



Executive Summary

Set to be completed in the late spring of 2008, The Teachers Education and Technology Center at Salisbury University will serve as an important facility for developing the future Educators of Maryland. This 165,000 square foot, \$45 million facility will house instructional, laboratory, lecture, & office spaces for the Salisbury University College of Education. The three main buildings of the facility are connected with spaces excellent for studying or impromptu meetings with professors. The courtyard created by the “S” shape of the building provides an ample green space for student interaction.

The construction research portion of this report focuses on the implementation of Building Information Modeling (BIM) for Construction Coordination. This research unveils the proper approach to utilizing BIM at the construction phase. This analysis provides information on BIM development, contractual Issues, coordination meeting impacts, and project team responsibilities. A strong focus was placed on the on-site construction coordination process and how a BIM geared approach differs from a traditional approach. A BIM powered coordination meeting is much more efficient because time is spent evaluating solutions to problems versus identifying the problems.

The second analysis of this report weighs the benefits and impacts of a panelized façade compared to a stick built façade. It was found that a panelized façade can cut schedule time nearly in half and reduced the loads on structural steel framing due to less dead weight. Structural steel spandrel beams were downsized in this analysis and cost impacts were calculated. The only negative note of this analysis was an increased façade cost of 30%.

Early stages of building projects can be critical to the schedule. If delays occur early, they can be hard to overcome. The analysis of the grade beam placement method was addressed for this reason. The proposed placement method eliminates wood formwork and uses earth forms in the form of excavated trenches. Savings in formwork material and labor was the impact and overall grade beam costs were reduced by 64%. The excavation schedule was accelerated by 4 days and the formwork schedule was accelerated by 15.

Finally, interior partitions were analyzed for acoustical performance. Acoustics are vital to learning especially in environments where verbal communication is relied upon. Sound transmissions to classroom spaces from mechanical, bathroom, & other classroom spaces were addressed in this analysis. Three partitions were found to have low Sound Transmission Class values and were improved upon by adding addition gypsum wall board material.