



Your Project Take 1: Mock-ups!

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So you're embarking on a building project. You've hired an architect and have a building on paper that was designed to fit your needs. You've taken your design and gone out to bid. The bids have come in (hopefully within budget!) and you've selected a contractor to perform the work. Before the walls go up, don't you want to make sure that the outside of your new building will look like what you thought it would look like? More importantly, don't you want proof that your contractor is doing the work in accordance with the architect's design? Of course you do, but how?

Ask for a [pre-construction](#) mock-up.

The primary use for a pre-construction mock-up is so you, the owner, can see what design is desirable for construction, but at the same time it gives the trades an opportunity to produce a small portion of the building. This provides the opportunity to determine the coordination necessary between trades and the time it will take to complete the project efficiently and correctly. Mock-ups are especially needed for complicated coursing patterning and difficult interfacing with adjoining materials. They should be utilized and budgeted to establish standards of quality.

The most common example of a mock-up is a small section of the larger assembly of the building envelope. By "building envelope" we mean all the components that make up the outer structure of your building and are responsible for the keeping the interior conditioned spaces protected from the outside. If your building envelope is constructed incorrectly, you could potentially compromise its intent and leave your building vulnerable to the weather elements – be it rain, heat or cold. Here is an example from the Dover Library. As you can see the different layers of wall all have to be coordinated accordingly to effectively complete the project.

A mock-up can also take the shape of an entire room to fine tune spatial relationships per the owner's requirements. For example, during the construction of the [New Castle County Courthouse](#), our client was concerned with the appearance and sightlines of each courtroom. To give our client an idea of what a typical courtroom would look like, long before the building was complete we built a full-scale mock-up of a typical courtroom in our shop, complete with walls, ceilings, floors, lights, tables and chairs!

Although physical mock-ups are a great tool to set design intent and coordinate trades, they come with a price. With higher costs of labor and material and the demand to finish jobs quicker, physical mock-ups have their limitations. With the progression of 3-D imaging, we have been able to create not only a section of the building for an owner, but the entire building. 3-D



modeling allow us the opportunity to take a virtual tour of a project before the first shovel hits the ground, almost eliminating the need for a traditional mock-up! EDiS is currently using this approach for the new Dover High School. Designing in 3-D can help facilitate aesthetics and quality. There is also a sustainability factor in using 3-D models. There is hope to ensure work and materials only have to be used once, thus productively reducing waste.

Both techniques have their pros and cons. 3-D imaging has a greater cost and time saving aspect opposed to the physical mock-ups, all in proportion of course. For intricate designs, 3-D can help with items you would not normally mock-up, such as mechanical systems and fire protection. Never the less, physical mock-ups should always be utilized to show craftsmanship. After all, it is the skilled worker out in 20-degree weather for eight hours a day that has to build the actual finished project, not the computer.

Here at [EDiS](#), we feel that these mock-ups, both physical and virtual, are vital ingredients in the recipe of a successful project. Therefore, we use mock-ups on almost every single project we build!

[Contact us today!](#)