

20260118
14 May, 2026

Calare Civil Pty Ltd
ABN 41 050 057 933
170 Rankin Street
Bathurst NSW 2795
58 Main Street
Lithgow NSW 2790

Helen Kowal
25 Madeira Rd
Mudgee NSW 2850

Dear Helen

RE: 25 MADEIRA ROAD MUDGEE

General

We confirm that we have carried out a site inspection (12/5/26) and engineering assessment at the above site. The purpose of our work was to provide engineering advice for the following:

1. Replacement of concrete slab in ensuite/walk-in robe.
2. Design of support beam in cellar to allow removal of existing post.
3. Design of bearers and joists structure for remediation of veranda/porch.

To assist in our work, we have accessed on-line floor plans.



Assessment Criteria

The designs have been carried out in accordance with the following Standards Australia Codes of Practice:

- AS/NZS1170.0:2002 Structural Design Actions: General Principles
- AS/NZS1170.1:2002 Structural Design Actions: Permanent, Imposed and Other Actions
- AS/NZS1170.2:2021 Structural Design Actions: Wind Actions
- AS/NZS1170.3:2003 Structural Design Actions: Snow and Ice Actions
- AS 1170.4:2007 Structural Design Actions: Earthquake Actions in Australia
- AS 4055:2021 Wind Loads For Housing
- AS 2870:2011 Residential Slabs and Footings
- AS 4100:2020 Steel Structures
- AS 1720:2010 Timber Structures
- AS 1684.2:2021 Residential Timber-framed Construction – Part 2: Non-Cyclonic Areas
- AS 3700:2018 Masonry Structures

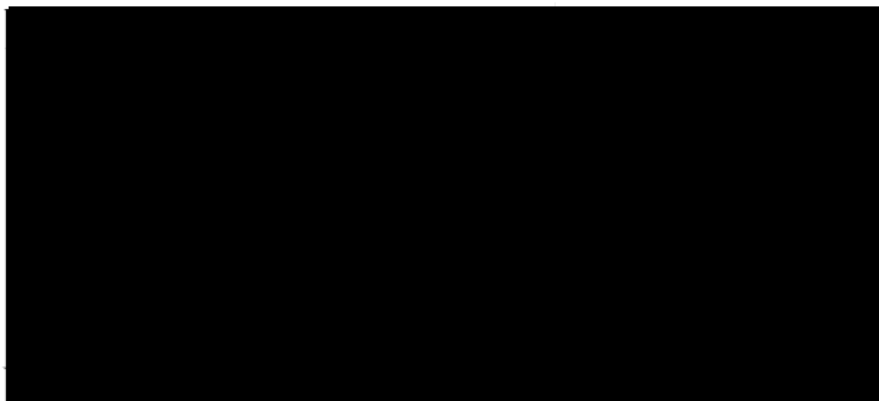
Ensuite Slab

The existing bathroom slab shall be carefully demolished and removed in sections, whilst not disturbing the perimeter load-bearing walls.



The new slab specifications shall be as follows:

- 100mm thick reinforced with SL72 mesh top (concrete strength N25)
- Under slab membrane 0.2mm high impact vapour barrier to AS2870.
- Stitch new slab to adjacent slabs w/N12 bars drilled and epoxied at 400mm crs (150 embed/300 long).
- Note that the new slab will need to extend through the walk-in robe area.



Veranda/Porch

A new structural timber deck shall replace the damaged deck and will also include replacement of the existing concrete slab area. Decking boards to heritage architects' specifications.

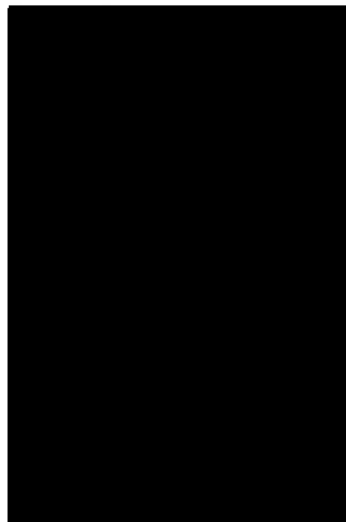


Calculations reveal that the following specifications will be required. We have noted maximum allowable spans for elements to be adapted on site as required:

- Joists maximum 2m maximum span, spaced at 350mm crs. – 90x45 MeySPAN13 or equivalent.
- Bearers supporting floor only, maximum span 1500mm. – 90x63 MeySPAN13 or equivalent.
- Bearers supporting veranda posts, maximum span 1500mm – 2x90x45 MeySPAN13 or equivalent.
- Strip footing at veranda edge minimum 300mmx300mm reinforced with 3-L11 trench mesh (bottom).
- Pad footings as required to support internal bearers, 400mmx400mmx400mm mass concrete.
- Internal support as required 'Unipier' installed to manufacturer's direction.
- All concrete N20.
- All fixing in accordance with AS1684.

