South Nassau Communities Hospital North Addition

Oceanside, New York

Carl Speroff
Lighting Electrical
Faculty Advisors: Dr. Kevin Houser
Professor Ted Dannerth
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Executive Summary

The following outline provides an estimate and general outline for the final thesis presentation to be presented on April 13, 2011. The outline provided is subject to change, but provides a good estimate of the topics to be covered during the presentation. Tentative topics to be covered include an electrical depth, three lighting spaces, two breadth topics, and MAE focus. Sample slides are also provided.

Outline

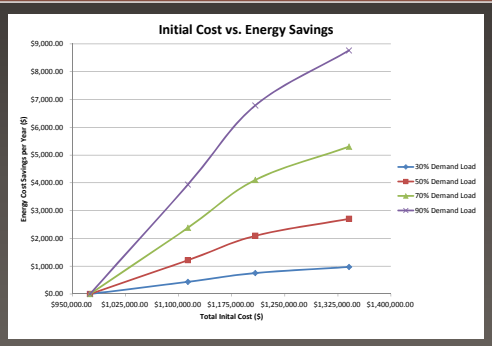
1. Introduction And Overview
    a. Personal Introduction
        i. Introduce self, building (1 Slide)
    b. Building Introduction
        i. Owners Vision, basis for design (1 Slide)
        ii. Building Location, Stats, Design Team (5 Slides)
    c. Scope of work and presentation
        i. Scope of thesis work (1 Slide)
        ii. Scope of presentation (1 Slide)
2. Electrical Design
    a. Compare first cost of increasing feeder sizes to cost of energy saved
        i. Overview, methods (2-3 Slides)
        ii. Results (2 Slides)
3. Main Lobby
    a. Description of Space (2 Slides)
    b. Design goals
        i. Building on original intent (2-3 Slides)
    c. Mechanical Breadth
        i. Changes to diffuser layout to achieve desired appearance (2 Slides)
    d. Lighting Design
        i. Design concepts, how they build upon overall design goals (2 Slides)
        ii. Final solution including renderings, plans, equipment selection (4 Slides)
        iii. Summary (2 Slides)
4. Nurses Station
    a. Description of Space (2 Slides)
    b. Design goals
        i. Design concepts, how they build upon overall design goals (2 Slides)
    c. MAE Study
        i. Results of research on circadian rhythms and biological effects of light sources on nurses (2 Slides)
        ii. Impact on lighting design (2 Slides)

   d. Lighting Design
      i. Final solution including renderings, plans, equipment selection (4 Slides)
      ii. Summary (2 Slides)
5. Courtyard
   a. Description of Space (2 Slides)
   b. Design goals
      i. Design concepts, how they build upon overall design goals (2 Slides)
   c. Landscape Architecture / Architecture Breadth
      i. Intent and Concepts (1 Slide)
      ii. Changes to space (renderings and plan) (4 Slides)
   d. Lighting Design
      i. Final solution including renderings, plans, equipment selection (4 Slides)
      ii. Summary (2 Slides)
6. Summary and Conclusions
   a. Summary of solution related to original goals (2 Slides)
   b. Acknowledgements (2 Slides)
   c. Question and answer (1 – 3 Slides)

Wire Sizing / Voltage Drop Analysis

Presentation Outline:

- Building Overview
- **Electrical Depth**
  - **Feeder Redesign**
- Main Lobby
  - Mechanical Breadth
  - Lighting Design
- Nurses Station
  - M.A.E. Study
  - Lighting Design
- Courtyard
  - Architectural Breadth
  - Lighting Design
- Conclusion



Cost Analysis at 90% Demand Load - Existing vs. Increased Size				
	Existing Wire Size	1 Wire Size Larger	2 Wire Size Larger	3 Wire Size Larger
TOTAL COST OF ENERGY LOSS PER YEAR ($)	$73,145.73	$69,204.61	$66,361.10	$64,379.98
TOTAL COST SAVINGS IN ENERGY PER YEAR ($)	$0.00	$3,941.12	$6,784.63	$8,765.75
TOTAL INITIAL COST ($)	$974,846.50	$1,113,271.45	$1,208,319.38	$1,340,725.28
TOTAL INITIAL COST INCREASE ($)	$0.00	$138,424.95	$233,472.88	$365,878.78
SIMPLE PAYBACK PERIOD (YEARS)	-	35.12	34.41	41.74

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Building Overview

Building Statistics

Location: Oceanside, New York
Size: 160,000 SF
Cost: $64,100,000
Construction: December 2003 – May 2005

Project Team

Owner: South Nassau Communities Hospital
Architect: Cannon Design
Engineer: Cannon Design
Construction Manager: Bovis Lend Lease
General Contractor: KLMK Group

Main Lobby – Lighting Design

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Design Considerations

- *Appearance* - Create a lasting first impression
- *Architecture* - Build on initial concept
- *Impression* - Create a relaxing, spacious environment
- *Orientation* - Highlight points of interest
- *Circulation* - Encourage movement