UNIVERSITI TEKNOLOGI MARA

ECS 358
CIVIL ENGINEERING DESIGN PROJECT

REINFORCED CONCRETE BUILDING DESIGN PROJECT

PROJECT BASED LEARNING (CASE STUDY)

MUHAMMAD EIMIR IDHAM BIN BUANG

(2018267772)

DIPLOMA

AUGUST 2021

ACKNOWLEDGEMENT

Bismillahirrahmanirrahim and Assalamualaikum.

First of all, praises and thanks to ALLAH SWT for His showers of blessing throughout my completion process of final year project (FYP). The time and all the hard work that I put in this project was very useful and from this project, I gained so much experience for my final year project. In order to complete this task, I have tried my best in order to complete it within the time given and of course, this project would not have been possible done without the kind support and assistance of many individual and parties and I am grateful for that. I would like to extend my sincere thanks to all of them. I would like to express my appreciation to my ECS358 lecturer, Sir Ahmad Idzwan bin Yusuf for his guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project. A lot of help, time and ideas has been given by him. Its effort has been appreciated. Next, I also would like to express my gratitude towards my parents, my family and to member of my classmates for their kind cooperation and encouragement which help me in completion of this project. Lastly, I would like to extend my gratitude to the people that have been helping me, indirectly or directly all this time in order to complete this final year project. Without them, surely, this project cannot be done with successful.

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1.1 INTRODUCTION

1.1.1 REQUIREMENT OF BUILDING BY LAW & SAFETY REGULATIONS

UNIFORM BUILDING BY LAW (UBBL)

Malaysia's building regulations are based on the Street, Drainage and Building Act. 1974 (Act 133) and its subsidiary, the Uniform Building by Laws 1984 (UBBL 1984). These legal instruments stipulate the procedures for building plans approval and other means of development and construction control.

- *Submission of plans for approval*

  All plans for building submitted to the local authority for approval: -

  i) Be deposited at the office of local authority together with the fees
  ii) Showing for what purpose the building to be erected and used
  iii) Certification of the qualified person which they are respectively responsible
  iv) Site plan approved by the competent planning authority and certified within 12 calendar months

  All of the documents are to be submitted to the Seri Alam Properties Sdn. Bhd. for approval. We need the approval to continue our construction. Other than that, the documents needed have to be submitted to the MBJB.

- *Supervision of work*

  Where under these By-laws any plans, drawing or calculations in relation to any building is required to be submitted by a qualified person, no erection or continued erection of that building shall take place unless that qualified person or any person duty authorized by him undertakes the supervision of the erection and setting out, where applicable of that building. All plans, drawings or calculations for our construction are made by the authorized engineer in order to avoid any miscalculation or wrong drawings. The engineer himself submits all the documents needed to the local authority as mentioned.

3.0 CONCLUSION

3.1 SUMMARY OF DESIGN WORKS

The structural drawing is important ın a construction of a building to ensure that the structure/building withstands the entire probable loads for a stipulated period. The design also takes care of durability issues like cracks, leakage, excessive vibrations and deflections. This means, carefully structurally designed buildings take care of safety and well-being of its occupants. This project not only enhances student knowledge about course code ECS 338 & ECM 366, students can also use the knowledge while working in real engineering field. In addition, this project also can motivate ourselves in time management by dividing the work according to the calculation of each building structure. From that, we can apply this good attitude in real life as engineer in future. A good relationship between lecturers can also be nurtured through this project as well as through questionnaires in the classroom. Not forget to all my fellow friends that been solving problems together through thick and thin. Without them, my project will not be successful. This project should be continued and assigned to students in future to fulfil the course and learning outcomes of EC110 ın UITM Pasir Gudang.

3.2 RECOMMENDATION

From this design project, we are able to apply basic knowledge of engineering design in reinforced concrete (RC). Engineering problems also were capable to be identified, formulated and solved. The standard parameters such as strength of steel (f_{yk}) used in the real industry were also obtained. Besides, this design project also enhances me to be a great leadership as an engineer in nowadays and for the future. For the future recommendation, by using a software such as Prokon and AutoCAD helps me a lot to analyse, interpret data and develop engineering drawing. It means that, technology is very important to analyse the data about designing structure in engineering life. The manual calculation that we done, just for us as a student to know and gain more knowledge about structural design. From there, we can see that there are two methods of calculations we can use in order to get the real data about our project. Lastly, we also can compare the both data with different methods and use the most suitable one to analyse and interpret data in engineering drawing.