

# Maine Home

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+ DESIGN



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# Maine Home +DESIGN

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# Works of Architecture

20 TRIUMPHS OF FUNCTION AND BEAUTY

by Rebecca Falzano





In Maine in particular, great architecture is as much about beauty as it is about function. Architects have important questions to address: *How will this design fulfill the clients' needs? How does it fit on a tight site? How do we ensure the least impact to the environment? How can we optimize sunlight? How do we get the best views? How can we heat it most efficiently?* Each of the 20 projects on the following pages represents a triumph of this intricate and elaborate process—the questioning, the calculating, the considering—the brilliant (and beautiful) design that unfolds in the hands of an architect.

## OFF-THE-GRID CAPABILITIES, ON-THE-MARK DURABILITY



Architects Chris Briley and Harry Hepburn of Briburn were approached to create a small, affordable, one- or two-person home on Dragonfly Pond in Parsonsfield that has the ability to go off the grid. This meant that the home had to be highly durable, resilient, and energy-efficient—even net-zero (able to produce as much energy as it consumes). Briburn achieved this by taking advantage of passive solar design principles, superinsulating the home with a vapor-open, truss-stud construction method, and by using highly efficient European triple-pane windows. With the energy demand reduced, the mechanical system could be downsized to a single, affordable ductless mini-split heat-pump system. The home also features an attached greenhouse for year-round gardening.

The home is located on a new upland pond that is permitted for micro-hydro electrical production. A solar shed houses the battery array, meter, and inverter. In the near future, a covered bridge will be built that will support an even larger solar array. The sunshades over the ample southern windows are themselves solar hot-water panels.

The home is small, with an extremely simple, open interior detailed with stained concrete floors, deep windowsills and jambs, and hand-painted cabinets. On the exterior, the home is clad with thermally modified local poplar, Douglas fir trim elements, metal roof, and masonry that was completed by the homeowners using stone salvaged from the property.

Within a tight budget, every design decision had to take into account its long- and short-term economic effect while not sacrificing energy efficiency and construction quality.

**ARCHITECTURE: BRIBURN**

**Construction: R&G Bilodeau Carpentry**

**Solar/Renewables: ReVision Energy**

**Energy Star Modeling/Inspections: Horizon Residential Services**

**Photography: Naomi C.O. Beal, NCOB Photography**