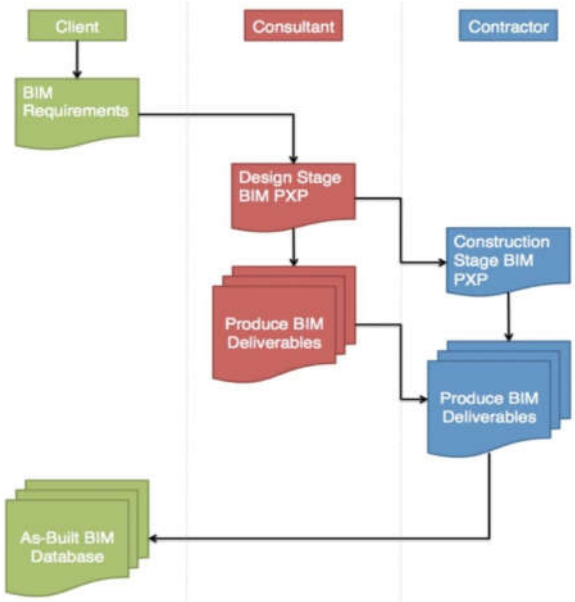
SBM5103 BIM Project Execution & Management

http://ibse.hk/SBM5103/

Assignment 01: BIM Project Execution Plan



(Image source: CIC Building Information Modelling Standards (Phase One))

The BIM Project Execution Plan defines uses for BIM on the project (e.g. Design, authoring, spatial data management, design coordination, construction operations, change management, works coordination, facilities management with energy data management etc.) along with a detailed design of the process for executing BIM throughout the project lifecycle. To successfully implement BIM, the project team must perform detailed and comprehensive planning. A well-documented BIM Project Execution Plan will ensure that all parties are clearly aware of the opportunities and responsibilities associated with the incorporation of BIM into the project workflow.

Objective

- To understand all the elements of formulating a BIM Project Execution Plan (PXP)
- To study the key issues and conditions of a successful implementation of BIM PXP
- To apply the learnings for managing a building project in Hong Kong with better outcomes.

Scenario

A real estate development company is to develop and build a new prime office building with 3-storey shopping mall and 22 office floors at Causeway Bay. The full project life cycle has to adopt BIM as core digital platform for design, procurement, construction and facilities management. The BIM model has to be up to LOD 400 incorporating FM elements in order that the future property management team could have a complete BIM platform for energy assessment and green building operational management.

As the BIM Manager of the client, you are required to prepare the BIM Project Execution Plan for overall planning of BIM implementation for the project. The success of the project relies on better planning at the start including formulating the client's brief of BIM requirements, at the design stage collaborating with all stakeholders, at construction stage handling design amendments and at property management for energy consumption monitoring and control.

In your proposal, you should demonstrate the planning process including :-

a) Identify high value BIM uses during project planning, design, construction and operational phases;
b) Design the BIM execution process by creating process maps;
c) Specify BIM deliverables in each stage;
d) Formulate the infrastructure in terms of communication platform and procedures, software specifications and requirements, power users for implementation in order to achieve the prescribed goal and mission.

Submission

Each student should prepare the proposal in the form of a written technical report which will be read by the senior management of the company. The report should be not more than twenty (20) A4 pages including appendices. It should be neat and properly written and organised to communicate your thoughts and ideas. Proper credit and referencing should be provided to the information sources. Students making direct copy of the information in other publications or sources (plagiarism), if found, will be disqualified. The report electronic file should be submitted through the Moodle system. The assessment criteria include quality of the content, organisation, clarity of thought, and report/proposal writing skills.

Submission deadline (via Moodle): [Refer to the information on Moodle]

Resources

Building information Modelling Execution Planning Guide 1 – VDC https://vdcscorecard.standford.edu
BIM Project Execution Planning Guide – Penn State (Evaluating the Impact of BIM on Project Performance) https://www.bim.psu.edu
BIM Project Execution Plan Guide – ResearchGate https://www.researchgate.net
Section a: BIM Project Execution Plan overview – AWS https://app_gsagov_prod_rdcgwaajp7wr.s3.amazonaws.com

References

CIC, 2015. *CIC Building Information Modelling Standards (Phase One)*, First version – 30 September 2015, Construction Industry Council, Hong Kong. https://www.cic.hk/files/page/51/CIC%20BIM%Standards_FINAL_ENG_V1.pdf

BCA, 2013. *BIM Essential Guide for BIM Execution Plan*, August 2013, Building and Construction Authority (BCA), Singapore. https://www.corenet.gov.sg/media/586149/Essential-Guide-BEP.pdf

Assessment Criteria and Rubrics

Assignments are evaluated based on whether a student has presented ideas in such a way that reflects integration of course material and critical thinking skills. Grades are assigned not according to competition among students (who is "the best") but according to expectations for a particular assignment relative to the material covered in class up to that point.

This assignment requires students to study the elements of BIM Project Execution Plan (PXP) and apply the PXP skills for a building project in Hong Kong. The submission should indicate synthesis of ideas and good understanding of the key issues and conditions of a successful implementation of BIM PXP. The assessment rubrics are shown as follows.

Criteria (weighting%)	**Levels of performance and grades**			
	Insufficient (1) F	**Acceptable (2) D & C**	**Good (3) B**	**Excellent (4) A**
Content (40%)	Shows some thinking and reasoning but most ideas are underdeveloped and unoriginal.	Content indicates thinking and reasoning applied with original thought on a few ideas.	Content indicates original thinking and develops ideas with sufficient and firm evidence.	Content indicates synthesis of ideas, indepth analysis and evidences original thought and support for the topic.
Organization and writing (20%)	Writing lacks logical organization. It shows some coherence but ideas lack unity. Serious errors.	Writing is coherent and logically organized. Some points remain misplaced and stray from the topic. Transitions evident but not used throughout essay.	Writing is coherent and logically organized with transitions used between ideas and paragraphs to create coherence. Overall unity of ideas is present.	Writing shows high degree of attention to logic and reasoning of points. Unity clearly leads the reader to the conclusion and stirs thought regarding the topic.
Clarity and coherence (20%)	All the information is not clearly presented. Lack of coherence and logical consistency.	Some information is not clearly presented. Weak coherence and logical consistency.	The information is clearly presented. Logical interconnection and consistency are shown.	The information is clearly and effectively presented. Good coherence and logical consistency are demonstrated.
Critical thinking and Innovation (20%)	No critical thinking or innovative ideas are applied.	Some attempts to propose critical thinking or innovative ideas.	Critical thinking or innovative ideas are proposed, but no justification.	Critical thinking or innovative ideas are proposed with evaluation and justification.

Remark: To avoid plagiarism, all sources used in the report should be acknowledged and referenced throughout, in accordance with the preferred method of academic professionals.