

Executive Summary

The North Addition of the South Nassau Communities Hospital was completed in 2005 and provides an additional 108 medical / surgical beds, LDRs (Labor/Delivery/Recovery), an obstetrical suite, a behavioral health unit, offices, and a 300 seat auditorium to the existing complex. Designed to accentuate the strengths of the existing historical building, the North Addition serves as a welcoming entrance and helps to create a modern image for the hospital.

The main goal of this report was to research the existing lighting and electrical design of four spaces within the North Addition of the South Nassau Communities Hospital. This analysis focuses on four different types of spaces: a large work space (a second floor nurse's station), a special purpose space (the auditorium and conference center), a circulation space (the main entrance lobby), and an outdoor space (the courtyard adjacent to the conservatory). The inspiration for the lighting design came from the owners desire to create a modern image for the hospital, one which is representative of the advanced healthcare that will be available without having to travel into the city. This vision was the basis for a design that not only enhances the hospitals modern image, but also creates a welcoming environment for both new and returning visitors.

IESNA illuminance recommendations and ASHRAE Standard 90.1 Energy code requirements were used to help guide the redesign of the lighting system. The existing lighting design was examined in detail and the results for each space are presented within the report. In general, the lighting design for each of the four spaces is adequate; however changes can be made to enhance the quality of the lighting design from both an aesthetic and energy consumption standpoint.

To accommodate the changes in the electrical design, the existing electrical design was altered. Changes were made to the branch circuits for all spaces in which the lighting design was changed. In addition to these changes, two electrical depth studies were performed. These studies include the design of a motor control center for the new equipment in the power plant as well as an analysis of the cost associated with increasing feeder size compared to the cost of energy lost through voltage drop.

Two breadth topics related to both the owner's vision and the lighting design were also completed. The existing courtyard was redesigned as part of an architecture and landscape architecture breadth to create a welcoming and relaxing environment that serves as an extension of the adjacent conservatory. It was also determined that in order to provide a fresh and updated image that creates a strong first impression, the design of the lobby should be altered to closer match the architect's original vision. In addition to minor architectural changes, the diffusers which created harsh linear lines in the lobby were sized and relocated as part of a mechanical breadth.

The following report provides the details, process, and conclusions of the yearlong study as well as the proposed designed solutions which exhibits functional and aesthetic performance and creates a building which enhances the owner's modern and dignified vision for the hospital.