

Executive Summary

The University of California Santa Barbara's new Student Resource Building is primarily a student hub. It is located on the west side of campus and provides a transition space that connects the adjacent neighborhood of Isla Vista with the rest of the UCSB campus. Contained within this 68,413 square feet facility are primarily student resource centers as well as faculty offices and meeting rooms. In addition, there is also a multipurpose room on the North East corner of this building as well as a triple height atrium in the center.

This report, although primarily an in-depth discussion of the redesign of the lighting and electrical systems, will also feature breadth studies that focus on LEED and Architecture. In particular the following four spaces will be analyzed: the forum, a student resource center, the multipurpose room as well as the North-East plaza.

An in-depth lighting study for each space will include but is not limited to: design criteria, equipment selection as well as a detailed light level analysis. The electrical depth will discuss primarily the control aspect of the light system specified as well as branch circuits analyses and a protective device coordination study. In addition, a cost-feasibility study will also be performed to see if the system will reap any benefits through the implementation of a building-integrated photovoltaic system and energy efficient transformers.

As the building currently has a LEED Gold rating, a study has been done to see what areas the existing design can be altered to achieve more points. By doing so, the goal will be to push the building to a Platinum status. Last but not least, an Architectural study was done to redevelop the North-East plaza into a space that provides not only visual interest but also one that is more tranquil and contained like the piazzas of old.

All design work discussed herein has undergone many iterations before arriving at the solutions being presented. From conceptual design to final implementation, the analysis of this building has provided me with great insight into true architectural engineering, a unique synthesis of art and science.