



HIBISCUS PROPERTY HOLDINGS (PTY) LTD

ENGINEER'S REPORT: STRUCTURAL ASSESSMENT OF HUNTER HOUSE AT SCOTTBURGH DAY HOSPITAL, ERSKINE STREET, SCOTTBURGH

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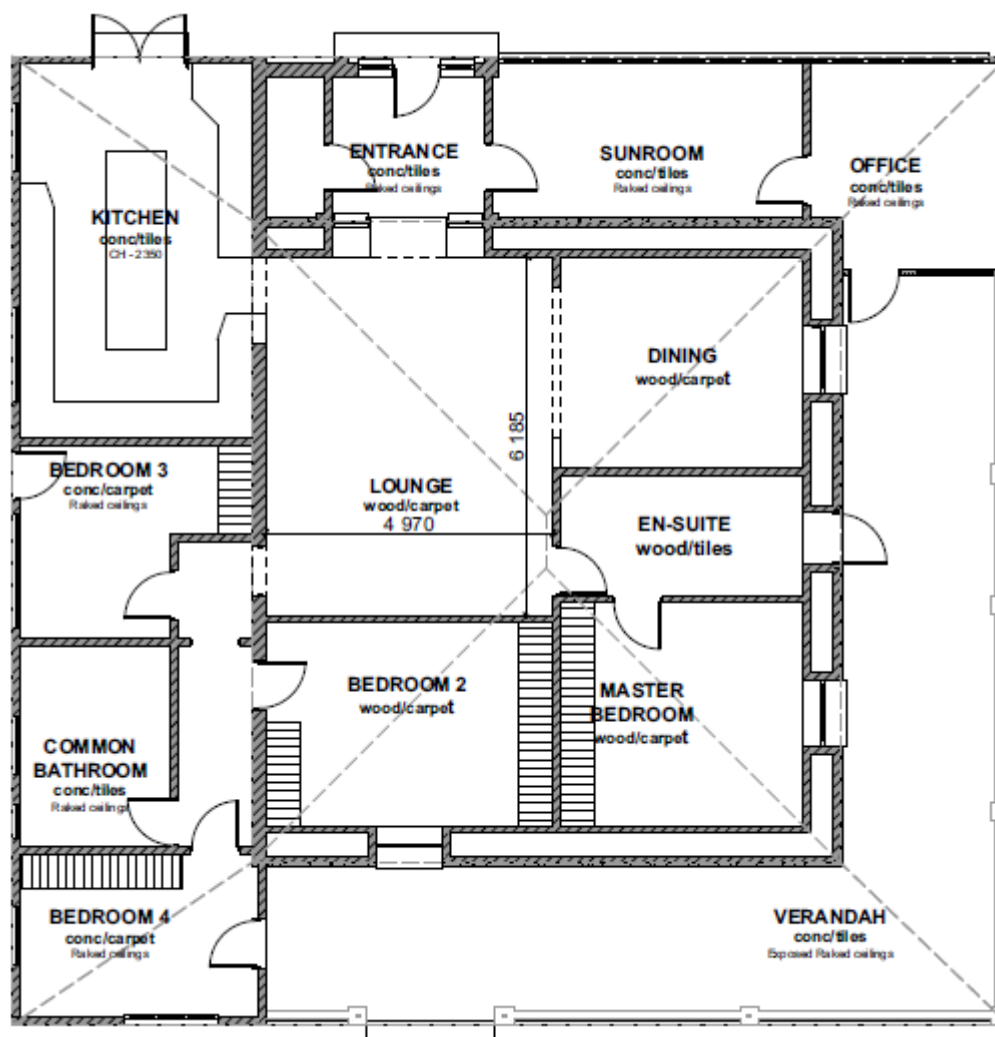
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1. TERMS OF REFERENCE

