Eastside III

East Liberty, Pittsburgh, PA

Nina Italiano | Lighting + Electrical

Advisors | Kevin Houser

Spring Semester Proposal | Revised

January 17, 2017

Image courtesy of PJ Dick, Inc.

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| Building Overview

- Building Name | Eastside III Building B
- Location + Site | East Liberty, Pittsburgh, PA
- Building Occupant Name | Eastside Bond
- Occupancy or Function Type | Mixed Use Development

  Mixed Commercial Spaces

  175 Apartments

  Parking Facility
- Size | 221,000 total sf
- Number of Stories | 5 stories above grade + 2 stories below grade
- Primary Project Team

  Owner | The Mosites Company http://mosites.net/

  General Contractor | PJ Dick, Inc. http://www.pjdick.com/

  Architect | The Design Collective http://www.designcollective.com/

  MEP + FP | Allen & Shariff Engineering http://www.allenshariff.com/

  Structural | Structural Consultants Associates, Inc. http:/www.scaengineers.com/

  Interior Designer | RD Jones http://www.rdjones.com/
- Dates of Construction | June 2014 - June 2016

Part 1

Lighting Depth

Concept:

Eastside III is in the final phase of a revitalization project in the heart of the East Liberty neighborhood of Pittsburgh, PA. The City of Pittsburgh and its current gentrification trend has transformed once low value neighborhoods, like East Liberty, into high value metropolitan areas. Eastside III has brought in new market-rate housing and host of amenities to the area.

Though the present and future of Pittsburgh is exciting, new and promising, we cannot forget the roots of such a distinguished industrial and commercial city. The city's **industry** is what *makes Pittsburgh, Pittsburgh*. The steel industry, the bridges, the train tracks, the smog of the 1950's.

The lighting design throughout Eastside III will highlight and bring to life just that - the city, the town, and the building's **industry**. The strong interior design and architecture within Eastside III speaks for its industrial feel itself, and the lighting will simply *highlight* this prominent identity of Eastside III.

Throughout each space, the lighting design will call to attention the materials that gives each space its identity - its **industry**.

Part 2

Electrical Depth

System Redesign | Building Utilization + Equipment Analysis:

The utilization voltage of the residential portion of Eastside III will be converted from a 208/120V system to a 480/277V system. This change will require switching the current 208/120V transformer from the input voltage to a 480/277V transformer, resizing the switchboards and feeders, and installing a transformer for each meter of the residential section (4 total). The current feeder and equipment costs will be compared to the new cost of equipment and the electrical rooms on each floor of the residential housing will be resized to account for the new transformers.

Part 3

MAE Depth

Daylighting Analysis:

Within the amenity spaces of Eastside III, daylight is plentiful through the use of curtainwalls and building entrances. I will be analyzing these spaces, specifically in the Lower Level Lobby, Main Lobby, and Fitness Center, through an in-depth daylighting analysis. This analysis will determine current daylighting conditions within these spaces, such as useable daylight autonomy and glare. Since the lobby spaces are mainly used as transition spaces, I will also be studying the implementation of building façade materials that can be added to curtainwalls to create a patterned effect within the spaces. Glazing and building materials will be analyzed further to ensure maximum sustainable performance.

Part 4

Breadths

Mechanical Breadth:

Tying into the daylighting analysis, I will look into the HVAC effects from solar heat gain within the daylight plentiful amenity spaces of Eastside III. I will also consider mechanical heating and cooling loads within the newly designed electrical rooms of the residential portion of the building, being altered from my electrical depth.

Acoustical Breadth:

In addition to mechanical considerations within the electrical rooms, I will also look into the acoustical effects that the new transformers may create to the room's surrounding spaces. Since these electrical rooms will be near residential units, acoustics is a large concern for this private section of Eastside III.

| Part 5

Schematic Design Feedback

Lee Brandt | Horton Lees Brogden Lighting Design

- Very good approach with concept: highlighting the base architecture
- For the 3 concept space: since they are focusing on 3 different areas, think about what happens with their surrounding areas
    - What will the general lighting solution be?
- Presentation style and approach was view, but the images only provided one view
    - Think about what else is going on in the space
    - What is going on around the front desk? Not the only thing in the space
- Right idea in the Fitness Center - it did seem dark so painting the ceiling white and opening the space up is a good move
- The presentation could have used a better walk-through and less of a big concept
    - RCPs and plans could have helped this to give an understanding of the space's orientation

