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FINAL YEAR PROJECT: STRUCTURAL DESIGN OF GWERU PASTORAL CENTER

CIVIL AND WATER ENGINEERING

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Abstract

The document is final year project for a Bachelor's Degree in Civil and Water Engineering. The student carried out the structural design of Gweru Pastoral Center. Full application of structural analysis and design courses learnt was required from the student. The project is a test of the student's competence in terms of engineering judgment, time management and the actual knowledge of structural design of reinforced concrete and steel structures.

The project entails the design of the structure stability, durability, safety and cost effectiveness. The student implored different methods and applications to produce accurate designs in accordance to the British code of practice and standards. Prokon was used in the analysis of some of the beams and slabs otherwise tables in the code were used to analyse concrete elements. The student provided manual calculations to show the detailed design and all other similar members analysed and designed using Microsoft Excel. Formulas for design are programmed on excel spreadsheets and the results tabulated.

The objective of the project is also to produce accurate drawing that are clear and can easily convey information to the user/contractor/steel fixer. Drawings are produced to appropriate scale and orientation. AutoCAD applications are the best tools for draughting and the student used AutoCAD 2004 and AutoCAD 2010 to produce all required drawings.