

KITCHENS



Peeling Back the Layers of a Kitchen Remodel An old house presents a host of framing and water-control challenges

BY MIKE WHALEN

I am a lead carpenter for DBS Remodel, based in Poughkeepsie, N.Y., and kitchen remodels are a primary focus of our business. In many of the older homes we work in, however, “kitchen remodel” doesn’t always describe what most people think. Yes, it includes new cabinets and finishes—what you see when we walk away from the job on completion. But so much more goes into it, particularly with an old house, which often requires a great deal of remediation to bring all the elements of the room to a “healthy state”—structurally sound as well as free of water and moisture problems and toxic materials.

That was the case on a job we completed in spring 2023 in a house originally built in the 1930s. In the intervening years, the kitchen had undergone at least four major remodels, possibly more; one of these had enclosed an old porch to expand the kitchen, and a wrap-around deck had been added (though it’s hard to know if the two jobs were concurrent).

On the latest remodel we were called to do, the homeowner wanted to open up the kitchen as much as possible to the rest of the house and make the room feel less confining, but she didn’t have an extra room we could open onto, so we couldn’t change the

Photos by Mike Whalen

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A view of the existing kitchen interior at the beginning of the demolition phase (1). Over the years, this room had numerous floor coverings, including vinyl, slate, an old linoleum tile, and the original plank subfloor (2). The discovery of the old tile prompted a test for asbestos, which proved positive, requiring a pause in the renovation to remediate the asbestos (3). At the end of demolition, the old porch framing had been removed, and only the original framing of the main floor remained (4).

footprint. The best we could do was open one end to the adjoining living space and raise the ceiling in the part of the room that had been the old porch to create a vaulted area near a new French door that would replace a poorly operating sliding door.

To address a host of structural and water-related problems, we had to take the room down to the studs and joists, removing many layers of flooring and even several layers of ceilings. In our initial walk-through, we had discovered old flooring tiles that we suspected contained asbestos. We tested these and our suspicions proved correct, so we began by removing what we could without disturbing that layer of flooring, and then turned the jobsite over to an asbestos abatement crew. (For a detailed discussion on asbestos abatement, see my article “Managing Asbestos During a Remodel,” Jul/Aug/21). We also tested for lead paint but didn’t find any, despite the age of this house. It’s likely that an earlier remodel, which eliminated the original plaster and lath and the original trimwork, took care of that.

FLOOR STRUCTURE

Once the asbestos flooring was removed, we continued with the floor demolition. All of the old porch floor structure was vastly undersized and had suffered a lot of water damage, so we tore it out completely.

The floor joists under the main house were in better shape, but this area of the floor was about 3 inches out of level. Once the framing was level, we would have a step down into the adjoining living room to keep the same kitchen floor elevation as the deck surface. This was a consideration we made sure the homeowner understood going into the design phase of the project.

The sill beneath the exterior door opening had also suffered a lot of water damage. We had to tear out a considerable amount of rot from the sill, rim joist, and some stud ends and tie in new, pressure-treated wood. We also used pressure-treated for the new floor framing over the old porch area because the dirt crawl area had the potential to become wet, and there would be no access to it.

The exterior deck, which was just above grade with no significant crawlspace beneath it, was in good shape and was not part



Reframing the floor began with rebuilding the sill where it connected to the deck. After digging out the rotted framing, the crew installed an ice-barrier membrane on a new rim joist (5) and then flipped it up to face the exterior (6). While reframing this area, the author set cross-strings to check the plane of the door opening and corrected for a splay in the wall (7). The main house floor was reinforced with sister joists (8), and the old porch floor was completely demolished and reframed (9).



of the scope of work. This meant we had no access to the rim joist and ledger from the exterior. An existing pressure-treated ledger was in good shape, but the rim joist needed to be replaced. To flash the new rim joist, we adhered ice-barrier membrane on new pressure-treated framing material, then flipped it up with the membrane facing the exterior, working from inside the door opening.

While doing this repair work, we also rebuilt the door opening. This included cross-stringing the opening to make sure the wall sections on each side of the door weren't doing a "scissors walk." Part of the wall was out of plane and slightly out of plumb, but we were able to correct this when replacing the rotted stud ends and pushing the repaired ends into position along the new rim joist.

