

***PREPARATION OF BAR BENDING SCHEDULE (BBS)
INTEGRATED WORKSHOP BUILDING PROJECT,
POLYTECHNIC OF BENGKALIS (CASE STUDY: BBS FOR
COLUMN AND BEAM STRUCTURES)***

Student Name : RENOL KRISNA SINAGA

Student ID Number : 4103230008

Supervisor : Ir. ARMADA, S.T., M.T.

ABSTRACT

Bar Bending Schedule (BBS) is a document used to determine reinforcing steel requirements based on reinforcement details in working drawings, thereby supporting fabrication efficiency and material control. This study aims to prepare a BBS using Microsoft Excel for the Integrated Workshop Building Construction Project of Politeknik Negeri Bengkalis, focusing on beam and column structures, evaluate the conformity of reinforcement details with SNI 2847:2019, and compare the BBS results with the *Bill of Quantity* (BOQ). The research method used is descriptive quantitative based on *shop drawing* data through reinforcement detail identification, determination of reinforcement diameter and quantity, calculation of reinforcement length and weight, and BBS preparation. Several incomplete reinforcement details were found in the *shop drawings*; therefore, modeling and detailing were carried out using Autodesk Revit with reference to SNI 2847:2019. The results show that the reinforcement requirements based on the BBS were 156.158 kg for column CC1, 795.119 kg for column CC2 *Reinforcement Quantities*, 1,317.574 kg for column CC2 *Staircase Housing*, and 2,098.844 kg for beam CB3, with a total of 4,367.695 kg. Meanwhile, the total requirement based on the BOQ was 4,548.641 kg, resulting in a difference of 180.946 kg or 3.98%. The difference was influenced by incomplete reinforcement details in the *shop drawings* and differences in reinforcement quantity calculations. The evaluation results indicate that the reviewed reinforcement details were adjusted to comply with SNI 2847:2019. Microsoft Excel can be effectively used to prepare a systematic BBS and support the calculation and control of reinforcing steel requirements.

Keywords : *Bar Bending Schedule, Columns and Beams, Autodesk*

Revit, Microsoft Excel, SNI 2847:2019.