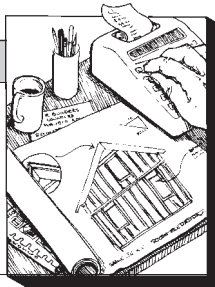


Planning for Problem-Free Plumbing

by Richard Lind



It's a safe bet in this day and age that a plumbing installation at least meets code requirements and will be sound and adequate. With some management and extra thought, though, we can do better than mere adequacy. A plumbing installation often is taken for granted. That's unfortunate, considering its cost, relative permanence, and tendency to generate punch-list and callback items.

You can avoid—or at least minimize—many problems by preplanning the layout, paying attention to specifications, and casting a watchful eye toward field installation. That can result in an optimum and more problem-free system for you as well as an attractive and functional system for the customer—a great selling point.

There is nothing complex about plumbing: It consists of water pipe connected to fixtures, fittings, and equipment, and of drains, wastes, and vents. Drains carry waste from the fixtures, and the venting system enables the drains to work effectively.

A builder generally knows something about everything and contracts with those who know everything about something. However, in plumbing, a builder should, at the very least, be familiar with the wide price differential among available fixtures and fittings, and prepare job specs for bid accordingly. Exercise your best business judgment, since there is usually a direct correlation between price and quality in plumbing fixtures and faucets. Make sure you match the quality of your faucets and fixtures to the price range of your house to meet market expectations.

Detailed Specs

The specifications should include all items—fixture by fixture, faucet by faucet, room by room—so that there is no question of what's required and what the plumbing subcontractor is expected to provide. It is not inconsistent to seek suggestions and alternatives from the sub, as long as all bidders are on a level playing field. Begin with piping. The prevailing code will dictate the type and/or options for drains, wastes, and vents (DWV), and for domestic water pipes. Polyvinyl chloride (PVC) is popular for DWV systems in homes (but is not allowed by codes for commercial and high-rise residential) because it's clean, easy to handle and fabricate, lightweight, and less costly than cast iron. Those are all rather convincing features.

The location of the waste pipe will affect your plumber's cost. If you don't indicate it on the blueprints, let the plumber know where the waste pipe will exit the house (the front, the back, or the side wall, and through the wall or under it), and whether it will be hung from the basement ceiling or buried under the slab.

Copper—medium-weight Type L, or lightweight Type M—or plastic chlorinated polyvinyl chloride (CPVC) pipe, are the typical choices for water

supply. Many builders, however, avoid the lightweight copper for domestic water supply, arguing that natural chemicals in water supplies could cause premature failure. If not using Type L copper, they usually opt for plastic.

In these days of uncertain housing markets, it's wise to be a pace setter (using the right balance of judgment) rather than a trail blazer: Give some serious thought to local buyer preferences of one type, rather than the merits of the other, to keep sales potential as great as possible. Specify the number and location of shut-off valves and exterior hose connections, and the extent of gas piping, if any.

Identifying Fixtures

In choosing fixtures, there is little question that a one-piece fiberglass tub (or stall shower) offers maximum protection from leaks that often develop with conventional tubs and tile. If the one-piece fiberglass units are not your cup of tea and you go the conventional route, make sure the type of tub you want is identified: lightweight steel, fiberglass (tub only, no wall section), cast iron, or whirlpool, for example. Whirlpools come in many different models and price categories, so do your homework.

Give considerable thought, too, to the type of toilet to be installed. Choices range from an inexpensive, standard (yet quite adequate) two-piece unit, all the way to a low-profile, one-piece, vented model that may cost an arm and a leg. Many towns are beginning to mandate low-water-consumption units. That decision has cut down on the number of selections available at the moment, since manufacturers are not quite up to speed in producing a variety of low-consumption models.

You'll have a lot of questions to answer about sinks before you seek bids. Will sinks be countertop style? Oval or rectangular? Will there be builder-supplied Corian sink tops to which the plumber will connect the sink? Don't think that stainless-steel sinks are all born alike; the gauge of steel can vary considerably. Even the experienced have trouble keeping up with the array of faucet and diverter/mixing valve selections. Ask to look at selections and price tags. Faucet prices vary from \$39.95 to hundreds of dollars. Depending on quality, they can last from a few years to several generations.

Specify the type of water heater (gas or electric) and the capacity, considering the recovery rate of the type specified and the anticipated household demands. Find out the length of the manufacturer's warranty (five years or ten), and plan to locate the tank as close as possible to the point of use for operating economy. (That's always a good selling point, especially if energy prices soar again.) These are some interesting newer wall-hung units on the market for low-demand situations that might make sense and deserve a

second look—for the right application. These water heaters work well, for instance, in a small commercial building with an under-the-sink water heater, or in a multi-family or condominium application.

The plumber typically connects builder-supplied appliances such as the dishwasher, disposal, and gas stove. It's not a bad idea occasionally to get a price from the plumber for the same equipment. Buying from the plumber can make for one-stop shopping and a price check on your regular supplier.

Scheduling

Plumbing DWV pipes generally has priority over other mechanicals because their locations are less flexible. So the plumber is usually the first sub to follow the framer. The plumber can begin his rough-in after the roof is framed, even before room partitions are laid out. Have the plumbing sub lined up sufficiently in advance so that work can begin when you want it to. Make any needs known to the framer early on so that bulky fiberglass units can be placed before they are restricted by a tight staircase or a 2-foot door frame.

At the job site, beef up the framing under any bathtub locations. Figure out the combined and concentrated weight of a cast-iron or whirlpool tub filled with water and one somewhat overweight occupant (or two, if it's a two-person tub). Before a fiberglass tub is installed, throw a few shovels of concrete or drywall joint compound underneath where the fiberglass tub will go: Either will prevent oil-canning and give good firestop protection.

Don't hesitate to watch the installation for problems. For instance, running water pipes across a garage ceiling or any outside wall is asking for a freeze-up, and there are alternatives. Plan to protect your costly plumbing work from damage during drywall installation. Protect vulnerable pipes with bits of discarded metal to prevent nail punctures, and mark a warning on the floor. Also you want to shield ears from the noise of water sloshing through PVC drain pipes. To conquer the noise problem, wrap blanket insulation around the pipe. That normally solves the problem, but you might have to fur out the studs here or there to accommodate both the pipe and insulation, or you may have to use 2x6 studs.

Learn from your own experience. Avoid installations that have been troublesome. For example, I had problems for years with sliding-tub enclosure doors, which leaked when closed improperly. There was no faulty workmanship and no product failure; they were just a habitual source of complaint. Today, we direct customers to a supplier where they can buy their own doors and tracks—for no more than I would have charged—and install it themselves.

Finally, after the first heating season is over, when running down callbacks in occupied, new houses, check out the toilet installations. Be sure the bowls rest securely on the floor. It can be a shocker to see a toilet suspended on the end of a closet bend, after the floor and frame have shrunk and settled a half inch or more. It's fairly simple to have the plumber reset the bowl, avoiding an otherwise certain leak and resulting damage. ■

Richard Lind is a builder in the Wellesley, Mass., area.