ROOF/WALL/FLOOR STRUCTURE

Once we stripped away the multiple ceiling layers and opened up the roof/floor framing, we encountered a number of structural

surprises. We knew we had to install an LVL header in the exterior wall and an LVL beam at the far end of the kitchen where we opened the wall to the adjoining living space. We also suspected we would need to reinforce the intersection of the old porch roof with the main house. But we were surprised to find that there was no structural member at all holding up the roof/floor/wall intersection in this area, and the second floor was almost 2 inches out of level across the width of the room.

To remedy this condition, we started by jacking up the second floor and building temporary shoring walls. We were able to take up some, but not all, of the sag out of the floor above, and then installed a built-up LVL beam, which posted down to the original foundation at one end. The other end of the beam was engineered to bear on the new LVL header over a triptych of new windows in the exterior wall. Following the architect's engineering design, we intentionally built the window header out of level to provide strong bearing

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The owner wanted to raise the roof where the old porch roof had been to create a partially cathedralized area (10). There was little existing support at this intersection, requiring a new LVL beam tied into the second-story wall section (11) to support the upper floor and the roof loads (12). This beam landed on top of a new LVL header for new windows (13). Once all the structural work was completed, the exterior walls, roof, and floor were insulated (14).

for both the floor area above the windows, which was out of level in the direction parallel to the joists, as well as our new, level LVL beam holding up the wall/roof/floor intersection. We made up for the difference in level between the header and the windows with short, diminishing cripples above the windows.

BUTTONING UP THE JOB

Once all the structural repairs were completed and the exterior was buttoned up tight against weather and water, we insulated the exterior walls with spray foam. In New York state, we're required to bring remodeled spaces up to code, and spray foam was the most expedient way to reach the insulation requirements, particularly in the roof where R-49 is currently required. (This may go up to R-60 if the 2021 International Energy Conservation

Code is adopted in the state; this will be a high bar to get over.) In the floors, we used R-30 fiberglass batts after covering the dirt crawlspace areas with a 6-mil poly vapor retarder.

The remainder of the job proceeded more like a typical kitchen remodel. There wasn't much plumbing rework, as the new sink was installed in roughly the same location as the existing one. That left new electrical, drywall, cabinets, and countertops, which were all typical. We prefer to install the finish floor before the cabinets, but the owner hadn't made a flooring selection by the time the cabinets were ready. To keep the schedule moving, we installed the cabinets on plywood strips and once the flooring selection was made, butted new hardwood to the plywood before installing a finish toekick. Similarly, the lighting had not been selected at the end of the job, so we ended up installing porcelain lamp holders in order to close out the job.

DOCUMENTING THE JOB

On a job of this scope, we try to anticipate any potential problems that might alter the budget. We can't identify every problem when we do our initial walk-through, but we can identify areas that *might* be problematic. For example, we flagged the possibility the flooring had asbestos, and we assessed that the floor would need some reframing and would result in a step down into the adjoining living room. We also surmised that we would have to do some structural reinforcement to support the upper floor. However, until we opened things up, we didn't have a clear understanding of the extent of these structural repairs, nor were we able to communicate to the owner an exact dollar amount to cover them.

We have learned that it is critical to communicate what we don't know to the client early on and set expectations around areas where more work might be required once we open up the structure and can accurately assess building conditions. This client appreciated that we weren't just throwing a high-dollar figure at the whole job and gambling on how much profit we would make from it. As it turned out, there were significant changes. These change orders were palatable to the owner because not only did we set clear expectations, but we also photographed every step along the way. This allowed us to accurately communicate what we needed to do and build understanding with the owner. She didn't just have to take our word for it.

Slowing down to document a job is sometimes challenging. During demolition, there is a tendency to smash and go and get all the rot and debris into the dumpster quickly so you can work in a clean space. But it's very important to snap photos of all that rot and debris so the client fully understands how dire the conditions are. Doing so on this job gave the owner a stronger appreciation for the value she received, and we feel confident that we walked away from this job knowing that it didn't just look good, but that we had a strong referral for the future.

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Final steps on the exterior included patching in new aluminum siding to match the existing and trimming out the new windows and door (15). With the house brought back to a "healthy state," the rest of the job proceeded like a normal kitchen remodel, with new drywall (16) and cabinets (17). The cabinets arrived before the owner had made a decision on the finished flooring, so they were installed on plywood strips. Once new countertops and flooring had been chosen, the kitchen neared completion (18). The owner chose to leave the ceiling beneath the upstairs floor exposed, but she had not yet made a lighting selection at the end of the job.