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Project No.: 2015-199.1

Mr. & Mrs. McGoldrick
36 Kirkstone Road,
Wheeler Heights.
N.S.W. 2097.

Preliminary Landslip Risk Assessment for 36 Kirkstone Road, Wheeler Heights.

This letter report details the results of a preliminary landslip assessment required by Warringah Council as part of their 2011 LEP to accompany all new Development or Building Certificate Applications. It is a review of the design plans followed by a walk over visual assessment of the stability of the existing property, no insitu testing was undertaken.

The assessment follows the guidelines as set out in Section E10-Landslip Risk of Warringah Councils 2011 LEP Planning Rules.

1. Landslip Risk Class:

The site is located within Landslip Risk Class “D” which is classified as Collaroy Plateau Flanking Slopes of between 5° and 25°.

2. Site Location:

The site, 36 Kirkstone Road, is located on the low west side of the road, not far from the intersection with Rydal Place at Wheeler Heights. It is a near rectangular shaped block with long north side boundary of 36.57m and eastern street front boundary of 15.24m.

3. Proposed Development:

It is understood that the proposed works involve the addition of a new floor above the existing residence; this will include a west facing balcony on the new top level. The current laundry room is planned to be extended further east by 370mm into the uphill face of the site. No bulk excavation work is expected.

4. Existing Site Description:

The site is located on a north to south aligned Plateau top located between the suburbs of Narrabeen and Cromer known as Collaroy Plateau. The property is situated near the south-west corner of the Plateau not far from South Creek and Cromer Golf Course. It is located on the west side of the ridge at mid slope level, with average slope angle of about -15° towards 234° magnetic north.

The road pavement is bitumen with concrete kurb, it is moderately sloping (-10°/177°mN) and in fair condition where it passes the site. The road reserve contains a moderately sloping (-10° to 18°) lawn slope. The front boundary of the site is defined by a 0.6 to 1.0m high concrete block retaining wall that supports the road reserve lawn slope. The front yard is steep in the front half comprising a series of sandstone outcrops and ledges with tiered sandstone flagging garden bed retaining walls varying between 0.4 to 2.0m in height partly covering the outcrop. There is a 5m wide gentle sloping (-2°) garden terrace between the sandstone outcrop and concrete footpath adjacent to the east front of the house. The concrete driveway leading from the road down along the south side of the property is steep (-13° to 20°), it is supported by a concrete block retaining wall in good condition that varies up to 2m in height.

The house is located in about the middle of the site, elongated down the slope and comprising a partly elevated 1950's style single storey red brick residence with garage below the western end. Access to the house is via the driveway and a few steps up to a concrete verandah and house entry near the south-west corner. The concrete veranda also extends along the west end of the house. The house structure is slightly elevated above the ground with floor level at 0.1m above ground level in the front north-east corner and at about 2.6m height in the back south-west corner. There is a small, slightly raised patio attached to the rear of the house that provides access to the existing laundry and garage.

Observations made from within the garage identified that the western ground floor of the dwelling is supported by brick columns (Photograph-1) formed off footings bearing on sandstone bedrock of at least low strength and containing gently dipping bedding defects (Photograph-2). The brick columns appeared in good condition as well as the surrounding brick walls.



Photograph-1: Brick columns supporting western portion of the dwelling. View facing west towards the back of the timber rear laundry wall, that is proposed to be demolished.



Photograph-2: Bedrock, comprising sandstone of at least low strength with exposed gently north dipping cross bedding defects. View looking east.

Access to the backyard is available along both sides of the house via either the driveway or paved (-7° to -13 °) walkway. There is a series of terraced pine log garden beds covering the gentle slope (-7°) at the western end of the basement patio with steps that lead down to a small near level (-1°) lawn backyard.

The exterior of the house appears to be in fairly good condition. The tiled roof has gutters and downpipes that are connected to a sub-surface stormwater system.

5. Neighbouring Property Conditions:

The property to the north Number: 34 Kirkstone Road has a two storey rendered brick residence located on the middle of the site that extends south to within 1.5m of the common boundary. A curved concrete driveway leads from the road along the common boundary to a garage. There is an above ground swimming pool in the backyard surrounded by new timber decks.

The neighbouring property to the south, Number: 38 Kirkstone Road, contains a new two storey rendered brick house that extends to within 1.0m off the common boundary. It contains a rear western lawn at similar level to the site's western lawn.

A limited inspection of these neighbouring properties from within the site and public roadway reserve did not identify any signs of previous or impending landslide instability.

6. Assessment:

Based on the above items and on Councils flow chart check list (Page: 2 of 2 in Section E10), i.e., does the present site or proposed development contain:

- | | |
|--------------------------------|----------|
| • History of Landslip | No |
| • Proposed Excavation/Fill >2m | No |
| • Site developed | Yes |
| • Existing Fill >1m | Possibly |
| • Site Steeper than 1V:4H | Possibly |
| • Existing Excavation >2m | No |
| • Natural Cliffs >3m | No |

It is considered that a detailed Landslip Risk Assessment is not required for this Development.

7. **Date of Assessment:** 7th April 2020.

8. **Assessment by:**



Marvin Lujan
Geotechnical Engineer

9. References:

- Architectural Drawings by Design House + drafting studio, Project: Proposed First Floor Addition, Drawing No.: 1 to 13, Date: 29/11/19, Drawn by: B.B, Issued: B
- Survey plan by CMS Surveyors, Reference Number: 438, Dated: 01/05/2009.