Note that LVL used in external deck construction shall have a minimum preservative treatment level of H3, unless a higher level is required by the manufacturer.

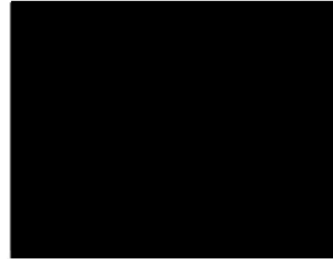
All cuts, notches, holes, rebates and site-modified surfaces shall be resealed immediately using a compatible end-grain preservative or manufacturer-approved sealer. Provide durable weather protection to the top face of LVL members, including joist tape, capping, flashing or equivalent, to prevent moisture entrapment at deck board interfaces and fixings. Joints shall be detailed to shed water, allow drainage and ventilation, and avoid moisture traps. Use corrosion-resistant fixings and connectors suitable for external exposure and preservative-treated timber



Cellar Beam

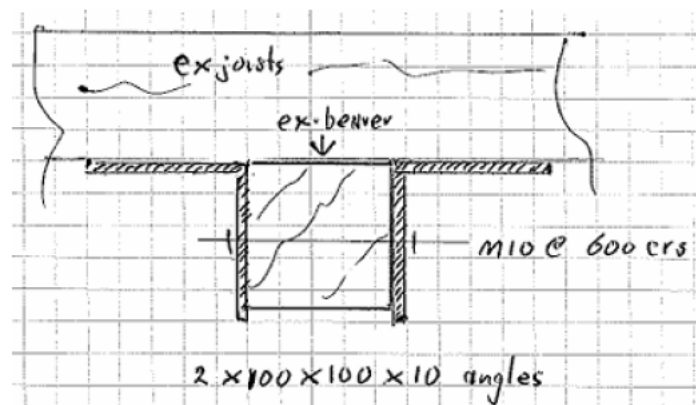
It is proposed to remove a timber post currently supporting a timber bearer in the cellar. To remove the post, the existing bearer requires modification/supplementary support.

Calculations reveal that 2x100x100x10 angles (bolted either side of the existing 90x90 timber bearer) will be required.



The specifications are as follows:

- Install 2 x 100x100x10 angles either side of existing 90x90 bearer.
- Minimum 75mm even bearing each end.



Construction Notes:

- The steel angles shall be installed tight to the support with full contact, using non-shrink grout, steel packers or approved solid packing where required to eliminate gaps. Timber packers shall not be used unless specifically approved. Bolt holes shall be accurately drilled and not oversized. Bolts shall be installed with washers on both sides and tightened to provide firm bearing without crushing the timber.
- Following installation and inspection, the existing timber post may be removed carefully without shock loading the structure. Monitor the bearer and supported floor framing during removal. Stop work and notify the engineer immediately if movement, cracking, excessive deflection or unusual noise occurs.

Design Statement

We note that the structural elements as described above are sufficient to withstand the loadings prescribed in the relevant Australian Standards listed above. The structure has been designed in accordance with the performance requirements of Section B of the NCC 2022 and the AEP's selected in accordance with Table B1D3a and Table B1D3b.

Accordingly, the elements would be sufficient to carry the relevant loads specified in AS/NZS 1170, SAI Structural Design Actions Code (Parts 0, 1, 2 and 3).

This certification shall not be construed as relieving any other party of their responsibilities, liabilities or contractual obligations.

We trust that this information meets your requirements. Please do not hesitate to contact the undersigned should you require any further information.

Yours Faithfully,
CALARE CIVIL PTY LTD



Garth Dean
BE. GDSTT FIEAust CPEng NER APEC Engineer
IntPE (Aus) RBP (Vic/NT)