- 1.1. We were requested by Roelof Meyer [TJ Architects], on behalf of Hibiscus Property Holdings (Pty) Ltd, to undertake a structural assessment of Hunter House at the above address, with a follow-up report on our findings and recommendations.
- 1.2. A site visit was undertaken on Monday 15 November 2021. We met with Mr Norman Mackay [GVK Siya Zama], who showed us the areas concerned. Notes and photographs were taken, and the photographs can be viewed in Appendix 'A' – Plates.
- 1.3. Please note that while we have taken all reasonable care in carrying out the inspections, some elements are however inaccessible or obscured. We can therefore not be held liable for any damages that occur directly or indirectly as a result of omissions in this report. Forensic testing has not been performed (all inspections are visual only). We are only able to report on elements that are visually obvious



2. **SITE OBSERVATIONS**

- 2.1. The building consists of a single-story residential unit, situated upon a moderately steep sloping East embankment. The entrance to the Site is off Erskine Street, at the northwest side. Refer to Appendix 'B' – Locality Plan.
- 2.2. The building consists of a masonry brick and stone frame with suspended Oregon Pine timber floors. The veranda floor wraps around the buildings south and east facade and is formed from corrugated iron sheets that act as a permanent shutter. The floors to the "Entrance", "Sunroom" and "Office" are of the same concrete deck formation. The building offers a basement level situated beneath the concrete floors to the Veranda.
- 2.3. The floors to the main house are suspended Oregon Pine timber floors supported off the walls and internal brick piers. Closer inspection of the floorboards reveals borer holes. We are of the opinion that it is extremely likely that the supporting bearer beams and timber elements are of similar state. See Plate 1
- 2.4. The veranda floors are concrete deck floors created utilizing corrugate iron sheets "permanent shutters". These sheets are severely corroded and are falling apart. In the basement levels the metal sheets have been stripped away and the soffit painted. There are no apparent cracks or indications of the floors being compromised at this stage. A request to break out a section of concrete was submitted which revealed that there is no reinforcing within these concrete decks.
- 2.5. The roof consists of Asbestos / fiber cement corrugated sheets on 75x50 SA Pine purlins on 110x38 SA Pine timber trusses. The bottom chords of the timber trusses are heavily infested with wood borer with isolated areas of infestation in the top chords and diagonals. There are many large voids between the roof sheeting and the closure profiles, this has led to an accumulation of leaves and debris getting into the roof space making it a thriving environment for insect infestation. See Plates 6 – 8.
- 2.6. Walking through the internal rooms within the original main house, it was seen that there are very few minor cracks in the walls but nothing to indicate any cause for concern of the structural integrity. See Plate 9
- 2.7. The timber skirtings, window and door frames and Architraves are all heavily infested with borer. The floors are carpeted above the Oregon pine and felt firm underfoot however having seen the condition of the other timber elements the true condition will only be known once all the carpets have been removed. See Plate 1
- 2.8. The kitchen area is tiled floor to wall. There were no obvious indications of cracked tiles. See Plate 10
- 2.9. Bedroom 3, 4 and the common bathroom no indication of cracking occurring. The ceiling however is drooping over these areas. Quite possibly from the degradation of the supporting timber battens. See Plate 11
- 2.10. The Entrance, Sunroom and Office area has been impacted by the recent collapse of the external support. Cracks have opened at the interface of the brick and stone wall and the wall along the window line. See Plate 12 - 14

- 2.11. The external walls on the Veranda have a few minor cracks that have formed. These are not visible from the inside due to the large cavity wall. See Plate 15
- 2.12. The veranda pre-cast columns supporting the roof overhang have been damaged and are cracking severely, the low walls do not have sufficient expansion joints and are cracking at the interface with the columns. It was also noted that the floor surface slopes towards the outer low wall. The drainage points are few and of small diameter. This could lead to water ponding and unnecessary damage. See Plate 16
- 2.13. The rainwater goods are in poor condition. The down pipes are missing or broken and thus allowing water to flow directly onto the window frames and other areas. The gutters are either broken, discontinuous or full of debris and foliage See Plate 17
- 2.14. The excavations requested to expose the foundations were not prepared however the collapsed wall at the adjacent site entrance ramp gave a good indication of what is to be found below the existing walls. It was seen that the existing foundations consist of large boulders grouted together on the loose density in-situ sand. It was seen in several locations around the building at the basement level that the boulder foundation has settled or moved and has opened large cracks where foliage has started to grow. See Plates 18 - 20

