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UNIVERSITI
TEKNOLOGI
MARA

ECS358

CIVIL ENGINEERING DESIGN PROJECT

TECHNICAL REPORT

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UNIFORM BUILDING BY LAW (UBBL)

BUILDING SITE

Any building site must have a layer of rammed-solid hill earth, hardcore, clinker, or ash covering the whole ground surface, with a minimum thickness of 0.305 meters, before any buildings may be built there. This involves packing it full of material that has been infused with plant or animal stuff. Before any work can start, the building site must be totally cleansed of turf and other plant waste the time frames.

VEHICULAR ACCESS TO SITE

Limited to certain hours in order to prevent impeding traffic flow when deemed necessary.

Building materials

1. include any materials used:

(a) in building construction.

(b) in building structural alterations or extensions.

(c) in carrying out work or installing fixtures, which are fixtures to which any of these By-laws apply; or

(d) in backfilling excavations on a site in relation to any building or fixtures to which any of these By-laws apply.

(aa) of a kind and calibre appropriate for the uses and circumstances in which they are used.

(bb) sufficiently combined or prepared; and (cc) appropriately applied, utilized, or fastened to suitably carry out the purposes for which they are intended.

2. If the method or material is appropriate for the purpose and conditions for which it is used, it will be considered sufficient compliance with the requirements of paragraph (1) of by-aw

53. This includes any method of applying, using, or fixing materials that complies with a Standard Specification or Code of Practice that specifies the quality of material or standards of workmanship.

SUMMARY OF DESIGN

In conclusion, the construction sector makes extensive use of reinforced concrete. Reinforcement concrete is used in most modern buildings to boost their structural integrity. The backbone for building design is the civil engineer. In the unfortunate circumstance that a civil engineer makes a poor decision when designing a building, it may not succeed or last long. From the architectural drawing that I got from my uncle, an architect at Sabah, I have to analyse and understand the building layout, dimensions, floor plans, ground floor plan, roof plan and functional requirements. Evaluate the overall arrangement of spaces within the building and connection between them. From the analysed drawing, I can transfer the architectural drawing to structural drawing to make easy to know the suitable places to put the beam, column and slab. Based on the architectural drawing, I can identify the live and dead loads that acting on the structure.

For slab, I have to choose one of the bigger and critical slab from the structural drawing. The slab that I designed was at first floor plan which is the slab with the biggest span. I have to determine the shear and moment for the slab by using manual calculation. I have to determine reinforcement layout such as the size and spacing to resist tensile and shear forces. The important part is to checking the deflection and also the cracking to make sure the designed is pass. After that, I have to prepared detailed drawings with reinforcements layouts, bar schedules, dimensions and specifications for each element. Same with designed continuous beam, column and also pad footing. Moreover, I have to designed staircase by using manual calculation since this project is two storey house.

The software that I used for this project is esteem. I have to compared the manual calculation with esteem software. Some of the value from the esteem software is not same with the manual calculation because of the different formula.

Apart from that, I can finish the project schedule, time frame, and activity list details. With Microsoft Project, the project is finished by using the Work Breakdown