

13 September 2023

Our Ref: 2022-074

[REDACTED]

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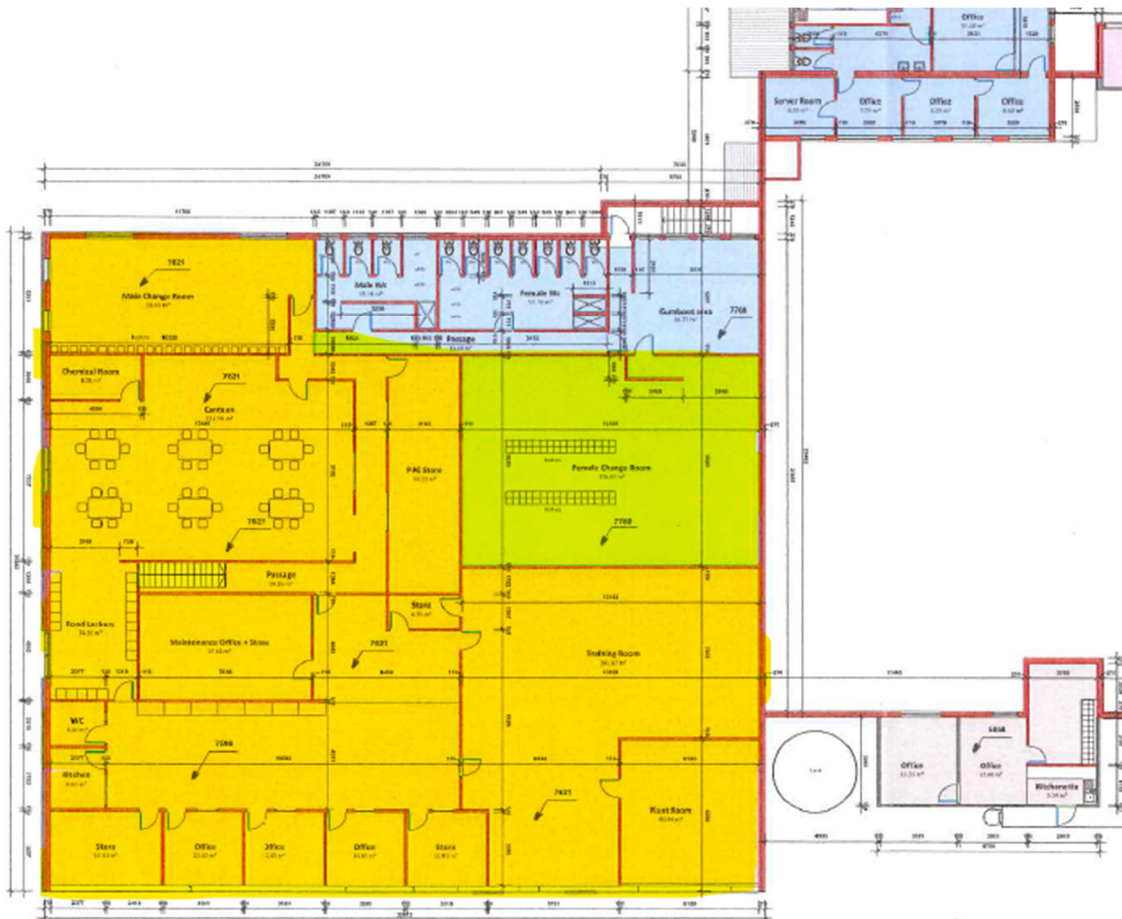
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VERIFICATION AND CERTIFICATION OF THE EXISTING TIMBER FIRST FLOOR IN THE [REDACTED] BUILDINGS, PORT ELIZABETH:
Structural Certification

[REDACTED] requested Burden Consultants to verify and certify the load carrying capacity of the existing timber first floor of the [REDACTED] Buildings in the Port of Port Elizabeth as marked on the below sketch. A report was submitted on 30 January 2023 certifying all areas, except area D, to be able to accommodate 200kg/m². [REDACTED] subsequent request Burden Consultants to design and detail strengthening of area D floor to also accommodate 200kg/m², which was done.



1. TIMBER FLOOR DETAILS

The timber floor is constructed as follows:

- 22mm Tongue & Groove boards on SAP bearers on steel beams.

