



ARCH 2330.SP15.KING

BUILDING TECHNOLOGY II

February 2015

Assignment Name: Team Project Review

Overview:

Working as a team analyze your selected project and provide a report for pinup and discussion at our next class meeting. To meet the deadline you will have to divide and conquer – splitting up the assignment tasks among your teammates. Your first job due by our next class meeting is to identify what is already in your project and what is missing and to make a preliminary attempt to modify your project as necessary. During the semester you will be expected to develop a great deal of detail in each category.

The following areas are to be reviewed and discussed:

Phase-1 Review: (1-5)

1. Structural Review:

Review your project for visible structural components, including columns, beams, etc. Is there any indication of structural systems (steel, concrete, wood?). Is there any indication of the structure of the floor or roof? Does the floor or roof show appropriate thickness for structure? Where does the project need short and long spans?

Working from the drawings provided locate a structural column system and develop a structural grid. Structural grid lines running horizontally (east-west) are to start with numbers running from right to left starting with 1 and grid lines running vertically (north-south) are to be letters starting with A heading up.

2. Mechanical Review:

Review your project for visible mechanical components. Is there a mechanical room? Is there any indication of fresh air intake and how air is circulated and returned both vertically and horizontally? Is there any indication that the floor to floors will allow for mechanical distribution?

Work out a preliminary sketch design for how mechanical systems will be distributed throughout the building both vertically and horizontally. Locate your mechanical room. Will you need to adjust the floor to floor heights?

3. Program Review:

Identify all spaces in the building and create a complete listing in table format. Measure rooms & calculate approximate square footages. The program should give the square footage of each space and count the quantity of each type.

Step 1: (Due next class) Compile the program into table format in either Word or Excel.

Step 2: (Due date to be set) Identify room occupancy from the code requirements for each use. (For example if the use specifies 75 sq. feet per person take the square footage of the space and divide to determine the correct number of occupants. Adjust the program as needed to create appropriate size spaces. For each space type identify needs of the use including furniture, finishes, lighting, ceiling heights, etc. and add this to the project manual to be compiled on the team OpenLab website.

4. Room Name and Numbering System:

Review the floor plans to identify space use & types.

Working with the program of spaces and the floor plans develop a logical room naming and numbering system for the project. Document this with the program in a table format in either word or excel. Discuss what makes a good system with your team and be prepared to discuss it in class.

5. Egress Study:

Analyze the drawings to identify the egress routes from the building. Are there two means of egress as needed according to code? What is the required width of exit doors from rooms, widths of corridors and of fire stairs? Do doors open in the correct direction?

For your first egress review, markup a set of plans indicating routes of egress both horizontally and vertically. List any deficiencies in the current building.

You will do a second assignment later in the semester which will be a more detailed code study and egress review of your building which will clarify the requirement for two means of egress, door, corridor and stair widths.

Phase-2 Review: (6-15)**6. Exterior Wall and Elevations:**

Review your project building elevations. Is there any indication of materials either directly through labels or can you infer materials based on rendering? Are there punched openings or masonry wall construction or does the façade make use of precast panels and curtain walls?

Working with the existing elevations, add labels to identify materials and exterior wall construction. If it is unclear propose appropriate materials for the façade.

7. Fire Ratings & Partition Type Study:

Review the plans and your egress requirements and identify where walls will need fire ratings. Determine their rating (unrated, 1HR, 2HR, 3HR etc.) and develop options for wall construction for each type (GWB, Concrete Block, etc.)

The first part of this assignment is to study your floor plans and develop a system of rated enclosure to protect occupants of the building. The second part of this assignment which is to be completed by each member of the team is to draw all required partition types for the project. Teams may share research and their floor plan studies but may not share their partition type drawings.

8. Stair Plan & Section Study:

Working from the given floor to floor heights shown complete stair studies in matching plan and section. Are there enough stairs? Are they located properly? (1/2 or 1/3 diagonal distance). Does at least one stair exit directly to the street? Are the stairs laid out properly? Are they correct to both building code and ADA (American Disabilities Act) code?

Each team member is to draw plans and sections of the buildings stairs. Be certain to first adjust the necessary floor to floor heights to allow for the distribution of mechanical systems. Review code and be certain your do not exceed the permitted rise before a landing is required. These drawings must be clearly labeled and your rise run calculations must be shown.

9. Core Studies:

Review the existing plans and locate the existing vertical circulation cores, including elevators, escalators and stairs. Working as a team determine the required number of elevators and their types (Passenger or Freight, Traction or Hydraulic, etc.)

Each team member is to draw different options for core plans for the building. One option may be selected by the team and shared by the group or each team member may choose their own option. If core layouts are shared each team member must develop their own drawings.

10. Service Core Studies:

Identify locations of bathrooms and electrical, Information Technology, Janitor & Storage closets. Develop appropriate layouts for each and adhere to Building and ADA code as required.

Each team member is to draw different options for service core spaces for the building. One option may be selected by the team and shared by the group or each team member may choose their own option. If service core layouts are shared each team member must develop their own drawings.

11. ADA Code Review:

Review the project to determine adherence to ADA code. Made modifications as needed.

Each team is to develop a listing of needed ADA diagrams & relevant ADA code sections to be included in the final set. Teams may share their research but each team member is to develop their own drawings. Both ADA diagrams and code excerpts are required on the sheets.

12. Materials Development:

Review the project to see if interior materials are identified either through the use of labels or rendering. Develop a materials scheme for each use type in the building. What is the appropriate material for floors, walls, door & ceilings etc? Compile this information with the program study completed earlier in the semester.

Each team is to develop a project manual indicating project materials. This document may be shared by all team members.

13. Reflected Ceiling & Lighting Development:

Develop appropriate reflected ceiling plan and lighting solutions for each space. Project teams may share this research and the listing of selected lighting fixtures are to be added to the team project manual. Each team member must draw their own reflected ceiling plans.

14. Site inventory and Analysis:

Working as a team visit the site and develop a detailed site inventory. Review the needs of the project and categorize site inventory as either an asset or liability. Develop a strategy for minimizing liabilities and taking advantage of site assets. As a team produce Inventory and Analysis drawings.

Each individual team member is to produce their own set of site sketches.

15. Zoning Study:

Working as a team complete a zoning study, reviewing zoning maps and relevant zoning code. Zoning study sheets are to include both zoning drawings (site plan, sections, isometrics, etc.) and relevant zoning text and calculations. Teams may work together to compile their research but each individual must produce their own set of zoning sheets.

Submittals & Deadline:

Work must be submitted on time. Work is to be posted both on OpenLab and Blackboard.

Oral Presentation:

Teams should be prepared to provide an oral presentation of their work. All team members must participate.

Comments by Other Teams:

Comments by other teams are important to the process. Should a team disagree the other teams will review the issues and will vote and will make final recommendations that the team will needs to follow.

Grading

Each team member will be graded both as a group and as an individual.