

Restoring Kirk

Lessons in Midcentury Maintenance BY DALE KUTZERA

Rarely has wood been put to more artful use than in the midcentury architecture of Paul Hayden Kirk. His designs of the '50s and '60s featured rambling floor plans, sweeping roofs, and exposed wooden structure, typically stained to reveal the natural grain of old-growth beams. As a sole practitioner and later in partnership with Donald Wallace and David McKinley, Kirk established a respected career designing medical clinics, churches, and residences all proudly displaying the latest in design using the oldest of materials.

These buildings are still admired for their exposed structure, human scale, and abundant glass. After 60 years, however, they also show the effects of climate and gravity on designs built in an era of less-stringent building codes.

"Kirk was very efficient with his use of wood, and there is an economy of struc-

ture in his work," said architect Helen Hald, who has not only restored Kirk homes but owns one herself. "But codes have changed since then."

Among the changes are different ways floors, walls, and roofs are built. A typical floor today would place joists at 16-inch intervals topped with a layer of plywood. Kirk's homes of the 1950s often used heavier four-by-six-inch joists at four-foot intervals, topped with a more robust deck of tongue-and-groove two-by-six-inch boards. Today's codes also require thicker walls for increased insulation and roofs that will carry a snow load of 25 pounds per square foot.

Architect Tom Kundig, who restored Kirk's Dowell Residence near Seattle's Seward Park, noted that architects of Kirk's generation "were exploring lighter and thinner building elements as a

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reaction to the somewhat heavier architecture that preceded the modern movement. There are certainly challenges working with architecture coming out of the midcentury era."

CHALLENGE #1: EXPOSED STRUCTURE "It can be difficult when the structure goes from inside to outside," said Hald, "because if the wood isn't protected and sealed and resealed over time—which a lot of people don't do—it's going to rot."

This is the exact situation facing Blake Williams, whose family co-owns a Kirk A-frame cabin on the Olympic Peninsula. One set of roof beams extends beyond the other, with both connected to floor joists outside the building and exposed to the elements. "This was a terrible idea," said Williams, who is also an architect. "sixty years later, water has crept in where steel

bolts connect the rafter beams to the horizontal beams, and the wood is rotting."

The solution was to transfer the weight of the roof away from the exterior joints. "We changed the path to the vertical posts by adding some steel structure under the whole cabin," explained Williams. "In effect we changed the way the structure carried the load."

A similar problem arose with the University Unitarian Church, one of Kirk's most famous designs. To strengthen the structure after the 2001 Nisqually earthquake, each joint was reinforced with metal brackets and exposed beams were capped with metal flashing. Tom Kundig utilized similar techniques for the Dowell Residence. "Some of the historical references we used from Japanese architecture dealt with exposed beams by either using paint to seal the beam ends or a steel plate. We certainly added that to deal with wood rot issues that were beginning to develop."

CHALLENGE #2: FLAT ROOFS Managing water is even more challenging when dealing with the flat roofs Kirk often designed in the 1950s.

"There is nothing wrong with a flat roof," noted Hald, "but you need a little positive drainage. Over time they can pond, and that adds weight and the structure sags. Then you have a permanent



pond. If you have a heavy-snow year, that can also cause some settlement."

New roofing systems can provide insulation and positive drainage while still maintaining a narrow profile. "Kirk wanted a thin profile on the roof edge," said Hald. "So one thing we use today is tapered rigid insulation so you still have the thin [fascia] line, and then as you move back, you start the taper so you don't see the thickness."

Paul Kirk's residential designs often feature flat roofs with thin profiles. Photo by Helen Hald

Sequim Cabin, Olympic Peninsula, WA. Drawing by Don Johnson of Kirk, Wallace, McKinley & Associates, courtesy of the University of Washington Libraries, Special Collections, UW38888



Dale Kutzera is a writer and novelist in Seattle. He has worked in the Los Angeles film industry and is currently writing a book about the work of Kirk, Wallace, McKinley & Associates.



The exposed rafters and joists of the A-frame design have led to rot issues around bolted joints. Photo by Dale Kutzera



CHALLENGE #3: ALL THAT GLASS

Kirk designed entire walls of glass to take advantage of the region's hills and views. Every square foot is a testimony to the indoor/outdoor aesthetic ... and the low cost of heating oil in the 1950s.

According to Tom Kundig, "The technology of that time was single-paned plate glass. Of course, today we have energy related concerns, so we need to work with double-pane glass at a minimum. This means [replacement] glass is very heavy and cumbersome."

"On the Dowell Residence, we faced challenges addressing the frames of windows, details around the windows and roof, detailing around roof fascias, and roof corner details."

CHALLENGE #4: RESPECT THE DESIGN

With Kirk designs, structure and aesthetics are one and the same. A thicker roofline or window frame can throw the entire composition out of balance. Repairs and upgrades are therefore complicated by the desire to maintain the original proportions. The added effort, however, is worth it.

"People are drawn to these buildings whether they realize it or not," said Hald. "Kirk was a structure-is-primary kind of guy, so his houses have a structural order to them, which is the beauty and grace of the building. A layperson may not understand that, but there is an emotional response when people see the scale, the proportion, and the connection to the outdoors."

The Dowell Residence, Seattle, WA. This Paul Kirk masterpiece was sensitively restored by Olson Kundig. Photo by Benjamin Benschneider

"It is a pleasure and an honor to work on historic projects like the Dowell Residence, which, in my opinion, is one of Paul Hayden Kirk's masterworks," added Kundig. "We were humbled by the thoughtfulness that Kirk put into it on many levels, including form, his conceptual thinking, and proportions in particular." §

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