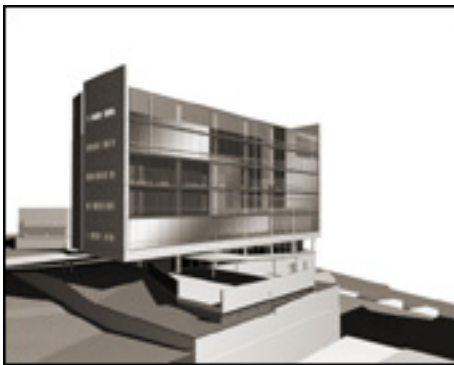


Case Study

Erdy McHenry Architecture



Erdy McHenry Architecture LLC, based in Philadelphia, is enjoying a growing reputation for design excellence. The practice has received several recent AIA design awards, culminating with the 2001 gold award for its work on the historic Southern Poverty Law Center in Montgomery, Alabama. This project achieved further recognition when it featured as the lead story in the September 2001 edition of Architecture Magazine.

Further examples of the work of Erdy McHenry can be found on their web site at <http://www.em-arc.com>.

The computer aided design system used for these projects is MicroGDS, from Informatix Software International of Cambridge, England. In this article Scott Erdy explains his approach to the design process.

Using 3D models in the architectural design process Scott Erdy, Principal Erdy McHenry Architecture, LLC



Shooters Post and Transfer - Development Model

Buildings are 3-dimensional objects, which are perceived in time and space. Consequently most clients have difficulty reading 2-dimensional plans. Utilizing 3D computer modeling early in the process allows for real communication between the client, contractor and the design team.

In fact, Erdy McHenry Architecture rarely presents two-dimensional plan drawings for design presentations. You can see sample drawings on our website (www.em-arc.com), each done quickly as part of the design process.

Erdy McHenry Architecture uses both physical and computer models as an integral part of the design process. Each has their advantages, but we have found computer models to be a faster way of exploring multiple design scenarios. Computer models are also helpful because they are more abstract than physical models. For example, a digital model has no “real” scale and can be experienced from multiple vantage points without engaging the body in a physical way. A computer model is more “of the mind”, unlike physical models that

have real texture and scale which may be distracting to the true essence of the form.

Computer Modeling



PRC Group - Parti Model

Our computer modeling process begins during the programming stage. Existing site conditions are modeled while the program brief is being developed.

This allows the design team to absorb the planning requirements and the existing conditions simultaneously. As the project brief is developed, it is linked to 2-dimensional MicroGDS “space icons” that are in scale with the existing site conditions. As true object-based data loops, these “smart icons” give instant feedback of their size and location which can be quickly compared to the program brief via a spreadsheet. We immediately begin extruding the objects into three dimensions and start to study the massing in conjunction with the 3-dimensional site model. It is at this stage that we usually develop multiple massing scenarios as part of the design process.



Once the “Parti Models” are at an acceptable level, we will render a series of views of each massing option. At this stage we generally begin to work in new layers, preserving the “parti massing” as a guide (rough sketch) of our massing intentions. Using the parti model layers as a backdrop, we start modeling a more detailed scheme. It is at this point that we start creating MicroGDS layers based on “building systems”, i.e. structure, enclosure, glazing, aluminum, etc. The technique of maintaining simplified massing models has proven useful, especially in multiple-building design.

It allows you to have a less detailed “place-holder” for each component of the master plan, allowing you to work on a single building in detail without the overhead created by the detailed models of all the buildings.

Rendering



Southern Poverty Law Center -
Massing model

We create renderings throughout the process as tools for furthering the design. We use these renderings for all of our client design meetings, rarely creating additional ones just for design presentation. Our rendering technique prefers to use color sparingly and we steer away from photo-realism. We see CADD renderings as technical tools, not necessarily works of art. We feel that it is more important to spend valuable design time on resolving design issues rather than infinitely tweaking renderings.

We make use of light and shadow. We typically use a “distant” light source and an “eye” light source simultaneously to light our models. We prefer hard, crisp shadows.

Our rendering style is more familiar to industrial designers than it is to most architects.

Examples from the Southern Poverty Law Center



Southern Poverty Law Center - South facade overlooking Civil Rights Memorial

The Southern Poverty Law Center is located on a site which contains several other buildings of historic interest, notably the Civil Rights Memorial and the King Memorial Baptist Church. Early massing studies yielded a design which recognises that the new building needs to act as visual backdrop to the Civil Rights Memorial. We positioned the building so as to create a public plaza around the Memorial, and introduced a "crank" into the Southern facade to respect the axis between the Memorial and the Church.

As the design progressed, we clad the Southern facade in steel and left it relatively featureless so as not to distract from the Memorial. Conversely, the open office area has floor to ceiling glass, facing North and offering excellent views of the King Memorial Baptist Church.

Conclusion

Computers are changing the design process. Taking advantage of the power of MicroGDS allows Erdy McHenry Architecture to investigate multiple options faster and make solid design decisions sooner. By using 3-dimensional modeling throughout the process, our buildings are more resolved as 3-dimensional objects as we move into the construction documents phase.

This allows our firm to produce large amounts of work, well beyond our staff numbers.



Southern Poverty Law Center - As Built

Southern Poverty Law Center - Credits

Owner: Southern Poverty Law Center
Client Advisor: JRB Associates, Inc.
Design Architect: Erdy McHenry Architecture
Architect of Record: Goodwyn, Mills & Cawood, Inc
Architect of Record: The Hillier Group (Schematic Phase)
Civil Engineer: Pilgreen Engineering
Structural Engineer: Cagley, Harman and Associates
Mechanical Engineer: Zgouvas and Associates, Inc.
Electrical Engineer: Mills-Conoly Engineering, P.C.
Fire Protection Engineer: Robert Morris & Associates
Security Consultant: Archisec



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