2. DESIGN ASSUMPTIONS

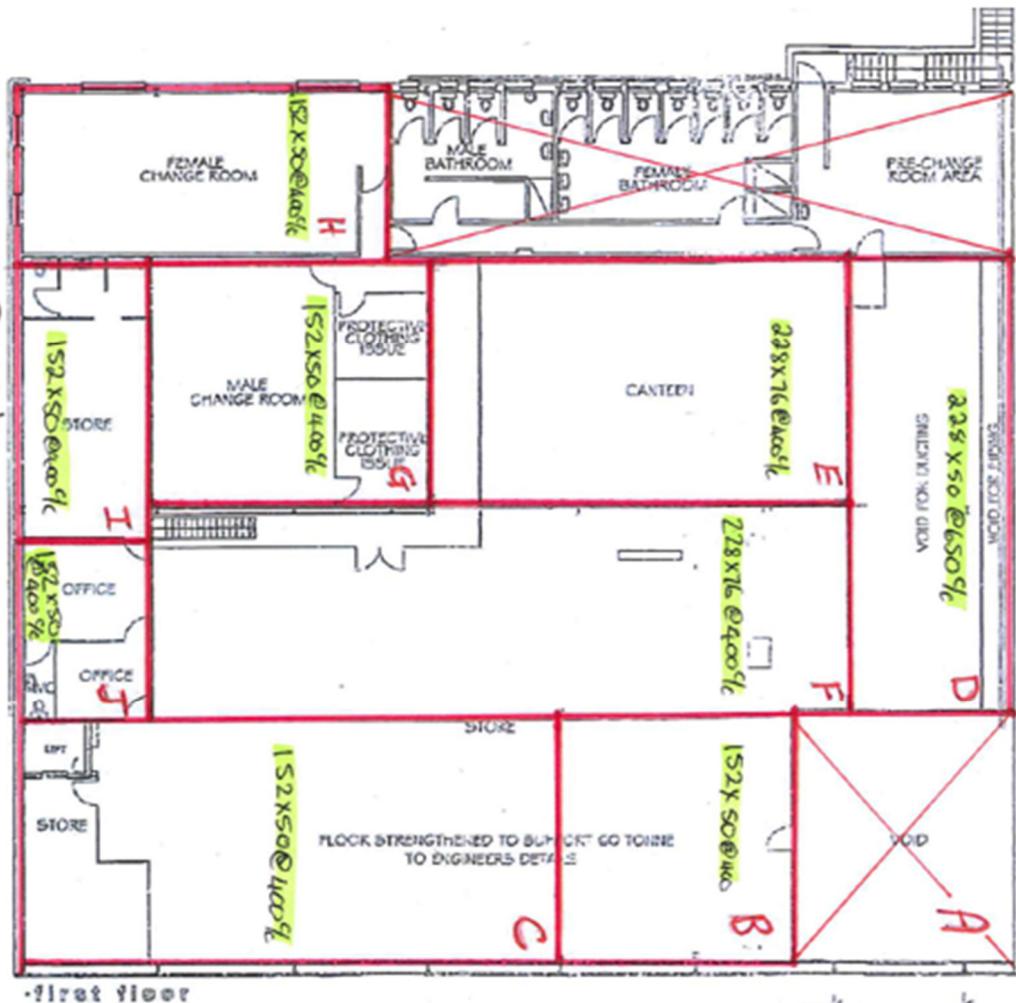
The following design assumptions were made for verification calculations:

- All timber bearer beams are simply supported;
- All timber beams are continuous laterally supported;
- Deflection limits were set at span/300;
- The timber is graded Grade 6 SAP.

3. STRUCTURAL VERIFICATION

The timber structural elements were verified in accordance with SANS 10163-1:2003: The structural use of timber. The members were checked for deflection, lateral stability, cross-sectional strength, and over-all strength.

The connections have been found to be the limiting factor for the calculation of the load capacity of the structure and were calculated as 200kg/m² for areas B, C, D, E, F, G, H, I and J as marked on the below sketch.



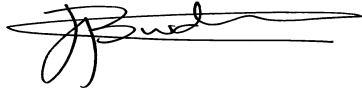
4. STRUCTURAL CERTIFICATION

We hereby certify that the timber floors in the [REDACTED] buildings have a design maximum load capacity of 200kg/m² for areas B, C, D, E, F, G, H, I and J provided the timber members are regularly inspected and maintained in a good condition.

I trust this meets with your approval.

Yours faithfully

BURDEN CONSULTANTS

A handwritten signature in black ink, appearing to read 'J Burden', written over a horizontal line.

Jasper Burden PrEng
(ECSA Reg. 950572)