

# CASE STUDY

## BOSTON-AREA "QUIET HOUSE" OFFERS UNIQUE SELECTION OF NOISE-REDUCING FEATURES

**O'Connor Construction**  
Wellesley, MA  
Established: 2002

### Cast Iron Pipe and FlowGuard Gold® CPVC Combined to Reduce Water Hammer and Water Flow Noise Throughout Entire Home

The building industry has been quick to pick up on the fact that Americans yearn for a little peace and quiet. High-end builders, in particular, focus much of their attention on building homes that are quiet and can provide owners with a place of solitude away from the stress and noise of the outside world.

When Mark O'Connor of Wellesley, Massachusetts, left his engineering profession to join the builder ranks and form O'Connor Construction in 2002, he was determined to differentiate himself in the market with new construction and remodeling work that met only the highest quality standards. That meant his homes had to be quiet.

O'Connor started by following some of the standard protocols for noise reduction. He utilized special floor joists to minimize squeaking. He added sound barrier insulation between the bedrooms and bathrooms to further ensure a quiet environment. He installed heavier doors throughout to minimize the banging, echoing effect of cheaper, light-weight doors. He carefully positioned the home's air handler over a closet, as far as possible from the main bedroom, so the noise of the fan motor could barely be heard.

But it was in Dover, Massachusetts, that O'Connor began work on what he would market as his first true "quiet house". The home, valued at approximately \$1.7 million, was located in one of Dover's finer neighborhoods. The 5,300-square-foot, five-bedroom home with three-car garage featured all of the latest noise-minimization products and technologies that you'd expect to find in an upscale, New England home, with one unique addition – a quieter plumbing system.

O'Connor discovered that he could significantly reduce water flow noise throughout the entire home by installing a combination of cast iron pipe for the wastewater lines and FlowGuard Gold® CPVC pipe and fittings for the hot and cold water lines.



"The FlowGuard Gold CPVC system is the perfect complement to cast iron pipe," explained O'Connor. "Yet, most of the newer homes in this part of the country don't feature either of these products."

Although FlowGuard Gold pipe and fittings have been growing steadily in popularity across the country, the Northeast has lagged in its acceptance and ongoing use of the products.

"I guess we're just steeped in tradition here," said O'Connor. "Old habits die hard. But hopefully this will be the start of a new trend for New England."

O'Connor has since learned about the many other advantages of a CPVC system, such as its faster, easier installation as a result of a one-step solvent cement

bonding system that eliminates the need for soldering. He also discovered that it results in less condensation and better energy efficiency than copper. But his initial attraction to the product was its claim to a quieter operation.

"I think most people have heard water rushing through their pipes or that banging sound we call water hammer," said O'Connor. "But most people probably don't know that there's a way to eliminate that noise. When I heard that the FlowGuard Gold CPVC system significantly reduced both water flow noise and water hammer, I knew I had to have it for this home in Dover."

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**Type of Construction:**  
Residential –  
Single Family

**Installation Type:**  
New

**FLOWGUARD GOLD®**  
PIPE & FITTINGS  
**NOT A DROP OF DOUBT.**



# FLOWGUARD GOLD®

An independent NSF International test confirmed that a FlowGuard Gold CPVC plumbing system, in fact, is four times quieter than copper in reducing noise. The FlowGuard Gold pipe was found to register a 35.9 dBA (human ear response) compared to a standard 3/4" copper pipe which registered a 55.4 dBA. To help put this sound difference into perspective, consider that a human whisper of 25 dBA approximates the noise level of water running through a FlowGuard Gold pipe. On the other hand, a washing machine at 65 dBA is close to the level of noise of water flowing through copper pipe.

Although O'Connor's plumber was initially reluctant to try the new system, the builder's persistence for a quieter alternative convinced him to leave tradition behind. Al Livingston of Swansee Plumbing had exclusively installed copper pipe for all of the 30 years he had been in the business started by his father.

"I installed the CPVC pipe because it's what Mark wanted, but I have to admit I was very pleased with the installation," said Livingston. "It was so much faster and easier. The labor savings was definitely the biggest benefit. There was less dirty work – no cleaning and no soldering. I was able to finish the installation in about one-third less time."

In fact, Livingston was so impressed with the CPVC system that he used it on the next home he plumbed for another contractor. "I suggested to that builder that he

should try the FlowGuard Gold CPVC product. I told him it wouldn't sweat as much and there was no risk of corrosion. He agreed it was a better choice."

Both O'Connor and Livingston are familiar with problems caused by corroding copper pipe. "Corrosion is definitely a problem here," said O'Connor. "You see it in some towns more than others. Dover is one of the areas where the water is more aggressive and corrosion is definitely a problem."



When O'Connor worked with a real estate broker to sell his Dover house, he'd taken the Realtor and potential buyers into the basement to show them the FlowGuard Gold CPVC system. "I explained to the broker that the product's total package of benefits was a real strong selling feature," said O'Connor. "It doesn't bang, it doesn't sweat, it doesn't corrode and it doesn't conduct heat, so hot water stays hotter. It's faster and easier to install. It's really a great way to go."

Since Lubrizol's development of CPVC plumbing systems over 45 years ago, more than four (4) billion feet of CPVC pipe has been installed in homes, condominiums, buildings, apartments and hotels, including OVER twelve (12) million homes. For more information on the FlowGuard Gold® plumbing system, including pipes, valves, joining cement, caulks, sealants and tools, call 1-888-234-2436, X7393, or visit [www.flowguardgold.com](http://www.flowguardgold.com).

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