Mike Barber | The Lighting Practice

- Use baby steps to introduce your building - plans, section, guide the audience through
- Appreciated the presentation style and technique
- Lobby:
    - Look at it holistically
    - Concrete wall with glazing
    - Like the idea of uplighting the mullions - but think about the effects on the glass
    - Think about how the pieces work together for the common concept
- Billiard Room:
    - Probably going to need more lighting on the pool table than the cove
    - Pool tables need to have bright lighting
    - Decorative lighting over the pool table isn't a bad idea
- Exterior:
    - Present the lighting in layers, like the other spaces
- Use the laying approach when presenting the lighting, but using plans to guide through

| Part 5

Schematic Design Feedback Cont.

Ken Douglas | Illumination Arts

- Nice overall presentation
- Struggled with seeing the current images before presenting my design - do I have other images for these spaces, sketchup model, rendering, etc.?
- Original designer made really bold statements
  - Some of these statements takes away from my concept
- Fitness Center:
  - People are always on their backs looking up, so look at the downlight approach
  - Indirect lighting is good for this space
- Kitchen:
  - Be careful dropping in more dark surfaces, like the floating ceiling being introduced over the table
  - Think about what material this ceiling will be
  - Make the space open up. Since the materials are dark, you don't want it to feel like its closing in
  - Use vertical illumination to achieve that effect
  - Show the lighting effects of the Billiard Room in the Kitchen's rendering

Dr. Kevin Houser | Penn State University

- Look at the IES recommendations for a pool table

Craig Casey | Lutron

- Fitness Center:
  - The image made it seem like the dropped ceiling was dark, make sure to use a lighter color to open the space up
- Lobby:
  - Maybe make it less of a static environment - implement some type of dynamic lighting effect

Part 6

Schematic Design Feedback Takeaways

Follow-Up Action:

I will be altering some of my design development and presentation strategies throughout my Spring semester in response to the feedback from the professional designers and my professors during my schematic design presentation. I will be considering the following takeaways in more depth as I continue with my thesis analysis.

- Provide plans, sections, and additional 3D views of spaces to give audience a better understanding of the space and its surroundings.

  - Make sure the audience has a good understanding of the space and its relation to the surrounding building and its orientation.

  - Guide the audience through the building with an easy-to-understand walk-through.

  - The DD approach for each space will not only look at the direct lighting solutions for the specific room, but also how the surrounding lighting would effect the room.

  - Specifically in the Lower Level Lobby, where three lighting concepts are studied, consider what the additional lighting solutions will be within the space to achieve the various tasks.

- Continue to present lighting in layers during the presentation.

  - In order to understand the various lighting techniques of the spaces, a layering approach is effective for the audience to visualize the space.

- Look further into illuminance recommendations for billiard tables.

  - The designers suggested that a cove may not provide enough illuminance on the surface of the table and that an additional pendant over the table may be more desirable.

  - In response to this, I will look into adding a pendant over the pool table and analyze how this approach correlates with my design concept.

  - I will also further my cove lighting calculation to implement additional spotlight fixtures hidden within the cove to provide additional illumination at the task.

- Look into the material of the drop ceilings and be careful not to introduce more dark materials to already dark spaces.

