6.0 CONCLUSIONS

This report takes an in-depth look at lighting and electrical systems of the Harry Ransom Center. The most tangible objective was to provide an energy efficient lighting system that performs properly. Although the primary intent of this report was to study and redesign the building lighting systems, perhaps equally as important was the need to address overall design intent and integration with other disciplines. The strengths of all systems as a whole are what make a truly successful design.

The first portion of this report focuses on the lighting design of the first floor spaces, which required thoughtful concern and integration with the building's architecture, electrical circuitry, and mechanical systems. In many cases, the lighting system was selected because it integrated best with the requirements of another discipline. For example, a more innovative lighting design could have been implemented in the Prothro Theatre, but would there have been sacrifices? What about the room acoustics, and at what cost to energy efficiency would a more elaborate design provide? The simple combination of recessed downlights and diffuse linear fluorescent sources provided an energy-efficient system that allowed room acoustics to be enhanced. Rather than creative improvements to the lighting system, a few walls scallops were sacrificed for improved sound quality. Since acoustical concerns limited the lighting design, time was instead placed creating an interface between the theatrical lightboard and the Lutron dimming controls; additional space on the theatrical dimmers was made available without sacrificing the control of house lights.

Taking an even broader perspective, the needs of the occupants – humans, and the resources available provided an overall framework for this report. These various needs were echoed in the redesign of building control systems and the occupant usability of lighting and electrical equipment. Ultimately, a building must be looked at in its entirety. The gallery and theatre are good examples of this. In the gallery, the architecture and lighting design were fully integrated with each other to produce a truly enjoyable and functional space. From the power systems side, altering the design to 277 volt track has allowed considerably longer track runs with 60 ampere power feeds. This allowed less ceiling clutter and provided considerably more open space on panelboards. In the theatre, an intriguing ceiling has been designed that improves room acoustics. The lighting in this space enhances the look of the innovative ceiling, and the redesign of the electrical systems has allowed the house lights to interact better with theatrical equipment. The amazing array of coordination requirements necessary to produce good design are illustrated in this report, and hopefully the reader can take with them an understanding of the importance to think creatively and objectively when addressing building system design.