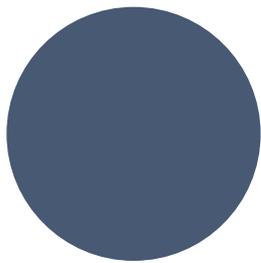
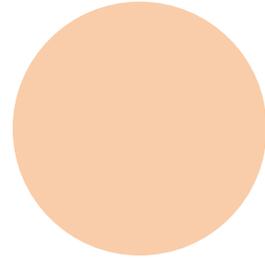
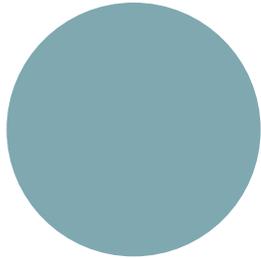


# IMPROVEMENT CENTER



## Plumbing System Remodeling Guide

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How does your home's plumbing system work? If the extent of your knowledge is that water comes out of the faucets and leaves through the drains, don't feel bad -- you belong to a very big club. However, when considering a remodeling project, having a good understanding of the system may help you plan and could even result in lower costs for the job.

## About Your Home's Plumbing System

Whether you are on a municipal system or a well, your main water line enters your home through a basement wall or comes up from under the first floor concrete slab. Normally, there is a main cut-off valve at that point. The line then continues to the hot water heater where one line splits off to provide the cold water for the plumbing fixtures in the home. The other line flows through the hot water heater where it's conditioned and then branches off to the fixtures that use hot water.

The main drain line enters your home in the same fashion, but operates a little differently than the water piping. All the drain

lines in the house function by using gravity with a little assistance from vented air. If your home is built on a slab, all the drain lines for the first floor are located under the concrete and fall downward to provide adequate flow to the main line.

If there isn't enough slope in the drain piping, waste may sit in the lines and could eventually back up into your home. Homes with basements may have the main line enter through a foundation wall depending on the elevation of the sewer in the street.

## Plumbing System Impact on DIY Projects

Knowing how the plumbing supply and drain lines are situated throughout your home can help avoid unnecessary costs in your remodeling projects and may determine whether they are even feasible. If your home has a basement, there is usually a little more flexibility than if it is built on a slab. However, even houses with basements can have some issues that must be considered. A few plumbing items to keep in mind when planning your DIY remodeling projects:

- **Slab bathrooms:** If you are remodeling a space into a bathroom on a first floor slab, the area should be closer to the main sewer line entry point than the farthest existing drain. This should ensure that there is enough fall for the new line to drain properly.
- **Basement bathrooms:** The elevation of the main drain line where it enters the basement can determine whether a sewer ejector pump may be necessary if you finish a basement bathroom. If the toilet drain is lower than the main drain entry, a pump needs to be installed. The bathroom can still be finished, but the pump can add significant cost to the project.
- **Kitchen remodeling:** When planning a kitchen renovation, keep the sink locations in the new layout close to their existing spots. This can keep plumbing costs to a minimum and is especially important if the kitchen is on a slab. Moving a drain line in a slab normally entails tearing up concrete.



- **Interior walls:** If your project involves moving or demolishing interior walls, choosing a wall without plumbing lines can help reduce project costs. While it's not a hard-and-fast rule, moving electric lines is often less expensive than relocating plumbing.
- **Bathroom remodeling:** Creating a new layout that's close to the old design can keep expenses down -- especially if the bathroom is located on a concrete slab. Remember that tubs are "handed" (if the drain is on the right side as you face the front of the fixture, it's a right-handed tub). Order the correct hand for your application -- it's usually easier and less costly than moving the plumbing.

A good rule of thumb when planning a DIY project where budget is an issue is to avoid moving plumbing lines whenever possible. This consideration is even more important if the renovation is taking place on a concrete slab.

