



STRUCTURAL INSPECTION

For: SHIRE OF LAKE GRACE

Project Address: #15 STUBBS STREET LAKE GRACE

Job Number: S1205154

Revision Number: 0

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1. INTRODUCTION

In response to your recent request, a representative from this Office visited the above-mentioned site on 13 March 2026.

2. PURPOSE

The purpose of the visit was to inspect and comment upon the above-mentioned construction in relation to structural conditions. The inspection encompassed a visual inspection of accessible areas to determine the current structural condition and dilapidation present.

3. OBSERVATIONS

The structure is single storey. While the exact age of the structure is unknown, by observations of the members and style of construction it is estimated to be more than 50 years old. Photograph 1 shows the structure inspected. The following materials and constructions styles were observed:

- Assumed concrete footings and ground slab
- Steel frame walls
- Asbestos (assumed) cement wall cladding
- Timber frame walls
- Steel roof trusses
- Timber roof members
- Corrugated sheet metal roof coverings

The roof structure is made of 60mm round tube steel trusses spaced at 3000mm centres with 90mm round tube posts supporting. The condition of the trusses appears to be adequate.

The metal roof cladding is rusted throughout, and the steel frames and connections underneath show signs of corrosion.

No specific fixing regime was observed for metal roof cladding to rafters. Based on historical construction techniques, it is likely that this will not comply with current standards.

The internal walls of the property were constructed using cement cladding which is likely asbestos.

Ceiling cladding was observed to be damaged and, in some locations, not present at all.

Concrete flooring shows signs of cracking and was noted to be uneven throughout. The concrete also shows signs of corrosion and deterioration due to build up of chemical products.

Downpipes drain to the ground adjacent to the residence's foundations.

Termite activity was noted to majority of timber members.

Photographs 2 – 11 show the extent of the damage observed onsite.

This report covers visible structural items only, no intrusive inspections were conducted and no destructive testing occurred. Therefore, there are structural items which are currently hidden from the visual inspection conducted. Where possible, an assessment of the performance of these items is inferred by observations of surrounding non-structural items.

4. COMMENTS & RECOMMENDATIONS

While termite activity was noted onsite, this Office is not an expert in Pest Management, it is recommended that a suitably qualified professional is engaged to determine whether termite activity is ongoing or present previously and create a management plan to prevent future damage occurring.

It is also recommended that a suitably qualified professional is engaged to quantify the use of asbestos products and provide a report documenting the condition. This should be completed to ensure the safe use of the structure during any proposed remedial works or demolition. Given the age of the structure, it is likely that asbestos is present.

Based on observations taken on site the structure was in poor condition overall. Careful consideration should be given to whether remedial works are cost effective rather than a full replacement. In order to bring the structure up to current Australian Standards, the majority of members require removal and replacement. The construction standards at the time of original construction would not be considered acceptable in alignment to current standards. The design loading from live loads (repair works to roof, maintenance, etc) and wind loading have increased since the original construction. Therefore it is considered cost prohibitive to upgrade the structure to meet current Australian Standards. However if required, this Office could conduct a design review of the current structure provided full architectural plans are produced by a drafting or architectural service. Considerable upgrades would be likely required including but not limited to the below.

- Upgrade and/or remove and replace existing truss portal frames with new members designed in accordance with current Australian Standards.
- Remove and replace wall girts and roof purlins
- Remove and replace roof sheeting. New sheeting to be fixed in accordance with current Australian Standards.
- Upgrade all timber framed walls in accordance with AS1684.2, provide bracing in accordance with current Australian Standards to withstand wind loading.
- Remove and replace all other termite affected timber not listed in the above.
- Remove and replace all asbestos products with a modern alternative.
- Treat corrosion to all other steel members not listed above.
- Provide sufficient stormwater management to all roof areas, including adequate gutters, downpipes and soakwells set back a sufficient distance from the structure.

Remove all chemical residue from the concrete slab and treat surface for health and safety considerations of the future occupants in alignment with the intended use of the structure.

Typically this Office recommends that all termite affected timber where more than 10% of the cross sectional area is reduced at any point is replaced like for like. A suitably qualified carpenter can assess each affected timber member as required once activity has been eliminated by a pest controller.

