Providing for Emergency Egress

by Glenn Mathewson

Ignoring the importance of proper deck design around an emergency escape-and-rescue opening could result in a tragedy that would never be forgotten. Such an opening could be an exterior door or a window in a foundation wall; when building a deck, you must be careful not to block it.

Under the 2006 International Residential Code (IRC), an emergency opening is required in every bedroom and basement (R310.1). When a basement has a bedroom, an opening in that bedroom also satisfies the egress requirement for the basement. Basements, finished or unfinished, are included in this requirement because they often warehouse teenager slumber parties or overnight Thanksgiving guests.

In new construction, the size, shape, and area of windows and window wells acting as emergency openings are regulated. But because regulations have been inconsistent through the years, the only foolproof way to identify emergency windows is to ask the homeowner where the bedrooms are. In basements without bedrooms, especially in new construction, one window or window well may be larger than the others and is likely the one to treat as the emergency opening.

While an opening may not comply with the current code, any opening is better than a blocked opening. When it comes to safety, nothing should be considered grandfathered in.

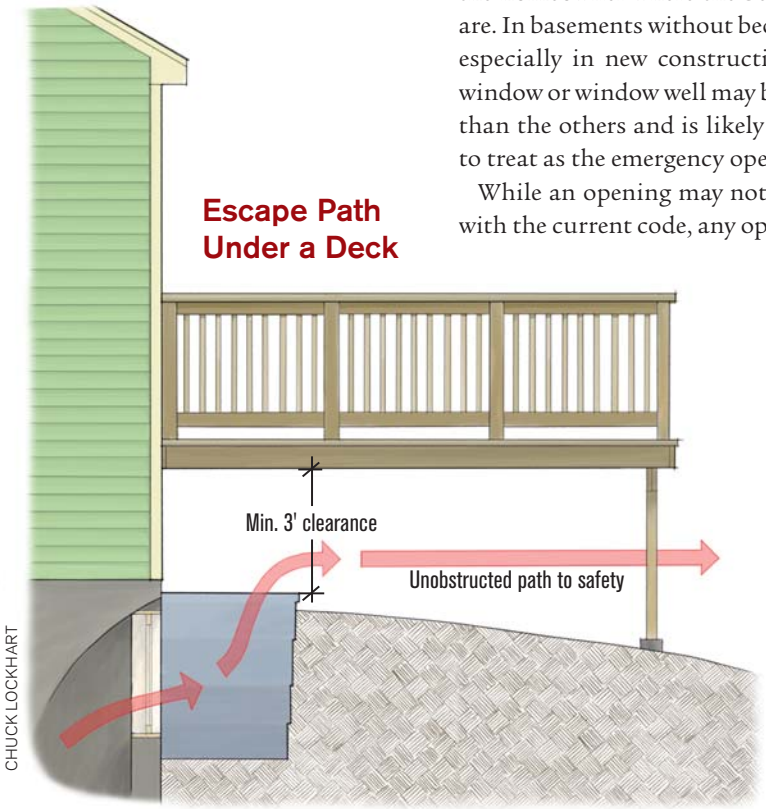

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Figure 1. One way to build a code-compliant deck above a basement emergency opening is to provide a minimum of 3 feet of clearance from the bottom of the deck to the top of the window well and maintain 3 feet of clearance from the bottom of the deck to the grade along a clear path out to a yard or court. The path's width is subject to interpretation by the local inspector, but typical is 3 feet.

Escape Path Under a Deck

If a deck is at least a few feet above the ground, the IRC may allow an emergency opening to be used from underneath the deck (**Figure 1**).

There must be at least 36 inches of clearance from the top of the window-well opening to any construction elements above. This clearance has to be maintained, measured from grade, until a court or yard is reached — that is, until you are out from under the deck (R310.5). A dropped beam, lattice, low-hanging fascia, or uneven grade could mean the minimum height is satisfied at the opening but not for the duration of the pathway.

While the IRC doesn't specify a minimum width for the path, the code's intent is for there to be free and clear passage along it; most building officials will therefore expect it to be from 24 inches to 36 inches wide.

Escape Through a Deck

Providing for an exit through a deck is a seemingly easy way to comply with the code: Directly above a window well, leave an opening in the deck that is at least equal in size to the well. That would result in a big hole in a deck, however, that could lead to a fall into the well. Also, adding a deck above a well effectively makes a window well deeper and harder to get out of.

If the well's depth is greater than 44 inches (R310.2.1), a window well serving an emergency opening must be equipped with a permanently mounted ladder. With the addition

of a deck, the depth is measured from the bottom of the well to the top of the decking. The top rung of the ladder must be within 18 inches of the deck surface and the bottom rung must be within 18 inches of the bottom of the well (**Figure 2**).

