

PROPOSED PEDESTRIANS AND MOTOR-CYCLISTS BRIDGE AT JALAM BALAKONG IN SERDANG

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ABSTRACT

This project report consists of seven major parts which includes the preliminary location survey at Jalan Balakong, loads analysis, structural analysis, steel and reinforced concrete design for the structural members, entrance and exit design for the bridge, cost estimation of the project, detailed plan layout, and the advantages and disadvantages in terms of the materials used in constructing the bridge.

In the preliminary location survey, the actual location for proposing the bridge is determined. Besides this, the results of the survey such as number of people who are crossing the roads are included in this section. The purpose of this survey is to determine the needs of constructing the bridge. Then, the loads analysis BS 5400 Part2: Specification of Loads for bridge. The most adverse loading combination will be determined in this section before design is started.

Structural analysis is carried out and it is followed by steel and reinforced concrete design by using BS8110 Part1, Part3, and BS5950 part 1. The design is concentrating in ultimate limit state to ensure the structure to withstand with an adequate factor of safety against collapse. The outcome of each design is noted and the total amount of materials used is calculated. Bill of quantities is prepared and the budget of the project is determined. The detailed plan layouts are included in the following section. Lastly, the comparison between the pros and cons of the steel and reinforced concrete structure and determined.