10800-S-Report

STRUCTURAL ASSESSMENT

Jurien Bay Town Hall

Corner of Bashford St & Nineteenth Avenue.

WML
Consulting Engineers

Distribution Record

Revision	Reviewed By	Date Issued	Purpose of Issue	Issued To
A	SRW	20.10.22	Information	Rory Mackay

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Signed:	*J Corke*

Date:	20th October 2022

WML Name:	Structural Assessment – Jurien Town Hall

WML Project No:	10800

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1.0 Introduction

WML Consultants were appointed by the Shire of Dandaragan 08.09.22 to undertake a structural inspection of the town hall located at the corner of Bashford Street and Nineteenth Avenue Jurien Bay and provide an independent structural assessment of the hall to aid the shire with their evaluation of the hall's future role within the local community.

A representative from WML Consultants attended the site 10.10.22, the inspection was deemed necessary as the Shire had closed the hall to the public in March 2021 based on their assessment of risk to the public in relation to the ruptured asbestos sheeting that forms the walls of the structure and the conclusions of a previously compiled building maintenance report. The opinions formed within WML Consultants report will aid the Shire and associated stakeholders to determine the future viability of the hall.

The town hall was constructed in 1971 and was placed on the local Shire of Dandaragon heritage register in September 1996 with a significance rating of Category 3. This given category designates the structure to have some moderate significance and as such there are no statutory requirements that require heritage approval. The information relating to the heritage status of the property is located within Appendix A

Figure 1 : Photograph of the town hall taken during WML Consultants inspection.

2.0 Observations

Due to the prohibited removal of the asbestos wall and roof sheeting during the inspection, our comments and observations are limited to those areas that were visible and accessible at the time of the inspection.

The roof has been constructed using asbestos sheeting that bears onto a series of jarrah purlins that in turn are supported via steel trusses located at approximately 3.6m centers along the length of the building. The trusses have been constructed using small diameter steel circular hollow sections and in combination with their associated supporting columns at either end, form the main structural frame.

The ceilings are supported on a series of joists spanning across the width of the building onto deep jarrah beams that are located at approximately quarter points, which in turn are supported at their ends by the lower section of roof truss.

The ceilings and upper sections of the internal walls are formed from a perforated cladding system that has been an modification to the hall over the years.

The method of wall construction used for the building is jarrah stud frame with asbestos sheeting affixed either side.

The jarrah boards forming the floor to the hall are supported via a series of joists that span across the width of the building onto secondary jarrah beams that in turn are supported on stubs and footings.

There are 4-5 courses of masonry installed to the rear kitchen, toilets and entrance areas.

2.1 WML Consulting Site Inspection (10.10.22)

Roof Space

The roof structure is in good condition considering the buildings age, there is evidence of minor corrosion to the surfaces of the structural members that form the main structural frame (trusses and associated column sections) both within the roof space and exterior to the building as can be seen within photographs 6, 11, 13 and 16 located within Appendix C.

There are no visible signs of excessive deflections or over stressing within the roof purlins, trusses and ceiling support structure see photographs 20 – 24 within Appendix C.

It was noted during the inspection that the roof bracing did appear to be excessively sagging as seen within photographs 22 & 23 within Appendix C.

The mesh located at the eaves, that is visible from the outside of the building has rusted away in sections, it is assumed that the mesh serves to restrain the Anticon insulation sheeting located within the roof and not present within the eaves.

Building Internal

The main hall, Kitchen and associated rooms are generally in good condition, the inner asbestos wall sheeting has been ruptured in a few locations throughout the hall see photographs 15 & 16 within Appendix C.

There is a large penetration to the internal face of the South facing wall within the hall, during the inspection a bore scope camera was placed within the depth of the wall to determine the condition of the structure see photographs 17 - 18 within Appendix C. It maybe observed that the Jarrah stud framing is in good condition, however the asbestos sheeting has numerous ruptures throughout.