3. DISCUSSION & RECOMMENDATIONS

- 3.1. The building shell may seem structurally sound with no obvious indication of failure; it is however loaded with potential to fail. The foundations are believed to be the same grouted rock boulder seated within the soil. Any excavation or construction works near the building could have a very similar effect to the collapse which has recently occurred.
- 3.2. The roof structure is currently stable and with constant treatment, cleaning and maintenance may last a few years. We have witnessed a high level of infestation of wood borer within the structural elements especially within the bottom chord tie beams, Purlins and battens are needing replacement, ceilings and cornices supported off the battens are showing signs of localized failure and collapse. The repairs required to revive the roof considering the current asbestos materials would result in an entirely new roof. Our recommendation is that the roof is condemned and to be replaced.
- 3.3. The timber elements within the building including window frames, doors and frames, skirtings, architraves are all infested with wood borer and will require replacement.
- 3.4. It is evident that the timber floorboards are infested with wood borer, it is extremely likely that the supporting timber elements are in a similar state. Our recommendation is to condemn the timber floors. The area is to be backfilled and compacted with a new concrete floor slab.
- 3.5. Damages to the peripheral veranda supporting structure will require replacement.
- 3.6. Concrete deck floor slabs no longer have the corrugated metal sheet as a supporting film in tension and are now self-spanning. An investigation of the concrete floors has

confirmed that there is no reinforcing within the slabs. These slabs are deemed condemned and are to be temporarily supported with props during the current site operations until such time that they are demolished.

- 3.7. Bragge & Francis remain available to provide additional technical specifications and documentation in this regard, and supervision of the works in respect of our recommendations going forward.

This concludes the report, and we trust it meets with your approval. Please contact the author should you have any queries relating hereto.

Reported at Gillitts on the 18th November 2021.

Yours faithfully,
BRAGGE & FRANCIS

A handwritten signature in black ink, appearing to be 'K. Oldbury', written in a cursive style.

K. Oldbury PrTech.Eng
(For Bragge & Francis Consulting Engineers)

APPENDIX 'A'

PLATES



PLATE 1



PLATE 2



PLATE 3



PLATE 4



PLATE 5



PLATE 6



PLATE 7



PLATE 8



PLATE 9



PLATE 10



PLATE 11



PLATE 12

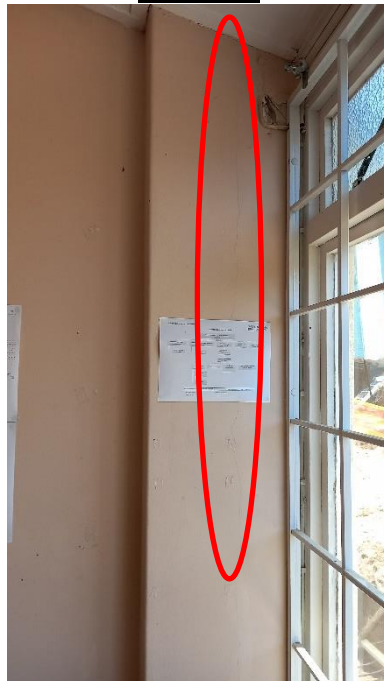


PLATE 13



PLATE 14



PLATE 15



PLATE 16



PLATE 17



PLATE 18



PLATE 19



PLATE 20

APPENDIX 'B'

LOCALITY PLAN



Google Earth

Image © 2021 Maxar Technologies

LOCALITY PLAN