Window-Well Covers

While access out of a window well is important, your client will most likely be more concerned about people falling into it. For that reason, window-well covers of all materials, shapes, and designs may be used, as long as they don't inhibit the escape function of the opening.

Covers must be removable from the inside of a well without the use of a key, a tool, or "special knowledge" — a catch-all term that essentially requires a cover to be removable with a simple push. If you're awakened at 2 a.m. by the screech of fire alarms, with your eyes burning from smoke in the pitch-dark, managing even the simplest clasp may feel like it requires special knowledge. No matter how easy a latching mechanism appears when all is calm, it will never be as easy to use in an emergency.

Even if a cover can be removed with a push, however, its weight may be an issue: The IRC doesn't allow use of a cover that requires more force to remove than what's required to operate the window (R310.4). To complicate things further, when a window-well cover is flush with or accessible to a deck's walking surface, it must be able to carry the same live load as the deck — 40 pounds per square foot. Generally speaking, a removable cover made of boards to match the deck — which would support the required live load — will be far too heavy to meet the code.

So a cover must be lightweight, or if it's not, a mechanism must be created to aid its removal. This is territory that isn't well-defined by the code. Makers of some lightweight plastic and aluminum covers boast of their product's ability to resist the weight of people, and it's possible those could satisfy the code.

One field-fabricated design I saw that had passed inspection used struts from automobile hatchbacks and a hinge to lift a heavy cover (though there could be issues with accelerated corrosion and binding of the struts). However, just because that set up was allowed in one jurisdiction doesn't mean it will be where you build.

Because the code doesn't specify a solution, the local authority has a lot of discretion. Talk your solution over with the inspector before you implement it.

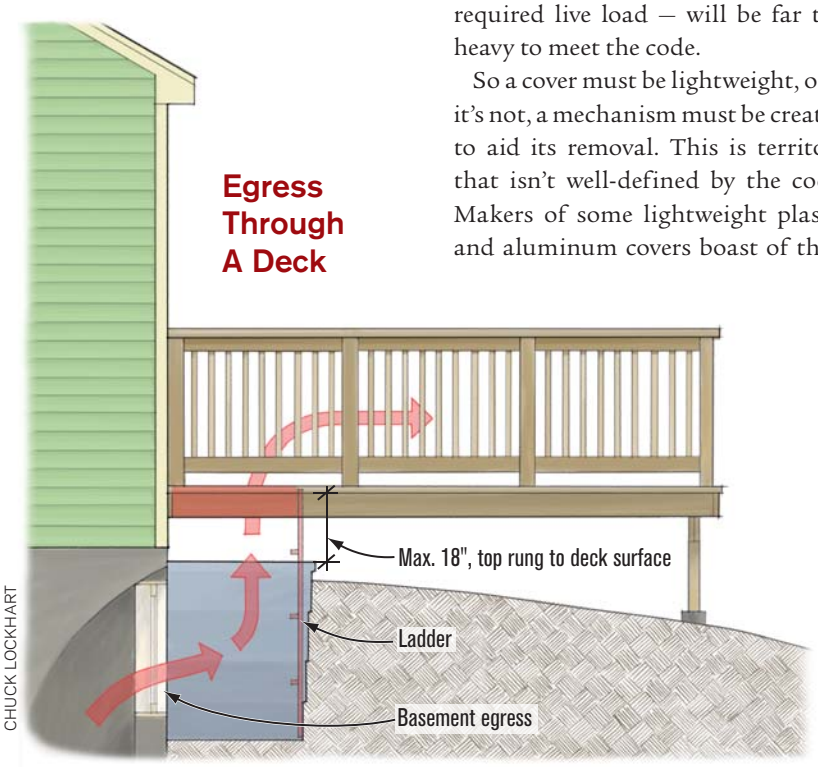

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Figure 2. Escape up through a hole in the deck is allowed by code, but it's complicated. The opening in the deck must be protected so that no one falls in, while at the same time the hatch covering must open with a simple push, requiring no more effort than opening the egress window. This is an option you'll want to discuss with the local authority.

Window-Well Railings

In lieu of a window-well cover, a guard such as a railing may be built around the window-well opening in the deck, but that creates as many questions as it answers, and the code doesn't provide guidance for it, either.

It's easy to imagine the difficulty of getting over a guard or through a swing gate in a guard assembly after climbing an escape ladder. And if there's a gate, what about a latch? At the least, it would have to be low enough to be easily reached from the bottom of the well.

Any guard around a window-well emergency opening should be discussed with the local building official, as there's no discussion of the ladder-guard interface in the IRC.

Accounting for bedrooms and egress not only keeps you on the right side of the code, it shows forethought and awareness that's likely to impress your clients. It may even be wise to inquire about any future basement finish your clients may be dreaming of. They would be disappointed later on to discover their recently built deck limited their choice of basement bedroom locations. ❖

Glenn Mathewson is a building inspector in Westminster, Colo.