

UNIVERSITY OF FLORIDA NEW UNDERGRADUATE RESIDENTIAL COMPLEX WITH HONORS COLLEGE

THE IMPORTANCE OF PHYSICAL MOCKUPS

AN INVALUABLE TOOL ON CONSTRUCTION PROJECTS

CONTRIBUTOR:

Weitz knows quality begins with a smart design that encompasses building use, maintenance practices, material selection, and more. To accomplish a high level of quality on all of our projects, Weitz leverages mockups to meet these standards. Physical and virtual mockups are used to test the design, structural integrity, and validate the final product before construction begins.

When quality is not taken into consideration early on in a project, it can create a ripple effect that ultimately increases a project's cost and extends the schedule. Utilizing mockups early on in the construction process allows the team to troubleshoot and conduct quality checks prior to installation to ensure a seamless transition of work.

In the case of University of Florida, by mocking up particular parts of the project, the team was able to identify problems early on and modify them before installing on a grand scale, saving time, money, and maintaining a high standard of quality for the client.

HOW PHYSICAL MOCKUPS ENCOURAGED COLLABORATION TO IMPROVE QUALITY AND SAVE COSTS

Since day one, quality control has been a top priority to the University of Florida on the New Undergraduate Residential Complex with Honors College project. The University of Florida Facilities and Housing Department was heavily involved throughout the quality control process since the start of the project.

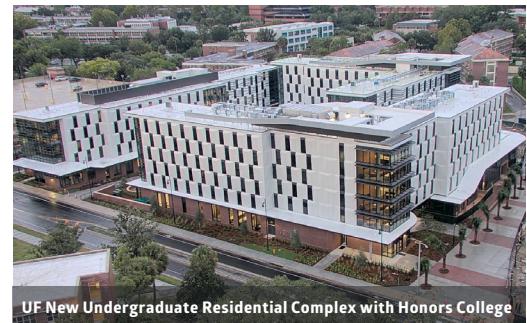
Upon turnover of the project, UF Facilities & Housing will be responsible for the maintenance of all four residential buildings. Owning this responsibility, they wanted to ensure the project achieved their quality standards so the building could support the students living there for years to come.

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UF New Undergraduate Residential Complex with Honors College

PHYSICAL VS. VIRTUAL MOCKUPS

Physical Mockup

Mock-ups are typically full-size representations of proposed construction, built in order to evaluate proposed design and construction details or to test for performance.

Virtual Mockup

Virtual mockups are digital representations, typically 3D models, simulations, or visualizations of a construction project or its components.



Team Mockup Session

With this in mind, the project team chose to conduct of mockup of the heat pump closet (see photo below) that would be repeated 540 times, in each student dormitory. Project stakeholders including, MEP trades, inspectors, and the UF Housing & Facilities employees, all had the opportunity to examine and take apart the heat pump closet. Conducting these sessions allowed the team to identify details represented on the drawings that would not have worked on the actual model. The feedback received from project stakeholders allowed installers to work hand in hand with the UF maintenance team, bringing the diagrammatic drawings to full function.

PHYSICAL MOCKUP TAKEAWAYS:

Drain Pan Sizing: Originally the drain pan was very large and would take up a large portion of the closet. The team worked to create a compact pan that would take up less space in the closet without losing functionality.

Drainage of the Riser: The team suggested adding a hose bib to the floor drain in the closet in order to easily drain down the riser.

Duct Work Routing: The mockup allowed the team to creatively rout the duct work to ensure the closet looked aesthetically clean and organized. With much consideration to accessibility for maintenance.

Flex Conduit & Disconnect Mounting Location: The facilities team was able to play with the location and routing of power to the units disconnect to be sure a unit swap out was as easy and safe as possible.



Heat Pump Closet

Developing a robust quality plan and completing physical mockups empowered the project team and stakeholders to make informed decisions on the New Undergraduate Residential Complex with Honors College project. The UF Facilities & Housing appreciated how the team included them in this process of identifying potential issues and worked with them to provide solutions and ensure a quality product.

In an industry where precision and collaboration are paramount, physical mockups serve as invaluable tools ensuring Weitz delivers successful, safe, and well-executed projects that meet a client's budget, schedule, operational, and aesthetic goals.



ABOUT THE WEITZ COMPANY

Founded in 1855, The Weitz Company is a full-service construction company, general contractor, design builder and construction manager that serves all 50 U.S. states. Weitz is one of the oldest general contractors in the United States and an industry leader in lean construction; senior living; sustainable building; and virtual design and construction. Headquartered in Des Moines, Iowa, The Weitz Company annually ranks in the top tier of Engineering News-Record magazine's Top 400 Contractors and Building Design+Construction's Giants 300 Contractors lists.

For more about Weitz, visit www.weitz.com.

About Our Contributor

Ryan Hullihan started with The Weitz Company as an intern and worked his way up to Senior Project Manager. His portfolio consists of a variety of projects including Florida Atlantic Student Housing at the Boca Raton Campus, renovations at The Breakers Palm Beach, Capital Improvements at The Kravis Center for Performing Arts and the New Undergraduate Residential Complex with Honors College at the University of Florida.