

Executive Summary

The Marriott Hotel at Penn Square and Lancaster County Convention Center is a new 412,000 SF facility being constructed where the former Watt & Shand department store was located. The 109 year old façade is being restored and incorporated into the new 19 story building. The hotel will consist of; 300 rooms, a 4,785 SF full service bar, a 9,621 SF ballroom which can also double as six meeting rooms highlighted by majestic two-tiered windows from the Watt & Shand façade, and 7,541 SF of amenities which include an exercise room, indoor pool and whirlpool spa. While the state-of-the-art convention center will consist of a 47,842 SF exhibit hall along with lobby areas, prefunction areas, a large ballroom, three boardrooms, and meeting rooms. The \$170 million dollar project is scheduled to be constructed from May 2006 to Dec. 31st 2008.

The following report analyzes the redesign and implementation of; a structural steel joist floor system over a C.I.P. concrete system for the convention center, Ivany block for a cantilever retaining wall over a C.I.P. concrete pinned retaining wall, the redesign of the groundwater lift station system from a duplex 120 GPM system to a triplex 1020 GPM system, the use of laser scanning technology to document the existing Watt & Shand façade over traditional surveying techniques, the implementation of a combination minipile and caisson foundation system over a strictly caisson system, and the resequencing of construction activities for the proposed alternatives. Through the incorporation of the proposed redesigns the Marriott Hotel and Lancaster County Convention Center project would be able to open 5 weeks earlier due to schedule reduction. The increased construction costs of 0.15% (\$256,306) to implement the proposed changes would easily and readily be offset by the revenue generated and reduced costs associated with the construction (construction loans, monthly consultants fees, etc..) by finishing construction 5 weeks early.