

Waterford Condominium Association Plumbing Piping Replacement

Project Highlights and Results

- Replaced all domestic water piping with new copper piping.
- While maintaining building occupancy, converted single pressure domestic water system to code compliant four pressure zones utilizing one pressure reducing valve station.
- Replaced domestic water booster pumps.
- For increased safety, added master thermostatic mixing valves during re-piping of the domestic hot water heater plant and replaced main domestic hot water recirculation pump.
- Replaced all main distribution waste and vent piping with new epoxy lined cast iron piping.
- Cleaned existing vertical waste and vent piping to improve future maintenance capabilities.

Project Background

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| Owner: | Waterford Condominium Association |
| Location: | 4170 N Marine Dr. Chicago, IL |
| Team/Team Lead: | Adam Sanders, Francesco Labianca |
| Elara Role: | Plumbing Design Engineer of Record |
| Type: | Infrastructure Replacement |

Project Overview

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| Building Type: | High- Rise Condominium |
| Building Attributes: | 25 Floors, 253-Units, Pool |
| Project Construction: | 1973 |
| MEFPFIT Systems: | Domestic Hot and Cold Water, Waste, and Plumbing Vent Systems |

Innovation

- Because the building's single domestic water pressure zone was not code compliant with excessive pressure at its base, the jurisdictional authority required the pressures to be code compliant at all fixtures upon project completion.
- In addition to excessive pressure at the base of the building, the client reported a lack of pressure at the top of the building resulting in functional issues with plumbing fixtures and excessive time to fill a pool at the top of the building.
- An engineering analysis was performed to determine the best value solution to comply with current code requirements, replace all domestic water piping, increase pressure at the top of the building, replace or clean all waste and vent piping, and maintain building occupancy throughout construction.
- The resulting best value design consisted of converting the single pressure zone into the following four new pressure zones.
- First floor city pressure zone, third floor condominium unit, main tower of condominium units, and penthouse zone.

