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# Analysis of Self-Consolidating Concrete in Architectural Shear Wall Applications



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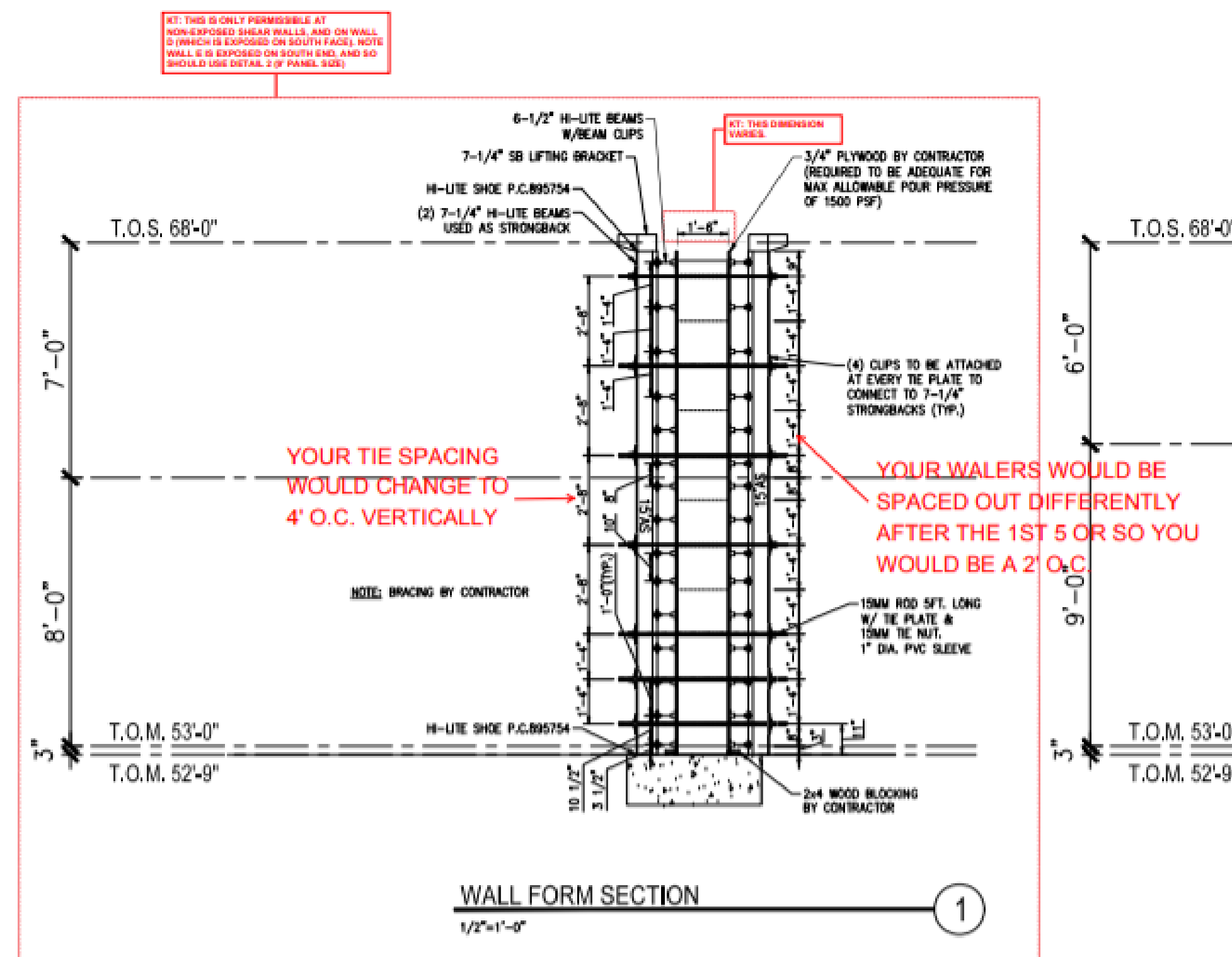
Type 1A Structure

Architectural concrete surfaces have always been a point of focus for concrete contractors, architects, and owners, especially when consolidation poses risks due to a high density of reinforcement. Contractors have begun using self-consolidating concrete (SCC) in exposed vertical applications to combat the risk of poor consolidation. This paper investigates the characteristics of SCC and evaluates a case study of a recent project that was completed on the Central Coast of California. The study examines the cost variance between using SCC mix and a standard mix in architectural shear walls. The analysis is done by evaluating a multi-story Type 1A structure containing three floors of architectural shear walls. These findings are useful to contractors, owners, and architects undergoing an analysis of whether to SCC on their project.

