Josh McCall
Dr. Riley
Construction Management

Bloomingdales
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Executive Summary

This technical assignment explores the areas of Bloomingdales that are believed to be good candidates for research, alternative methods, value engineering, and schedule compression which will be used in the final proposal.

On Thursday, October 12th 2006, I had the privilege of attending PACE Roundtable Conference at the Penn Stater Hotel and Conference Center. Before attending the Roundtable, I had a general idea of what I wanted to perform my research on 'big box' retailers and the development of green building construction practice within this sector. I further attended two more information sessions; BIM: Implementation Challenges, Building Respect w/ Owners and Operators. The following will discuss:

- Summarize key topics discussed in each session I attended.
- List the current industry members that have shown an interest in the attended sessions.

At the time my research concludes, I hope to further the progress made in the sustainable design industry on big box retailers and the construction practices used to answer all design needs. The problem identification section identifies several areas for future analysis as part of my senior thesis project. These areas include value engineering analysis, constructability review, and schedule reduction / acceleration. The value engineering items relate to the choice and/or use building materials for the exterior façade as well as the implementation or varying mechanical units. The Schedule Reduction will be focused primarily on the issues of redesign for merger of May Company and Federated Department Stores. Lastly, I have briefly summarized the methods that will be used to help analyze each technical area.

Critical Industry Issues

On October 12th 2006 I attended the PACE Roundtable event. At this event there where three information session of which I attended. The first was regarding start- up, operations and maintenance. Next, this was followed by the second session on the topic of modeling implementation and challenges facing Building Information Modeling technology. The last session attended to wrap up the afternoon was building respect with owners and operators.

Of the three sessions that I had attended I think the most interesting to me was the third, pertaining to owners and operators. A lot of what was discussed had already been covered by previous class work and common sense, but it was refreshing to hear it directly from industry members. They spoke of critical issues such as trust and honesty, but most of all how to gain these from both the owners side and the contractors side. Don't hide problems from the owner, instead present solutions and let them know where the project stands. Being honest with the owner and construction a quality project earns the respect of the owner and possibly to a solid relationship which will yield further endeavors, because the clients end view is the most important part of the project.

One way to establish this trust that was discussed was through the use of surveys or scorecards performed throughout the duration of the project. They help to identify any problems that need to be addressed and allows everyone to work towards a clear and defined goal.

A few ideas that I obtained from these sessions for research are decisions of Partnering and its pros and cons to this approach during a project. Or perhaps what all is involved in performance based contracting. After this session I had the chance to further discuss these ideas with a Mr. Robert Grottenthaler of Barton Malow and gained permission to consult with him on anything further for my thesis research in these areas. Mr. Grottenhaler seems to have an expansive experience in the construction industry and will be a great source of knowledge in this regard having work on both the owner and contractor side of construction.

Problem Identification

Construction Management

After the original design phase for the planned Hechts building, the company was bought out by parent company of Macy's Department Store. Macys parent company is Federated Department Stores which also owns Bloomingdales. This caused the following;

- A decision of which department store would now occupy the space.
- Whether a redesign was necessary or wanted.
- Would the stores employees be unionized, or was the choosen department store willing to unionize

Utilizing a few more VE items listed below may further decrease the overall cost of construction.

- The exterior glass and glazing has been estimated to cost roughly $1 million, including the skylight and curtain wall. Are there closer suppliers of the needed materials?
- Analyze where all material are being supplied from. Is there a possibility of meeting LEED standards to achieve a rating on this building?

Building Envelope

The existing building envelope construction is primarily of a precast panel system. What would be the cost benefits, if any, to utilize a hand laid masonry system?

Mechanical System

The current system is supplying heating and cooling through out the building using a whole system design. Is there any benefit to using electrical units where concentrated loads are needed such as the curtain walls, or skylight .

- Redesign the proposed AHU's with electric heaters and necessary connections. Analyze this option as a possible VE item.
- When adding electric heaters into the air handling units, is there a savings in cost?
- What effect will this have on the electrical demand and proposed distribution panel layout?

Electrical/Lighting System

One of Bloomingdales biggest concerns when obtaining the structure was the lighting used for the displays and how it would be used to disperse lighting through out the building to draw the consumers eye.

- How might this new lighting layout effect additional distribution panel requirements?
- Analyze the cost difference between changing the lighting system and resizing the mechanical equipment. Which is least expensive?

Critical Issues Researched Method

Of the issues that were presented at the PACE Roundtable sessions I was most intrigued by the issues presented in the last info session, regarding relationships, or lack there of, between owners, general contractors, and sub contractors.

My issue will be that of the ideal relationship between owner and contractor as well as that of GC and subcontractors. Identifying the issues that each party feels is the most important. This information will be analyzed and then compared to that of what is reported to be the relationships in reality. The issues that cause the most confrontation will be derived for this research allowing me to address how these issues commonly arise and what can be done to avoid them.

The goal in mind is to create an information survey allowing three entities involved in the construction process to address concerns and constructive critisim to relationships on projects.

- One for owner- contractor relationship, and one for contractor – subs.
- Allowing both sides to participate and state the views each has.
- I will then review these surveyes complying the information. With several industry professionals of varying position I will conduct interviews that while help to let all entities see what the other is experiencing.
- Present/Send feedback of the concluding information to the professionals involved.

Please note that these are all initial ideas and will be more focused when a survey is constructed.

Over several months, I will generate a survey for the entities involved in Bloomingdales project. This will add me in my research to discover why the original was extensively remodeled and possibly help to show methods to aid schedule compression.

Technical Analysis

Value Engineering

Brick design vs. Precast system

A value engineering suggestion for Bloomingdales will be the use of masonry brick in lieu of the precast system utilized for Shockey. This will require a detailed take-off of brick, mortar and horizontal reinforcement as additional material cost. A detailed estimate of the cost of the designed precast system will have to be calculated as well as a cost comparison so the alternate can be compared to the designed system.

Additional factors such as scaffolding cost, constructability of a masonry system under certain temperatures, associated labor costs, etc. which will have to be researched as my analysis progresses.

Addition of Unitary Systems

Redesign the proposed AHU's with electric heaters and necessary connections. This will be used for a possible value engineering suggestion as well. The addition of unitary systems will need analysis to account for the added cost for the electrical demand, redesign of the panel layout, added installation, delivery of the systems, and labor costs accumulated. Will these costs outweigh the costs of the reduced mechanical materials and the associated costs.

Project Redesign

This project was a unique one in regard to scheduling because the original schedule was to begin design phase during February 2004 with closeout and occupancy originally scheduled for October 15, 2006. With delays due to the buyouts and mergers involved between May Company and Federated Department Stores the date is now pushed back to August 07, 2007. Investigation of why the overly large delay in redesign will help to show where areas of the schedule could be compressed. I will look at expediting the release of the redesign, hoping to lead to an earlier occupancy date and reduce long term cost.

Weight Matrix

The following Table 1 represents how I plan to distribute my analysis of my thesis and how I will approach the different topics in the upcoming spring semester.

Weight Matrix					
Bloomingdales					
Description	Research	Value Engineering	Constructability Review	Schedule Reduction	Total
Precast vs. Brick	5	50	20	25	100
Unitary Systems	10	45	10	25	90
Redesign	10		45	45	100
Big Box Retail	75		25		100
Total	100	95	100	95	100%

Table 1