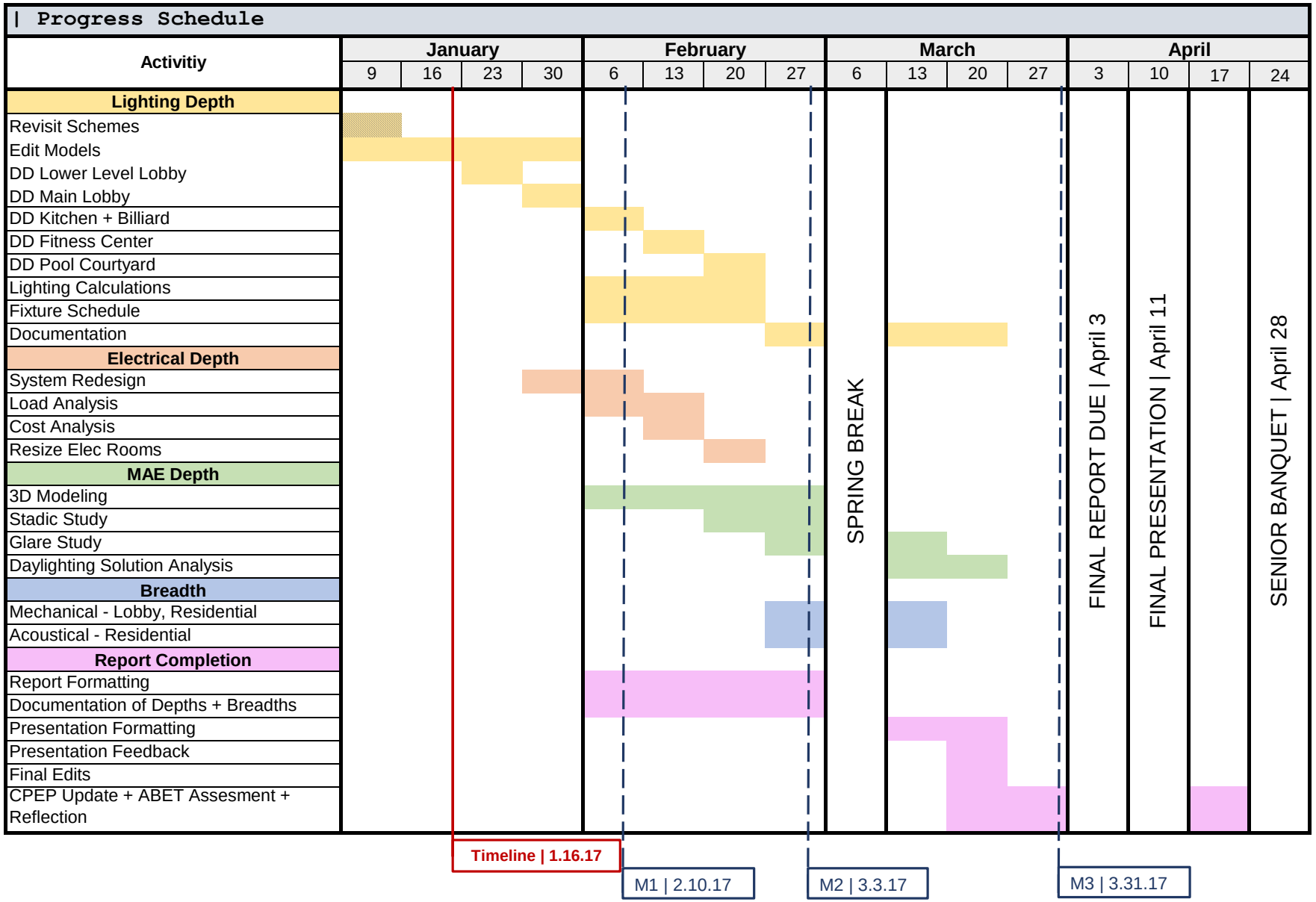
  - Since the drop ceilings and their correlating lighting solutions will be used to “open up” spaces such as the Kitchen and Fitness Center, the material must be light and reflective enough to achieve this goal.

- Consider a dynamic lighting strategies in spaces such as the lobbies, where there is flexibility with the lighting solution.

  - I will consider lighting strategies other than static solutions where there can be “play” within the spaces. These strategies may include some type of interactive lighting solution.

Nina Italiano | Lighting + Electrical | IP
Faculty Advisor | Kevin Houser
Eastside III | Pittsburgh, PA

| Progress Schedule



Milestone Dates	Items to be Completed
M1 | Friday, February 10	Begin design development and lighting calculations (lighting depth) and begin analyzing electrical depth.
M2 | Friday, March 3	Finalize lighting, electrical and MAE depths as well as mechanical and acoustical breadths. Continue layout of report.
M3 | Friday, March 31	All depths/breadths to be finalized and report completed. Begin laying out final presenation.