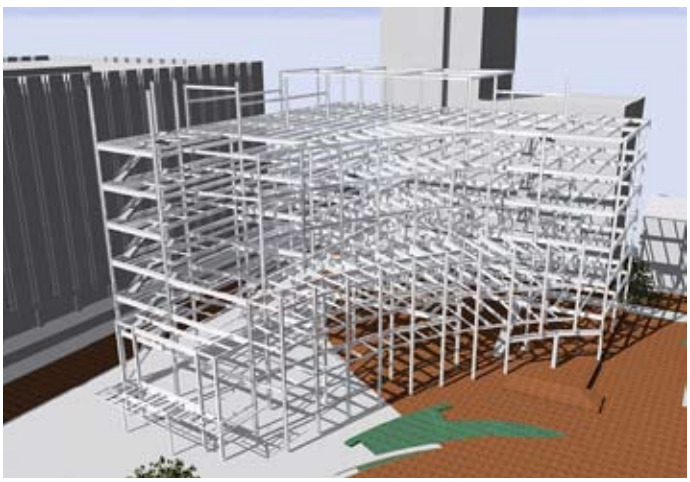
THOMAS JEFFERSON UNIVERSITY: EMBRACING NEW TECHNOLOGY

The Dorrance Hamilton Building at Thomas Jefferson University (TJU) was Burt Hill's second major Revit project, and the first full building documented in Revit to be built and the keys handed to the owner. The six-story, 135,000-square-foot structure is now the heart of TJU's academic campus. The building includes a technologically advanced auditorium, a clinical skills assessment center featuring virtual diagnostic and surgical suites, a rooftop terrace, small study spaces, and classrooms. The 60,000-square-foot urban plaza is one of the largest green spaces in central Philadelphia. Prior to construction of this complex, the parking garages that served the university consumed half a city block. A new 215-car parking facility is located underground and below the building, allowing the campus (and the city) to reclaim more than an acre of street-level space.

An important motivator that contributed to the TJU team adopting the Revit platform was the dynamic change in documentation associated with modeling a building and deriving construction documents from the model. The hectic pace of the design schedule, and the need to meet every other week with the President of the University put extreme demands on a small team. The team was able to generate three-dimensional renderings to help convey design intent that accurately reflected the state and progress of the design, without having to use third party software. This meant that the team could continue designing the building, while also preparing visuals for the client meetings. The visualization aspect and inherent ability to view the model conditions aided the design team throughout its process. Modeling became a means to evaluate different options as part of the design. The team was able to model several different variations of exterior ornamentation on the building's exterior using this tool. This technique allowed the team and client to determine that some



type of exterior treatment was required, but also allowed them to evaluate different possibilities that represented different values for the budget and cost estimating. The team was also able to design the building's curved sloped ceiling in the 300-seat auditorium around tight conditions with regard to large structural trusses. By having the trusses modeled and in modeling the ceiling, it was possible to optimize the ceiling layout with the structure, while achieving the goal of having as much ceiling height as possible. As an added bonus (thanks to the model), the team was able to produce perspective views of the space for the designer and client to review and approve.

Once the building was complete, finish photography validated the team's design decisions, and the model itself. Photos taken from the same approximate locations on site and in the building bear a striking resemblance to the renderings and perspectives done either directly from the model, or based on it. Of particular note is the lighting on the building. In general the actual sun angles, shadows, and amount of light closely match what was produced in the BIM renderings from design development through construction documents. As a tool to improve design coordination, and timely decision making, the team was quite happy with the results of embracing a new technology and design process.