



Architectural Resource

Headed by Michael Klement A.I.A., N.C.A.R.B., is a full-service, national award-winning, architectural design firm specializing exclusively in residential design of high-performance homes, cottages, additions, remodels, and renovations. "Green" since the firm's inception in 1991, creating healthy and energy efficient buildings is a fundamental aspect of its core mission.

734•769•9784
mklement@architecturalresource.com
www.architecturalresource.com



Meadowlark Builders

A full-service design/build firm specializing in "deep green" building techniques and custom finish work in all media. Meadowlark Builders offers several in-house capabilities that greatly reduce the carbon footprint of homes and make more beautiful spaces for living. Experience the best in customer service, creative craftsmanship, and energy-efficient construction all under one roof.

734•332•1500
info@meadowlarkbuilders.com
meadowlarkbuilders.com



THE PHOENIX HOUSE

A HOME OF THE FUTURE, WITH ROOTS IN THE PAST

Welcome to a residence that moves us one step closer to the elusive goal of Net Zero Energy. The "Phoenix House", sprung from the ashes of a fifth generation family house lost to fire in 2008, is pending LEED Platinum certification and will be one of the most efficient homes in the nation. Hand-hewn oak lumber from a settler's farm house is now re-purposed to become flooring and finish material, while cutting-edge green design and construction that bring us to the future of healthy homes that produce the energy they use. Meadowlark Builders and Architectural Resource are very pleased to welcome you to a home built for the next two centuries, and beyond.



CREATIVITY • HARMONY • SUSTAINABILITY • QUALITY • INTEGRITY
MEADOWLARKBUILDERS.COM



IMAGINE INSPIRED DESIGN®
ARCHITECTURALRESOURCE.COM

THE PHOENIX HOUSE

HOT ROOF
Polyurethane foam is applied directly to the roof deck to complete an air tight building shell. The attic stays cooler in the summer and warm in the winter while lowering energy bills by 20% or more.

STRUCTURAL THERMAL ENVELOPE
Using a specialized petroleum-free Insulated Concrete Form (ICF) system in tandem with a thermal break, this home has a unique ability to use the concrete mass of the ICF to become a "thermal battery" within the house, while making nearly indestructible exterior walls. Thermal batteries are crucial to the comfort and operation of passive-energy houses.

NOT SO BIG® INSPIRED DESIGN
With a compact footprint yet feeling much larger in size than it really is, this home incorporates many of Sarah Susanka's Not-So-Big-House® design strategies. Efficient and elegant design are used as a way to reduce material and energy consumption, while making spaces that feel like home to the occupant.

SOLAR PANELS
This home has South-facing window awnings that do double duty - providing shading for unwanted summer heat gain and producing 4 kW of solar electricity. The solar panels provide nearly 80% of the electrical energy this house will use. Federal and DTE Energy incentives pay 120% of the cost of these panels over the next twenty years!

HIGH-PERFORMANCE WINDOWS
Specialized windows glazed specifically for their individual compass orientation maximize passive solar gain and minimize energy loss. These windows insulate much better than normal windows and complete the ultra-efficient house envelope.

PASSIVE HEATING AND COOLING
With a large open site to the south and the majority of the windows on the south side, this home has been specifically oriented to take advantage of free solar energy. A two story area for a pipe organ and strategic window placement allow the prevailing breezes to cool the house during the summer months.

WATER CONSERVATION
From ultra low-flow fixtures in the bathrooms to an efficient PEX manifold delivery system, this home is constructed to use far less water than the average home. The exterior features complete the picture with rain barrels, rain gardens, and a permeable site plan that keeps and re-uses the water that falls on the site.

ENERGY RECOVERY VENTILATOR
ERV's recover the heat and moisture content of stale interior air to condition incoming fresh air. Large amounts of energy are saved by this exchange while HEPA filtration further optimizes interior air quality.

LONG-LIFE/LOOSE-FIT
Recognizing the large and growing aging demographic of the Baby Boomers, this home has been designed to allow the homeowners to enjoy the home throughout their various stages of life. It has also been designed to extend generational occupancy with a convertible, fully accessible "in-law" suite.

WATER HEATING
This home uses a natural gas Vertex heater by A.O. Smith. With efficiency rivaling an on-demand hot water heater and a high-performance tank that only loses 0.2 degrees per hour, these heaters provide nearly limitless hot water faster than on-demand systems can.

GEOHERMAL HEATING AND COOLING SYSTEM
A direct exchange geothermal system uses the stable year-round 52° temperature of the earth to provide both heating & cooling. The DX system, utilizing a highly efficient method of heat exchange, allows the system to be installed with less site disruption in a smaller footprint - ideal for urban settings! A direct exchange geothermal system can cost up to 4 times less to operate than conventional heating and cooling systems at present energy prices.

