

Kitchen and Bath

Venting Island Sinks

by Joe Stoddard

Kitchen islands have come a long way from the “permanent table with doors” that were common in older kitchens. Today’s kitchen island is often an appliance warehouse, housing cooktops, ranges, trash compactors, sinks, and dishwashers. But contractors need to be aware that when a sink is added to the island mix, the designer’s dream can become a plumber’s nightmare. Running the supply lines to an island sink is seldom a problem; it’s equipping the sink with a code-approved drain-pipe that often presents the challenge.

Acceptable Venting Distance

Plumbing vents are an essential part of a properly designed drainage system. The vent does two things: It allows makeup air to enter the system as the sink drains and enables sewer gases to escape outdoors. A plumbing vent

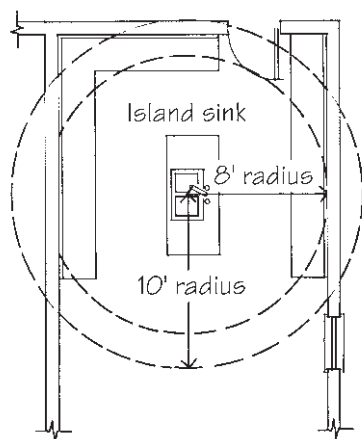


Figure 1. Most plumbing codes require that an island sink be no farther than 8 to 10 feet from the nearest plumbing vent. This may limit the location of the vent pipe to a small wall area.

must be located within an acceptable distance of the island sink. The maximum allowable distance will vary depending on your local code, but generally falls in a range of 8 to 10 feet.

This critical distance can present a problem for island sinks. Plumbing vents are usually installed inside a wall, but because an island sink drain may already be about 6½ feet from the nearest wall, the 8-to-10-foot distance often falls within a very narrow band of wall area (see Figure 1). Whether you’re bidding a kitchen job from a designer’s set of plans or designing the kitchen yourself, it pays to verify the venting location early in the process. Retrofitting a vent after failing an inspection is both costly and embarrassing.

There are a number of piping configurations that can be used to drain and vent an island sink. I’ve listed a few of the more popular types below.

S-Trap Not an Option

S-traps may seem like the perfect solution (Figure 2), but take my advice and cross them off your list. Modern plumbing codes do not allow the use of S-traps, and for good reason: A large amount of water discharged through the drainage system can suck the liquid trap seal out of the S-trap, thus allowing sewer gases to enter the living space. Avoid the use of S-traps — even if there is no code enforcement in your area.

Single-Fixture Wet Vent

Some inspectors will allow the use of a single-fixture, double-sized wet vent for island sinks (Figure 3, next page). The 1½- or 2-inch trap outlet runs horizontally to the corner of the sink base cabinet, and discharges into a 3- or 4-inch drain line that has a cleanout located above the entry tee. The drain

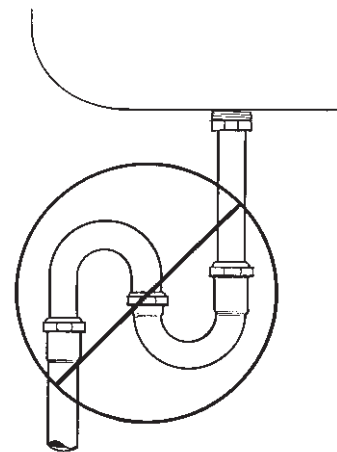


Figure 2. S-traps are illegal because a large discharge of water from another fixture can siphon off the trap seal.

remains oversized for the entire run, and typically a 1½- to 2-inch vent is taken off at the first opportunity. This increases the drain’s free-air capacity, allowing the sink to drain without sucking the trap seal dry.

Bow Vent

This vent gets its name from the loop of drainpipe that runs above the entry point of the sink trap. A bow vent can be located ahead of the vent stack or behind the vent stack (Figure 4, next page). Both arrangements require a cleanout. A bow vent gobbles up considerable cabinet space, and when a large multibowl sink is placed in a small base cabinet, the only alternative may be to install the piping in an adjacent cabinet. You should get approval from your local inspector before installing a bow vent.

