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*because nothing stands still*

## Comcast Center (One Pennsylvania Plaza)

Philadelphia, PA

Tuned Liquid Column Damper (TLCD) Design / Commissioning

### The Project

The 1,009 ft. tall Comcast Center will contain the largest Tuned Liquid Column Damper (TLCD) in the world.

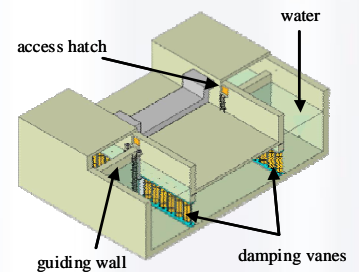
In the early design stages of the project, space was allocated at the top of the building for the Supplementary Damping System. To optimize lateral drift serviceability performance, the tower required Supplementary Damping in its most slender axis only; therefore, one large TLCD was designed instead of the more typical two perpendicular TLCD configurations.

Some custom features of this uni-axial TLCD include:

- TLCD water mass = 1,300 tons (over 300,000 gallons of water)
- TLCD is almost as wide as it is long – an unusual feature
- Tank divided in two to avoid off-axis flow (loss of efficiency)

### Benefits from Hiring Motioneering

- Overall structural cost savings (in the millions of dollars) were realized by using TLCD's to achieve occupant comfort and lateral drift serviceability criteria
- Uniquely qualified to design a custom TLCD to meet specific and unique performance and space requirements
- TLCD construction costs were minimized since Motioneering sourced most of the hardware on the Owners behalf



3D rendering of the Comcast Center TLCD tank

### Project Team

Thornton-Tomasetti Group

Robert Stern Architects