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STRUCTURAL CIVIL MECHANICAL ELECTRICAL HYDRAULIC FIRE SEISMIC **ENGINEERS**



16 April 2025 Ref: STP25-0558

C & B Designs

Attention: Ben Milbourne

Dear Sir,

RE: 49 Sixth Avenue East, South Townsville

Condition Report

INTRODUCTION

As requested, STP Consultants' engineer, Mr Anthony Florence, inspected the existing residential dwelling to allow comment on the structural condition and integrity. The inspection was completed on the 15th of April 2025, with yourself present.



Image 1 – General view of the residential dwelling from the front of the property. The residential dwelling is timber framed construction on stumps.

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SUB-FLOOR FRAMING

The residence is low set on stumps, allowing limited access and viewing of the subfloor area. The floor framing and supporting stumps are in poor condition.

Steel stumps have been installed to the perimeter of the residence, presumably to replace original timber stumps. The steel stumps have severely corroded and in some cases have lost all their structural integrity.



Image 2 - Severely corroded steel stump.

Timber stumps remained to the internal areas of the sub-floor. While they appeared to generally be in reasonable condition, it was noted that packing had been provided between the top of the stump and the underside of many of the bearers.



Image 3 – Packing from stump to bearer.



Image 4 – Packing from stump to bearer.

No tie down or connection of the bearers to the stumps was observed.

Concrete footing sizes could not be determined. Where domed concrete was provided to the steel stumps, the concrete had severely cracked. This allows moisture to enter and corrode the steel section below the top of the footing.



Image 5 & 6 – Severely cracked domed concrete at steel stumps.

External tie down bars were not connected to the steel columns. These would have been originally connected to a larger timber stump.



Image 7 – Original tie down bar not connected to steel stump.

Timber bearers were observed to have significant sag. Preliminary assessment indicates these bearers are significantly undersized, resulting in excessive deflection.

Supporting timber stumps also to appear to have subsided significantly.



Image 8 – Bearer deflection and timber stump subsidence.



Image 9 – Bearer deflection and timber stump subsidence.

GENERAL EXTERIOR

The exterior of the residence was generally observed to be in poor condition.

Timber fascias to the external decks are damaged and rotted.



Image 10 – Damaged and rotted deck fascias.

Balustrades to the external front deck are damaged.



Image 11 – Damaged balustrade.



External ceiling linings were damaged and missing.

Image 12 – Damaged external ceiling.

Where sheets have been dislodged and damaged, they remain unreplaced.



Image 13 – Damaged external ceiling.



Fascias are damaged and rotted due to water damage.

Image 14 - Damaged and rotted roof fascias.

The external sheet cladding is damaged, and structure movement has resulted in gaps at sheet joints.

Windowsills were observed to not be level, indicating movement of the structure has occurred due to footing and/or timber stump subsidence.



Image 15 – Damaged external cladding and general building movement.

GENERAL INTERIOR

The interior of the residence was generally observed to be in poor condition.

Mould to ceilings was observed in numerous locations, indicating numerous roof leaks.



Image 16 – Mould to ceiling.

Image 17 – Mould to ceiling.

Ceilings had sheeting coming away from their supports in several locations.



Image 18 - Damage to ceiling.



Image 19 - Damage to ceiling.

Walking through the residence, it was noticeable that floors sloped significantly in areas and exhibited excessive bounce in numerous locations. This was due to the bearer sag and subsiding timber stump issues noted previously.



Image 20 – Area where floor sloped.

DISCUSSION

The residence is in extremely poor condition overall.

Foundation stumps have subsided, and steel stumps have severely corroded. Tie down from the sub-floor framing to the stumps has not been provided. Sub-floor member sizes appear to be undersized, contributing to excessive deflection and floor slopes within the residence.

It is evident that stump subsidence has contributed to floor, wall and roof framing movement, damaging cladding and allowing water ingress.

No tie down rods were evident from the roof framing, in the walls, or to the floor framing.

Mould was observed in numerous locations throughout the residence, indicated roof leaks are an issue. Water damage to the ceilings was observed.

The existing framing members and tie downs are extremely unlikely to satisfy the requirements of current Australian Standards. A full replacement of roof sheeting will be required due to corrosion. Full replacement of existing battens with new timber or metal battens is required to screw fix new roof sheeting. A full engineered tie-down upgrade of the existing roof structure to the wall frame is also required.

Given the extent of damage and movement observed and the extensive upgrade works required for footings, floor framing, roof member tie down, roof framing, and overall cladding rectifications, it is the considered opinion of this office that the existing residence can not be economically rectified and refurbished. It would be more viable to demolish the residence and replace with a new structure, that complies with current Australian Standards.

Yours faithfully, STP Consultants

ANTHONY FLORENCE BEng, MIEAust, RPEQ 04683

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