

19.0 STRUCTURAL DESIGN 2

19.1 Standards..... 2

19.2 Preamble 2

19.3 Geotechnical Investigation..... 4

19.4 Design Loads for Floors 5

19.5 Reinforced Concrete Members 6

19.6 Structural Steelwork 7

19.7 Timber Framing..... 7

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All structures shall be designed to withstand all applicable loadings with all appropriate factors of safety (load factors and load reduction factors) applied.

As a minimum the following information shall be noted in tabular form on the structural drawings approved for construction:

- Design superimposed dead loads
- Design live loads
- Special design live loads in localised

A geotechnical investigation and report shall be mandatory for all new buildings. The structural consultant shall provide the geotechnical investigation brief on behalf of the University.

At the commencement of any new project, any existing geotechnical investigations within the

Superimposed dead loads and live loads and load combinations for floors shall generally be in accordance with AS 1170.1 for the proposed use or uses of the building. All other expected loadings which cannot be derived from AS1170 (eg equipment loadings) shall be obtained from the relevant organisations. Flexibility for future changes in occupancy and floor loads should also be considered at the commencement of the project in consultation with the University.

All floor and roof loadings shall be determined for each specific zone and use within the structure, however the following minimum live loadings shall apply:

- Office areas – 4.0kPa
- Internal stairs, landings & foyers – 4.0kPa
- Plant rooms – 5.0kPa
- Basements – 5.0kPa
- Non-trafficable Roofs – 0.25kPa

Provision shall be made for compactus storage as follows:

The floors shall be designed for the specific compactus locations nominated in the brief,
The floors shall be designed for additional possible compactus locations in all general office and administration areas in locations to be agreed with JCU,

confirmed with JCU.

The design live load for library stack areas shall be derived from the shelving manufacturer's specifications, but in no case less than 6kPa up to a maximum shelf height of 2.3m. For heights greater than 2.3m the load shall be determined specifically.

Design floor loads for special use areas shall be determined by the structural consultant in consultation with the University.

Floor slabs shall be designed for the following general criteria:

- The most economical construction method to suit the project eg flat slabs, drop panels, slab and beams, post-tensioned etc.
- One criterion

