

## **Engineering Philosophy:**

Because there are always engineering trade-offs in the design of a building, and because we aren't spending our own money, we feel that the first step in any successful design project is to find out the things that are important to the owner. Is he concerned with achieving the lowest first cost? Is he more concerned with energy use, maintenance costs or life cycle costs? Is he concerned with projecting a certain image, or with using cutting edge technologies?

When we have an understanding of the owner's priorities and budget, and the electrical systems which are to be included in the design, our preferred approach is to prepare a set of design development level drawings showing every light fixture, switch and receptacle, and review these drawings on a room by room basis with the owner and architect. We feel that this is the best way to fine tune the design, and obtain the owner's acceptance.

The industry seems to be diverging toward two philosophies when it comes to the production of construction documents. One philosophy I'll call "less is safer" contends that the less you say in the documents, the less chance there is of being accused of having made a mistake. The other philosophy which I'll call "more is better", and the philosophy that I subscribe to, holds that the more information you put in the documents, the better your control is of the final product.

Under the "less is safer" philosophy, design fees can be lower but the contractor is in control and often times even he isn't sure what the final product will look like. Under the "more is better" philosophy, the design fees can be a little higher, but the construction phase generally is smoother and the final product more controllable.

Under our "more is better" philosophy, we try to minimize the additional design fee through the use of data base programs to generate lighting fixture schedules and wiring device schedules, and object oriented software to generate panel and equipment schedules. We have also developed a method of showing circuiting and switching using "room keys" and "device tags" without showing conduit. In general, the "room key" defines all of the devices in a given room. Exceptions are handled using "device tags". Examples of each are shown on this web page. This approach makes the inevitable design changes much easier and less costly.