Typically this office recommends that any steel member that is reduced by more than 10% of the cross sectional area by corrosion is either removed and replaced or the section is adequately filled by a

suitably qualified tradesperson via welding techniques. Surface corrosion elsewhere is to be removed and a cold applied corrosion inhibitor provided to the entirety of the steel members.

Alternatively it may be considered that the original structure does not need to be improved to meet current Australian Standards. This can often be the case where the structure is intended to function in a short term (1-3 year period) before removal and replacement occurs. This arrangement would not be suitable where the structure is intended for use by vulnerable occupants (healthcare, children, aged care), post disaster response (emergency services) or for large gatherings (places of worship, theatre or entertainment, markets). It however may be suitable for low risk activities such as long term storage or similar where the consequences of structural failure in a storm event are unlikely to pose a risk to occupants or the wider public.

If this is considered, upgrade works would still be required, however these would be centred around bringing the current state of the structure back to the original construction, rather than a modern construction in accordance with current Australian Standards. If this is desired, the following upgrade works would be required to bring the structure back into alignment with the original construction.

- Replace the corroded steel cladding
- Fix new sheet metal roofing and wall cladding to purlins and girts via nails in every second crest
- Remove all asbestos identified in the risk assessment (to be conducted by others) as necessary
- Treat termite activity in and/or replace timber members
- Treat corrosion to steel members
- Connect downpipes to soakwells a suitable setback distance from the foundations of the structure
- Upgrade concrete flooring by removing and replacing existing or clean and repair existing to suit the intended use of the structure.

Any remedial actions should be weighed against a new construction designed and built in accordance with current Australian Standards. A new structure would be expected to last a design life of 50 years minimum, and would comply with other non-structural aspects such as accessibility, energy compliance, etc that would be difficult for the original structure to comply with even if extensive remedial works are conducted. Potentially a new structure would also cost less than the overall cost of remedial works to the existing.

5. APPLICABLE STANDARDS

The recommendations provided within this Report are considered to be in accordance with the intent of the relevant Australian Standards and the National Construction Code (NCC); these include but are not limited to the following:

- Australian Standard 3600 – Concrete structures
- Australian Standard 3660.1 – Termite Management Part 1: New building work
- Australian Standard 4100 – Steel structures
- Australian Standard 1170.1 – Permanent, imposed and other actions
- Australian Standard 1170.2 – Wind actions

- Australian Standard 1720.1 – Timber structures Part 1: Design methods

6. CONCLUSION

It is considered once the remedial actions described in this letter have been completed with due diligence, the structure will be structurally sound and suitable for the use as described within this Report.

This report is at the request of the client who has the technical knowledge and expertise to interpret it. It is not intended for a third party or for court purposes. If a report of this nature is required please refer back to this Office.

Thank you for the opportunity to assist you in this matter. If this Office can be of further assistance, please do not hesitate to contact us again.

7. AUTHORISATION

Signed



Conor Tilbrook

Graduate Engineer B.Sc. (Eng)

Authorisation

Authorised for release



Gervase Purich
CEO

Enclosed:

Appendix A- Photographs taken whilst on site

Disclaimer:

This report is at the request of the addressee for submission to Council and no liability is accepted by Structerre Consulting Engineers to any other person reading or relying upon the report, notwithstanding any rule of law and/or equity to the contrary, and that this report is strictly confidential and intended to be read and relied upon only by the addressee, and the Council.

Disclaimer:

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Disclaimer:

In carrying out this compliance inspection Structerre has assumed that the structural materials used in the inspected structural element(s) comply with the Building Code of Australia and the relevant documents referenced therein, as specified in the design documentation. It is the Builder's absolute responsibility to ensure that this is the case unless alternative materials or methods have been approved in writing by the Design Engineer. Structerre's certification extends to acknowledging that the materials and methods used appear, by reasonable observation, to be those specified and they have been installed in the location / frequency specified on the approved drawings. Structerre accepts no responsibility for structures constructed of materials, or using methods, other than those specified within the design drawings and relevant referenced documents, unless the material or method has been approved by Structerre in writing prior to or during the construction of the particular structural element.

Job #	Revision	Authored	Checked	Authorised
S1205154	0	Conor Tilbrook	GR	GRH

APPENDIX A – PHOTOGRAPHS



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11