

## 290 Mulberry

A rippled brick design was proposed for this residential condominium building in response to contextual zoning that dictated a “predominantly masonry” façade. The complex geometry, in addition to a host of other parameters (including site, cost, code, brick coursing and panel weight, fabrication transport and installation), posed a great challenge with respect to information management. Because the façade needed to be “responsive” to these parameters, both during design and construction, advanced modeling software was essential. Utilizing a parametric based modeling as a solution for resolution of complex geometries and digitally fabricated components. The office undertook this building as a pilot project to initiate the use of Building Information Modeling as part of SHoP’s standard practice.

Software packages utilized to solve complex geometries are not fully functional “out of the box”, so knowledge of scripting is essential to realize their full value. For this project, scripts were developed in-house by the project design team to control the brick panel’s technical requirements, and to adjust the output, according to established rules, to accommodate changes as the design developed. The final model incorporates engineering and cost data, and will also be used to digitally fabricate the panel molds.

Since a thorough understanding of the panel fabrication was necessary to set the parameters, a relationship with the fabrication team during design was critical for success. Since fabricators are often reluctant to invest resources in development of a design without a contractual relationship, the procurement method, and/or the owner’s willingness to invest in pre-construction services provided by sub-contractors during the design phase, becomes very important.

The base building document, developed as a building information model, allows live links to various forms of output that facilitate communication with the owner’s consultants (such as financial, legal and marketing), with the contractor (for instance, as a basis for discussion of phasing or for verification of quantity takeoffs) and with the architect’s consultants for systems coordination. The result is a more holistic approach to design and construction.

**Location.** New York, NY

**Phase.** Under construction, estimated completion Fall 2009

**Client.** Cardinal Investments

**Area.** 26,800 sf