Drum Trap

Although they’re not commonly used now, some inspectors will allow a drum trap (Figure 5, next page), but only if it is installed with an accessible cleanout cover. A drum trap can save room within the island cabinet because the drainpipe drops straight down to the drum trap. Since the drum trap must be located near the sink, the access cover will end up in the cabinet floor. Another option is to provide a floor hatch that allows access to the trap, but

Single Fixture Wet Vent

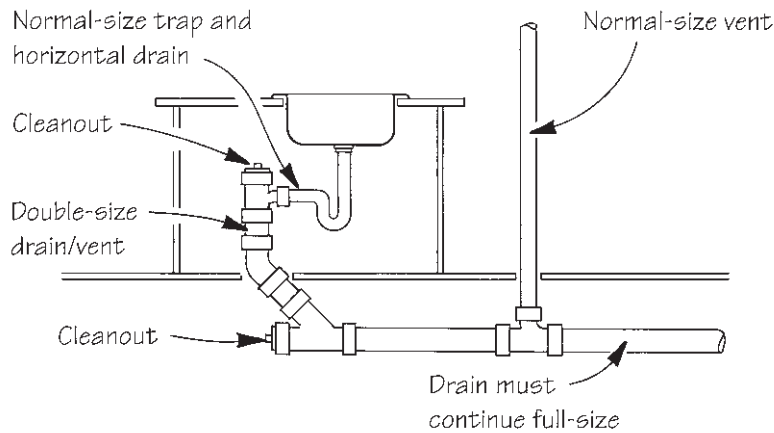


Figure 3. A double-sized single-fixture wet vent provides enough makeup air to allow the drain to flow freely.

Bow Vent

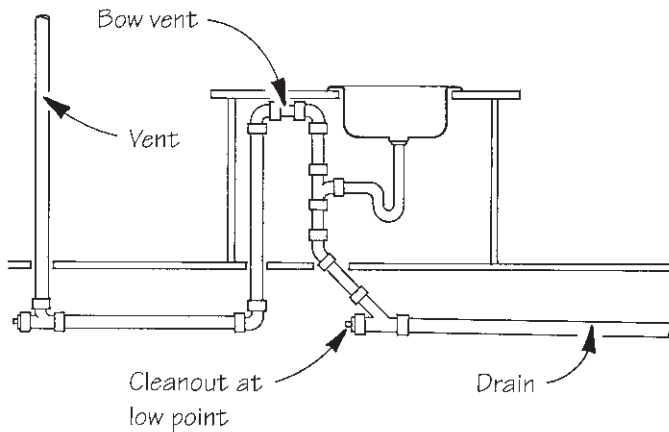


Figure 4. A bow vent may be approved by the plumbing inspector, although it gobbles up cabinet space.

Drum Trap

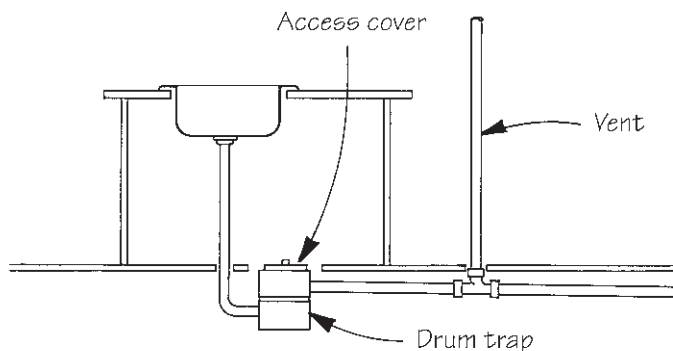


Figure 5. A drum trap may be approved for island drainage as long as the cover is accessible from the living area.

most clients will balk at this approach. I've seen cases where plumbers install the drum trap upside down to allow access from the basement. The result is an inverted cover that will ooze gook for years until it finally fails.

Automatic Vent

Sometimes referred to as a bladder vent, this type of vent functions as a one-way check valve that lets makeup air into the system as the sink drains, then closes automatically, sealing out sewer gases. Automatic vents are typically glued to the end of the short vertical vent pipe that rises above the sink trap. I've yet to run into a plumbing inspector that thinks much of these contraptions. If an automatic vent were to fail, sewer gas could enter the living area (a great conversation starter at a party).

Don't Forget the Dishwasher

Installing a dishwasher drain is easy: Just fasten the flexible drain line to the projecting stub on the sink, right? Not so fast. Most plumbing codes require that a portion of the flexible drain line be located at least 20 inches above the discharge outlet on the dishwasher pump. Some codes specify that an air-gap vent be installed to prevent the sink or disposal from siphoning the water seal out of the dishwasher pump. The trouble with an air-gap vent is that it must be installed above the rim of the sink. There are versions available that will screw into a blank knock-out in the sink rim, but if you're installing an exotic one-piece counter-and-sink, you may be forced to drill an unplanned hole in an expensive countertop.

The venting strategies mentioned above are supplements to proper system vents — not substitutes. Before you say yes to a customer's request for an island sink, check the distance to the nearest vent, and get approval from your local plumbing inspector for your plan of attack. ■

Joe Stoddard is a Certified Professional Building Designer and former homebuilder in Elkland, Pa.