,800

Ribbon Cutting Ceremony for Camphora Apartments