CASE STUDY:

# REVAMPING

## AN OLDER TRACT HOUSE

A homeowner who also happens to be an architect, contractor and Certified Green Building Professional tackles his family's bungalow, transforming the cramped and dated floor plan into a spacious, energy efficient and modern home.

***"Everything is very comfortable. That's a big part of the day-to day experience of green."***

**– IAN MACLEOD,** ***homeowner***

Ian MacLeod and Beatrice Morand shared a cramped, Mediterranean-style bungalow with their two children. Ian tackled his family's bungalow himself, transforming the cramped and dated floor plan into a spacious, energy efficient and modern home.

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### ENERGY USE

The remodel included a new solar hot water system that meets 80 percent of the household's needs, a variable speed high efficiency furnace (95 percent AFUE), a photovoltaic system, extensive caulking, and a combination of spray foam and blown-in insulation. The second story addition provided another opportunity to improve the home's energy use through natural ventilation.

Passive design strategies helped further reduce electricity use. The long axis of the house runs east-west, giving it good southern exposure. They added more windows on the south side to bring in sunlight and heat.

### PROJECT STATS

LOCATION: **Albany, CA**

GREENPOINT RATED SCORE: **231**

YEAR BUILT: **1927**

ORIGINAL SIZE: **1,100 square feet**

NEW SIZE: **2,010 square feet**

PROJECT SCOPE:
- Replace 75% of existing structure
- Upgrade all systems
- Add second story with 2 bedrooms, 1 bath

ARCHITECT/BUILDER:
**MacLeod Design & Construction**

GREENPOINT RATER:
**Russell Bayba**

WHOLE HOUSE LABEL

231 POINTS

## INDOOR AIR QUALITY

Integrated with the new furnace and ductwork is an energy recovery ventilation system, which brings fresh outdoor air into the home all year round without wasting energy. Healthier interior materials also help keep the air fresh. New cabinets throughout the house are constructed of plywood with no added urea formaldehyde, a carcinogenic wood adhesive used in conventional cabinetry. The interior paints have low levels of volatile organic compounds (VOCs) and the woodwork was finished using linseed oil.

## RESOURCE CONSERVATION

Although MacLeod wound up gutting nearly 75 percent of the original structure, he was adamant about not letting good materials go to waste. He reused the floor joists, and saved all the wall framing, some of which was repurposed for nonstructural interior partition walls and for handrails. He even cleaned up the form boards that were used when pouring concrete for new sections of the foundation, and reused them as rafters. Most of the new lumber used is certified by the Forest Stewardship Council (FSC) to have come from sustainably harvested forests.

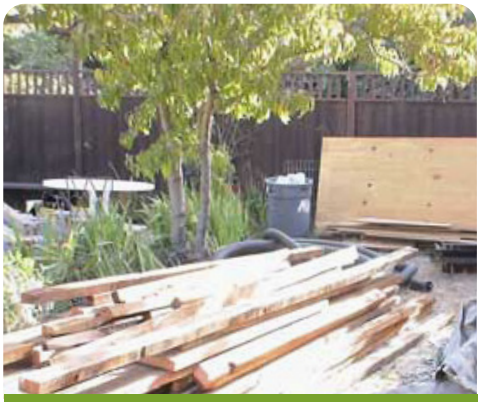
## WATER CONSERVATION

The home's toilets are now high efficiency models that use less than 1.28 gallons per flush (federal law mandates no more than 1.6 gallons per flush). Showerheads and faucets also exceed federal code requirements for water conservation. Outdoors, the couple chose plants that need little water, and used efficient irrigation with a smart controller.

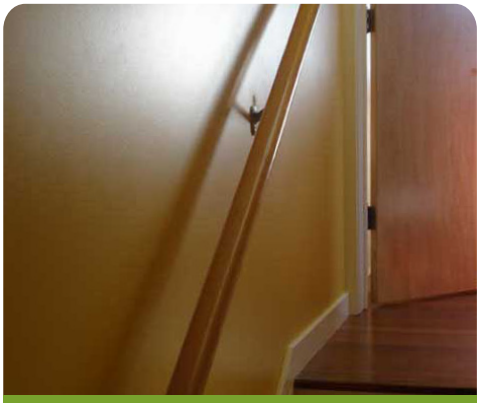
## COMMUNITY & LIVING GREEN

The project received GreenPoint Rated points for being located in an urban setting served by public transit. The home also earned points for its efficient size and its location in a compact, walkable neighborhood.

*New windows lets in natural daylight and helps reduce energy use.*



*Salvage lumber for reuse.*



*Handrail made from salvaged lumber.*