

PRELIMINARY GEOTECHNICAL ASSESSMENT: **12A Brighton Street, Freshwater**

1.0	LANDSLIP RISK CLASS (<i>Highlight indicates Landslip Risk Class of property</i>)
<input checked="" type="checkbox"/>	<i>A - Geotechnical Report not normally required</i>
<input checked="" type="checkbox"/>	<i>B - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required</i>
<input type="checkbox"/>	<i>C - Geotechnical Report is required</i>
<input type="checkbox"/>	<i>D - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required</i>
<input type="checkbox"/>	<i>E - Geotechnical Report required</i>

2.0 Proposed Development

- 2.1** Construct a new carport on the E side of the house by excavating to a maximum depth of ~2.0m.
- 2.2** Extend the first floor of the house over the proposed new carport.
- 2.3** Various other minor internal and external alterations and additions.
- 2.4** Details of the proposed development are shown on 18 drawings prepared by Sally Gardner Design and Draft, job number 23-1110, drawings numbered A1 to A7, A9, S1 to S6, N1, N2, E1 and E2, dated 6/3/24.

3.0 Site Location

- 3.1** The site was inspected on the 8th March, 2024.
- 3.2** This residential property is on the high side of the road and has a NW aspect. The block runs longways to the S so the slope is a cross-fall. It is located on the gentle to moderately graded middle reaches of a hillslope. Medium Strength Hawkesbury Sandstone bedrock outcrops at various locations across the property. Where sandstone is not exposed, it is expected to underlie the surface at relatively shallow

depths. The natural surface of the block has been altered with a cut for the house, and with fills for paved, lawn, and garden areas across the property. The proposed carport will require an excavation to a maximum depth of ~2.0m.

3.3 The site shows no indications of historical movement in the natural surface that could have occurred since the property was developed. We are aware of no history of instability on the property.

4.0 Site Description

The natural slope rises at gentle angles before reaching the base of a sandstone rock face up to ~2.7m high. The slope above the rock face continues at gentle angles. At the road frontage, a concrete Right of Carriageway (ROW) runs to a parking area on the N side of the house. The two storey house is supported on brick walls and piers. The supporting walls show no significant signs of movement and the supporting piers stand vertical. A stable Medium Strength Hawkesbury Sandstone rock face up to ~2.7m outcrops on the uphill side of the house. Part of the rock face has been cut to provide a level platform for the house and deck. A timber clad shed is located in the SW corner of the property. Stable low timber, sandstone block, mortared sandstone and brick retaining walls support fills for paved, lawn, and garden areas across the property. A stable low brick retaining wall along the E common boundary supports fill on the E neighbouring property. No signs of movement related to slope instability were observed on the grounds that could have occurred since the property was developed. The adjoining neighbouring properties were observed to be in good order as seen from the street and subject property.

5.0 Recommendations

The proposed development and site conditions were considered and applied to the current Council requirements.

Due to the proximity of the proposed excavation to the sewer main and subject house, the recommendations below are to be followed.

5.1 Vibrations

Excavations through rock should be carried out to minimise the potential to cause vibration damage to the sewer main (150mm diameter salt glazed ware pipe) and the subject house. The excavation will come close to flush with the sewer main and be set back ~3.3m from the subject house.

Excavation methods are to be used that limit peak particle velocity to 5mm/sec at the subject house and 3mm/s at the sewer main. Vibration monitoring will be required to verify this is achieved. The vibration monitoring equipment must include a light/alarm so the operator knows if vibration limits have been exceeded. It also must log and record vibrations throughout the excavation works.

The excavation through rock is to be sawn up into segments with rock saws, so the rock can be 'picked out' without the use of pneumatic hammers. Vibration impacts on the sewer main and house are expected to be less than a peak particle velocity of 3mm/sec using this method.

See the required inspection below that is to be carried out during construction and is a requirement for the final geotechnical certification. Apart from this inspection and the above recommendations, it is not expected additional geotechnical input will be required provided good design and building practices are followed.

6.0 Inspection

The client and builder are to familiarise themselves with the following required inspection as well as council geotechnical policy. We cannot provide geotechnical certification for the owners or the regulating authorities if the following inspection has not been carried out during the construction process.

- All footings are to be inspected and approved by the geotechnical consultant while the excavation equipment and contractors are still onsite and before steel reinforcing is placed or concrete is poured.

White Geotechnical Group Pty Ltd.

Reviewed By:



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Information about your Preliminary Assessment

This Preliminary Assessment relies on visual observations of the surface features observed during the site inspection. Where reference is made to subsurface features (e.g. the depth to rock) these are interpretations based on the surface features present and previous experience in the area. No ground testing was conducted as part of this assessment and it is possible subsurface conditions will vary from those interpreted in the assessment.

In some cases, we will recommend no further geotechnical assessment is necessary despite the presence of existing fill or a rock face on the property that exceed the heights that would normally trigger a full geotechnical report, according to the Preliminary Assessment Flow Chart. Where this is the case, if it is an existing fill, it is either supported by a retaining wall that we consider stable, or is battered at a stable angle and situated in a suitable position on the slope. If it is a rock face that exceeds the flow chart limit height, the face has been deemed to be competent rock that is considered stable. These judgements are backed by the inspection of over 5000 properties on Geotechnical related matters.

The proposed excavation heights referred to in section 2.0 of this assessment are estimated by review of the plans we have been given for the job. Although we make every reasonable effort to provide accurate information excavation heights should be checked by the owner or person lodging the DA. If the excavation heights referred to in in section 2.0 of this assessment are incorrect we are to be informed immediately and before this assessment is lodged with the DA.
