



اَوْنِبُوْ رَسِيْتِيْ بِاَتِيْكَوْ لُوْ كِيْ بِاِمَارَا
UNIVERSITI
TEKNOLOGI
MARA

ECS358

CIVIL ENGINEERING DESIGN PROJECT

TECHNICAL REPORT

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Lastly, I am grateful to all those who contributed, directly or indirectly, to the completion of this ECS 358 final year project. This journey has been challenging, but the presence of these wonderful individuals has made it truly rewarding. Thank you from the bottom of my heart.

ARRANGEMENT OF BY-LAWS

PART V - STRUCTURAL REQUIREMENTS

By-Law 53. Building materials.

By-Law 54. General requirements of loading. By-Law 55. Dead and imposed loads.

By-Law 56. Dead loads calculated from weights of materials used. By-Law 57. Weight of partitions.

By-Law 58. Contents of tanks and other receptacles. By-Law 59. Imposed floor loads.

By-Law 60. Mechanical stacking.

By-Law 61. Imposed loads on ceilings, skylights and similar structures. By-Law 62. Reductions in total imposed floor loads.

By-Law 63. Imposed roof loads. By-Law 64.

Curved roofs.

By-Law 65. Roof coverings.

By-Law 66. Internal suspended load on primary structural members. By-Law 67. Amount of suspended load.

By-Law 68. Dynamic loading.

By-Law 69. Crane gantry girders.

By-Law 70. Parapets and balustrades.

By-Law 71. Vehicle barriers for car-parks. By-Law 72.

Basement walls and floors.

By-Law 73. Foundations.

By-Law 74. Foundations of buildings not exceeding four storeys. By-Law 75. Reinforced concrete foundations.

By-Law 76. Strip foundations. By-Law

77. Brick footings

By-Law 78. Foundations below invert of drains.

By-Law 79. Foundations under external and party walls. By-Law 80. Structure above foundations.

CONCLUSION

Our main goal in this project is to ensure the building is safe and reliable, especially in terms of fire safety, by strictly following the Uniform Building By-Laws (UBBL) requirements. Adhering to these rules is crucial to prevent accidents and protect both the building and its surroundings. Working closely with an architecture company, I gather detailed drawings and create designs for structural elements like slabs, beams, columns, staircases, and footings during the architectural phase. I use design calculations for key components such as two-way slabs, flanged beams, short columns, and staircases with landings.

To ensure accuracy, I validate our designs by checking computer-generated data against manual computations, fixing any discrepancies. During construction, I use Prokon software to design strong foundations, and for budgeting, I estimate costs by considering quantities, using Microsoft Excel for clarity. My aim is to design structures that are safe, reliable, and cost-effective while meeting all safety regulations.