

LDS. 20 Selwyn Street, Mayfield East NSW. 26<sup>th</sup> September 2024

**RE: Structural Certification for 6m x 3m Modular Office**

Vision Engineers Australia has been engaged by LDS to assess the structural suitability of concrete pad footings and tie downs for their 6m x 3m Modular Office.

Vision Engineers Australia have assessed wind speed at the 20 Selwyn Street, Mayfield East NSW site under the following Australian Standards:

- AS/NZS 1170.0:2002: Structural design actions - General principles
- AS/NZS 1170.1:2002: Structural design actions - Permanent, imposed & other actions
- AS/NZS 1170.2:2021: Structural design actions - Wind actions

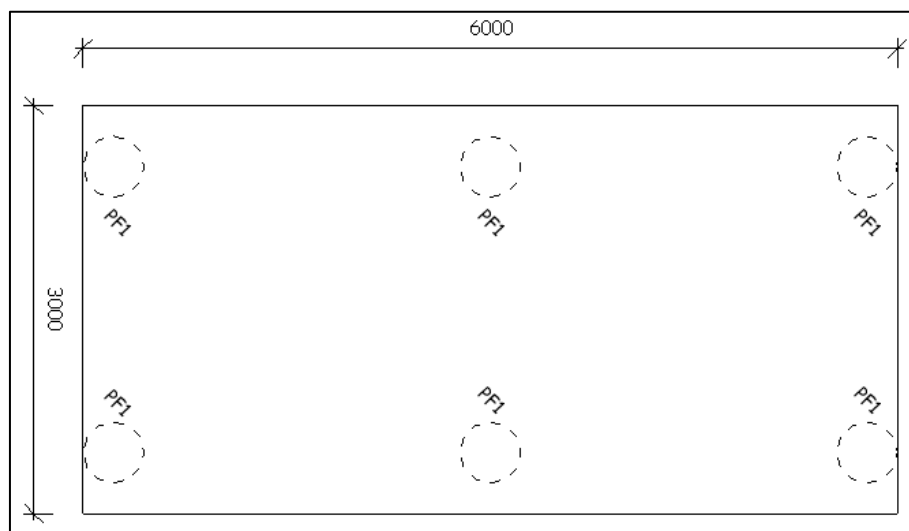
Vision Engineers Australia have determined that the 20 Selwyn Street, Mayfield East NSW site is within Region A and Terrain Category 2, therefore the ultimate wind speed at the site was found to be 40.95 m/s (according to AS4055 this can be converted to N2 for residential applications).

This certification is limited to the structural elements detailed, and based on the works being carried out in accordance with the tie-down specifications specifically designed for each site. Vision Engineers Australia notes as the windspeed increases, so to does the impact damage of debris. Vision Engineers Australia also notes that the locations for the highest wind loading are the wall corners and junctions between the wall and roof and that these locations will likely suffer or show signs of damage first.

The additional tie-down measures shall be as follows:

- **For Region A2, Terrain Category 2 applications only:**

1. Tie-down footings (minimum 3 evenly spaced along the front and back wall, as shown in Figure 1), minimum 450 Dia x 900 deep for standalone footing, 20MPa concrete. M10 threaded bar cast into footing, fix to bearer with steel angle + 1/M10 bolt & washer and M10 nut to threaded bar. Provide silicon seal around washers to RHS/SHS bearers.



**Figure 1: Footing Plan for Region A2, Terrain Category 2 site.**

All works to be carried out by a licensed builder/contractor as required by each State/Territory in accordance with the current edition of the Building Code of Australia (BCA) and relevant Australian Standards for construction.

After all storm events, particularly those with windspeeds in excess of 40km/h, all footings/pads shall be checked to ensure the structure has not shifted. If rainwater is not directed away from the dwelling this may also contribute to footing settlement and as such all

footings/pads shall be checked to ensure the structure has not settled. This checking should be periodic, say every 3-6 months depending on weather conditions.

Please contact Vision Engineers Australia on 02 4304 2011 or [enquiries@visioneng.com.au](mailto:enquiries@visioneng.com.au) to organise a site specific wind speed assessment and tie-down design.

Should you have any further queries please don't hesitate to contact Vision Engineers for further clarification on any of the above information.

Yours sincerely,



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