

CUSTOM HOMES PROJECT EXPERIENCE



Sammamish Residence

Dibble Engineers designed the structural elements of this 7,000 square foot Sammamish, WA residence. This two-story wood-framed single-family home was designed using conventional wood framing and sheathing panels for gravity and lateral loads, and conventional shallow concrete spread and strip foundations. A heavy slate tile roof system added some challenge to the design.



Lake Sammamish Residence

This 7,800 square-foot, three-story single-family residence features views of Lake Washington, a separate 1,000 square foot garage with a mezzanine level, and two elevators. The house steps down the hillside toward the lakefront, therefore soil retention was a design concern. To address this, DEI designed both ecology block site retaining walls and concrete basement retaining walls. The high ceilings and narrow walls created a design challenge in resisting lateral forces with conventional wood shear walls, therefore HSS steel moment frames were incorporated into the typical wood-framed layout.



Mercer Island Residence

This single-family residence includes a 12,500 square foot primary building with two attached three-car garages, as well as a stand-alone guest house with two-car garage and a barbeque pavilion structure. The building structures include concrete walls at the daylight basement level, with conventional wood-framed walls and a combination of premanufactured trusses and stick framing for the roof.

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Meydenbauer Residence

This stunning, custom, single-family home has over 5,000 square feet of living space over three-levels in addition to a multi-car garage. It is constructed on a sloping lot that afforded the architecture to blend into the surrounding grades. The house is wood-framed with pre-manufactured roof trusses, I-joists and floor trusses at the floor levels and engineered lumber for beams and headers.

The multiple exterior decks and elevated covered patios are waterproofed, sloped for drainage and covered with wood-decking or concrete pavers. Centered at the front of the house is a towering 40-foot-tall stone veneer chimney that blends the interior and exterior at the entryway and helps partition it from the rest of the living space. The lateral force resisting system consists of plywood shear walls, several of which are discontinuous and supported on glu-lam transfer beams. The exterior of the home is clad with a variety of finishes including wood, stone, and metal siding.

The foundations include a full height retaining wall from the first floor to the second floor at the back of the house. The remaining foundations are typical spread and strip footings with a non-structural slab-on-grade.