**Key Words:** Self-Consolidating Concrete, Thixotropy, Hydrostatic Pressure, Full-Liquid Head, Reinforcement



Slump Flow Test (Self-Consolidating Concrete)



MAX. ALLOWABLE CONCRETE PRESSURE IS 2250psf

Formwork Shop Drawing

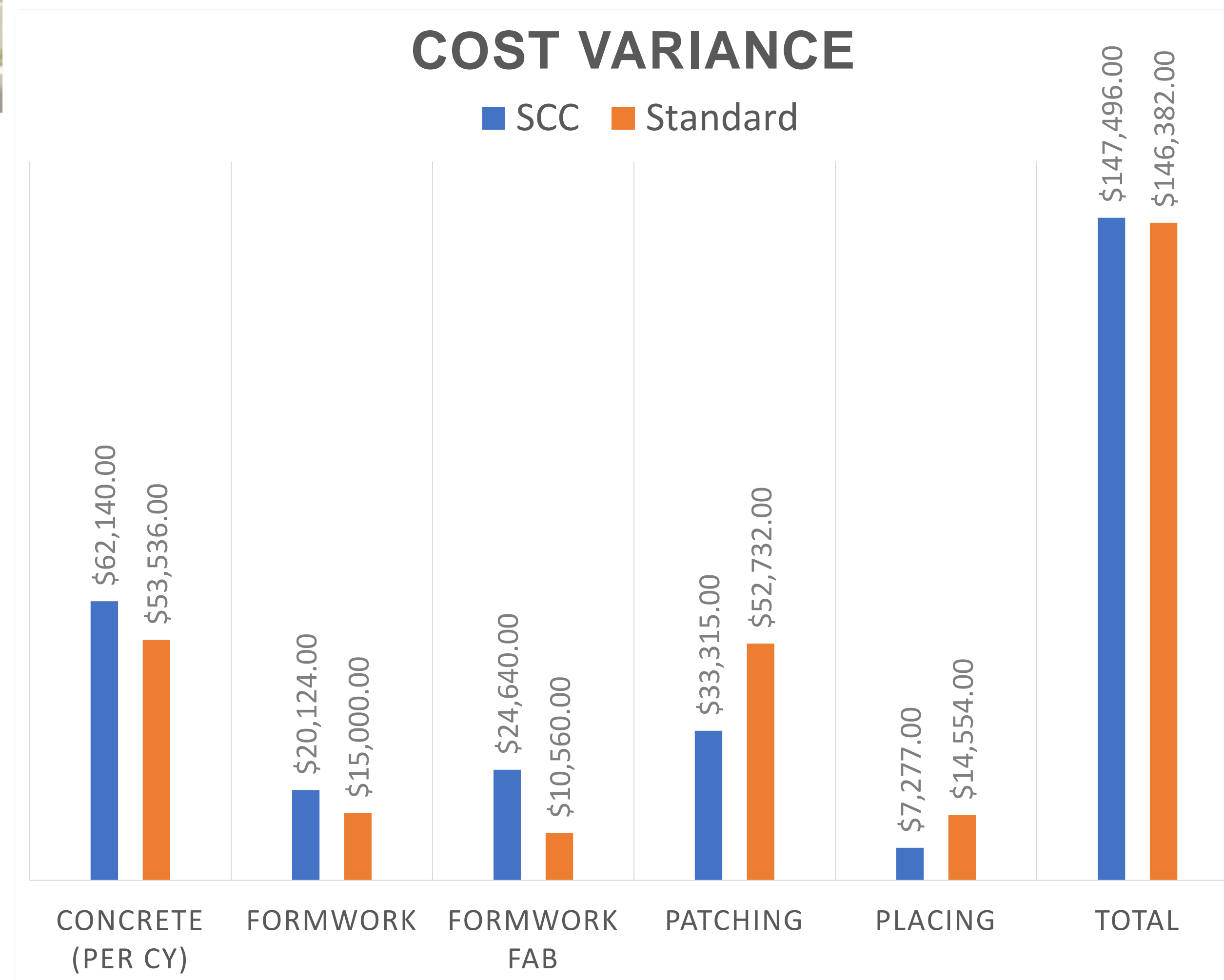
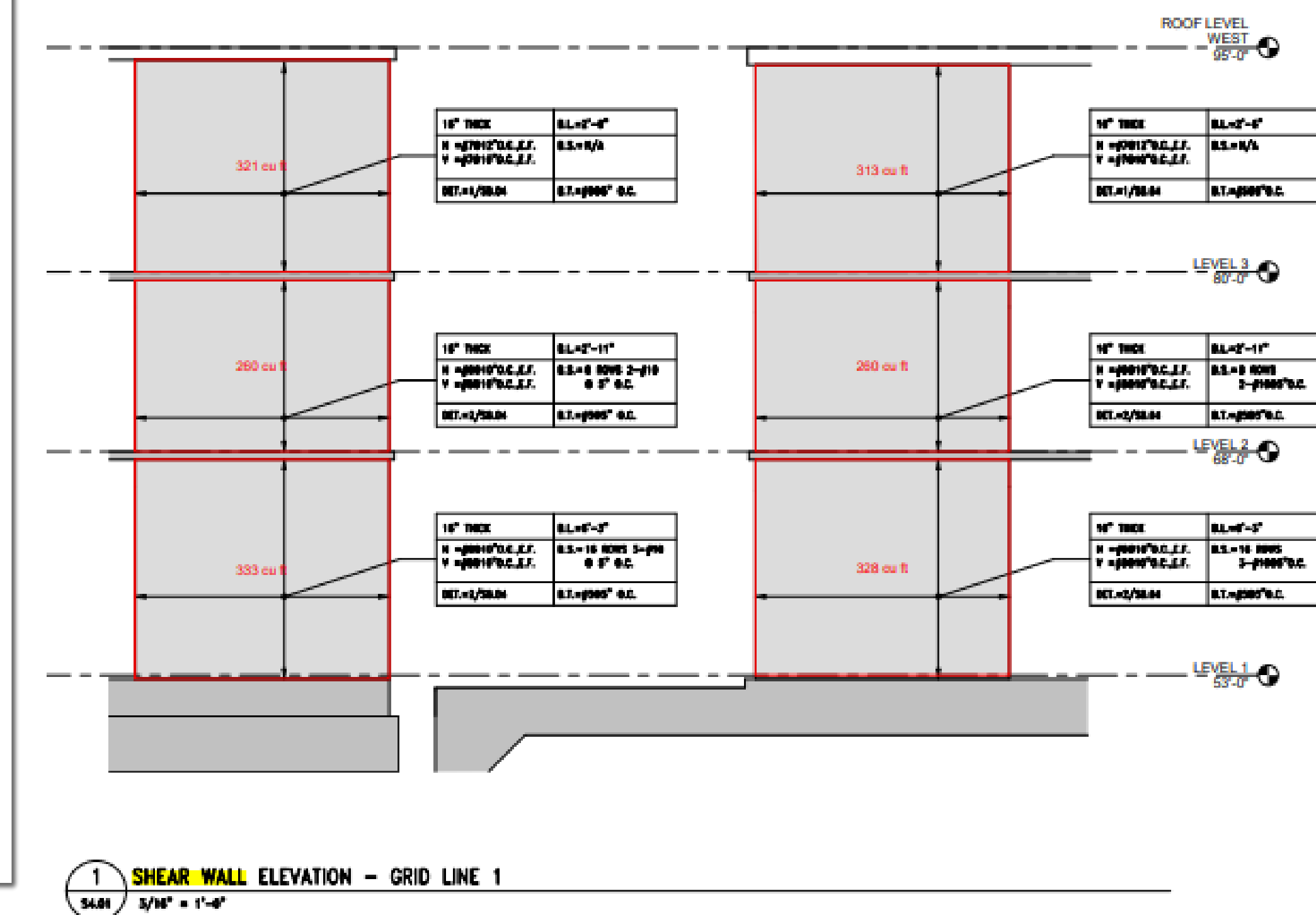


Figure 1 – Cost Variance Analysis



Shear Wall Elevation with QTO