

3900 North Lake Shore Drive Plumbing Riser Replacement Project



Project Highlights and Results

- The Condominium Association was experiencing leaks, odors, backups, lack of water flow and pressure, and various issues with the existing plumbing system. Initial report by Elara presented cost-conscious design that met current codes.
- Replaced all domestic water, sanitary and kitchen waste, vent and storm piping throughout the building; including main distribution, risers and local branch piping.
- Replaced existing constant speed domestic water booster pump with a new variable speed pump package.
- Replaced domestic hot water heating plant.
- Converted existing single zone system, which was over-pressurized and non-code compliant, to a two pressure zone system that meets current code requirements. The existing pressure zone was split while maintaining water service to the entire building at the end of each work day requiring the existing and new domestic water systems to operate in parallel during construction.

Project Background

Owner:	3900 North Lake Shore Drive Condominium Association
Location:	3900 North Lake Shore Drive Chicago, IL
Team/Team Lead:	Adam Sanders, Nick Capretta
Elara Role:	Design Engineer
Type:	Plumbing Retrofit
Construction Cost:	\$6.7 million

Project Overview

Building Type:	High-Rise Multifamily
Building Attributes:	25 stories, 240 condominium units, laundry facility, party room, parking garage
Initial Construction:	1958
MEFPFIT Systems:	Hot water heating boiler plant, Split DX Cooling MAU, DW Booster Pump, DHW heating plant

Innovation

- The City of Chicago is taking a more aggressive stance towards existing over-pressurized domestic water piping systems and is requiring replacement to meet current code.
 - Sequencing to replace an existing single-zone domestic water piping system with a new two-pressure zone system while maintaining water service to all plumbing fixtures at the end of each construction day is a unique challenge to overcome.
 - As the domestic water system is replaced, each riser is converted to two separate pressure zones while maintaining water service and hot water recirculation. During this transition, building occupants experience pressures within industry standard boundaries and current code requirements, while having full water flow.
- At project completion the building will have completely new plumbing throughout.