PRELIMINARY GEOTECHNICAL ASSESSMENT:

69 Gordon Street, Clontarf

1.0 Proposed Development

1.1 Demolish the existing house and construct a new house requiring minor leveling.

1.2 Demolish the existing pool and construct a new pool at the W side of the property by demolishing existing retaining walls which will expose a fill batter up to ~2.0m high.

1.3 Construct a new driveway and crossover at the road frontage.

1.4 Various other minor internal and external alterations and additions.

1.5 Landscape the downhill side of the property by demolishing existing retaining walls and filling to a maximum height of ~3.3m.

1.6 Details of the proposed development are shown on 12 drawings prepared by sketchArc, project number 2427, drawings numbered DA3 to DA14. All status 5B. All dated 150425.

2.0 Site Location

2.1 The site was inspected on the 17th April, 2024.

2.2 This residential property is on the low side of the road and has a SW aspect. It is located on the moderately graded upper reaches of a hillslope. Medium Strength Sandstone outcrops on the opposite side of the road and across the property in several locations. 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 by various cuts and fills to a maximum height of ~3.0m for level lawn and garden areas. The

proposed development will involve the demolition of existing retaining walls exposing fill batters up to ~2.0m high.

2.3 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.

3.0 Site Description

The natural slope falls across the property at an average angle of ~15°. At the road frontage, a concrete driveway runs downslope to a garage on the ground floor of the house. The slope between the road frontage and a level lawn E of the house is terraced by low sandstone flagging walls. These walls display cracking in the mortar but are otherwise considered stable. The part two-story house is supported on brick walls. No significant signs of movement were observed in the visible supporting walls. A cut for the S neighbouring property and fill for the subject property is supported by a stable sandstone block retaining wall which reaches ~2.0m high and approximates the S common boundary. A pool has been cut into the slope W of the house. The pool shows no signs of movement. However, the paving surrounding the pool has cracked and settled. It is interpreted that the settlement may have been caused by ongoing saturation of the fill under the pavement during pool use. Fill for the pool coping is supported by a retaining wall of brick, mortared sandstone block and dry stack sandstone construction which was observed to be supported on outcropping competent Medium Strength Sandstone which outcrops and steps down the slope in this location. The outcropping rock across the property was observed to be slightly undercut in places but is considered stable. The remainder of the moderate slope across the property is terraced in retaining walls of mortared sandstone and brick composition reaching up to ~2.0m high. The land surface surrounding the house is mostly lawn covering with some paved areas. No significant signs of movement associated with slope instability were observed on the grounds. No cliffs or large rock faces were observed on the property or in the near vicinity. No geotechnical hazards that

could impact on the subject property were observed on the surrounding neighbouring properties as viewed from the subject property and the street.

4.0 Recommendations

The retaining walls which will be demolished as part of the proposed works are to be demolished from the top down prior to any excavation commencing. The fill, soil, and clay behind the walls are to be battered at 1.0 Vertical to 1.7 Horizontal (30°) as the walls are demolished. Where this is not possible, the fill, soil, and clay will need to be temporarily supported during the demolition process in a staged manner, so cut batters are not left unsupported. The temporary shoring process and structure is to be designed by the structural engineer in consultation with the geotechnical consultant.

Fill will be placed W of the proposed pool for landscaping. Due to the moderate grade of the site, no fills are to be laid until the retaining walls are in place. The fill will reach a maximum height of ~3.3m. Filling to this depth without appropriate compaction will result in a significant settlement.

Before all fills are laid, strip the existing topsoil and remove all organic matter, stockpiling for later use as topsoil or remove from site.

To avoid excessive settlement, the fill is to be placed in loose layers not exceeding 0.3m thick before being compacted as follows:

Non-Cohesive Soils (sandy fills)

The proposed fill for landscaping is to be compacted to a Minimum Density Index (ID) of 65%.

Cohesive Soils (clayey fill & excavated bedrock)

The proposed fill for landscaping is to be compacted to at least 95% of Standard Maximum Dry Density.

The geotechnical consultant is to inspect and test the fill as it is laid in 1.0m rises to ensure the required density has been achieved.

Filling within ~1.5m behind retaining walls should be compacted with light weight equipment such as a hand operated plate compacter or similar so as to not damage the wall. Where light weight compaction equipment is used fills are be laid in a loose thickness not exceeding 0.15m. No pavements or structures are to be supported on fill.

The proposed development and site conditions were considered and applied to the current council requirements. See the required inspection below that is to be carried out during construction and is a requirement for the final geotechnical certification. Apart from the inspection and the above advice, it is not expected additional geotechnical input will be required provided good design and building practices are followed.

5.0 Inspections

The client and builder are to familiarise themselves with the following required inspections as well as council geotechnical policy. We cannot provide geotechnical certification for the owners or the regulating authorities if the following inspections have 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.

- The geotechnical consultant is to inspect and test the fill in not more than 1.0m rises. This is to ensure the required density has been achieved during compaction.

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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.