It was observed during the inspection that there appears to be no physical barrier between the ceiling cladding and the upper roof structure, suggesting material within the roof may filter through to the hall see photograph 19 within Appendix C.

Building External

On reviewing photographs 1 – 5, 7, 12 & 14 it is clear the hall requires a lot of general maintenance attention, this has been covered elsewhere and is mainly cosmetic.

There are a number of ruptures to the exterior asbestos sheeting throughout the hall see photographs 2-3, 12 & 14 within Appendix C.

Sub-Structure

During the inspection a camera was placed to the underside of the building to determine the condition of the sub-structure (floorboards, associated jarrah support structure and stumps). On reviewing photographs 8-10 within Appendix C, the Jarrah support sections appear to be in good condition and there are no visible signs of excessive deflections or over stressing.

It was noted during the inspection of the substructure that some of the timber sections appeared to be new and an untreated seasoned pine had been installed see photographs 9-10 within Appendix C.

3.0 Conclusions

It is our opinion based on the observations made during the site inspection 10.10.22, that the structural integrity of the hall is adequate and fit for purpose (see section 4.0 for suggested structural maintenance repairs).

The external cladding used within the construction of a modern-day equivalent of the hall, would take the form of metal clad sheeting and if this sheeting had been punctured on any particular elevation the repair would be deemed necessary to ensure the building was watertight and for aesthetics. Undertaking the repairs on punctured metal sheeting is relatively easy as the old sheet is removed and a new sheet is installed, however as the internal and external cladding within the hall is Asbestos sheeting it cannot be replaced and as the sheeting has been ruptured this poses a health risk to the building users.

It is therefore our opinion that the sheeting is to be removed in accordance with the appropriate WorkSafe regulations, by a licenced contractor and a modern equivalent installed.

Jurien Hall was constructed in 1971, the requirements for the design of buildings have naturally progressed over the years leading to the potential for existing buildings to become non-compliant with current Australian standards when they are altered. If the Asbestos sheeting to the hall was to be removed and a modern-day equivalent installed, the structural frame for the building may require assessment against modern building design standards, for example the Structural standard for wind design actions has been updated over 12 times since the construction of the hall.

4.0 Recommendations

The following recommendations can be made:

- The minor areas of surface corrosion to the roof trusses, supporting columns is to be removed either manually or by mechanical means, treated with a high zinc primer and then a suitable topcoat. Given the location of the site in proximity from the sea, it is advised that Dulux special coatings (Or similar) are contacted to provide recommendations for treatment (This is a free service Dulux provide).
- Although not critical to the structure, the roof bracing should be hung where possible to reduce the self-weight deflections.
- The new untreated pine sections (See photographs 9 - 10 within Appendix B) need to be adequately treated for durability and termites.
- A termite inspection of all the timber is recommended.

Appendix A

Original Jurien Hall

AUTHOR Shire of Dandaragan **PLACE NUMBER** 05842

LOCATION
Bashford St Jurien

LOCATION DETAILS

LOCAL GOVERNMENT Dandaragan **REGION** Wheatbelt

CONSTRUCTION DATE
Constructed from 1971

DEMOLITION YEAR N/A

Statutory Heritage Listings

TYPE	STATUS	DATE	DOCUMENTS
(no listings)			

Heritage Council Decisions and Deliberations

TYPE	STATUS	DATE	DOCUMENTS
(no listings)			

Other Heritage Listings and Surveys

TYPE	STATUS	DATE	GRADING/MANAGEMENT CATEGORY
Municipal Inventory	Adopted	30 Sep 1996	Category 3

Statement of Significance

The Original Jurien Hall has some local significance for its association with recreational and social activities in the town.

Physical Description

This medium sized rectangular building is of shadow line asbestos construction with a shallow pitches asbestos gable roof. A double entry door is enhanced by a flat porch roof supported on metal posts.

Integrity/Authenticity

Integrity: High Degree

Condition

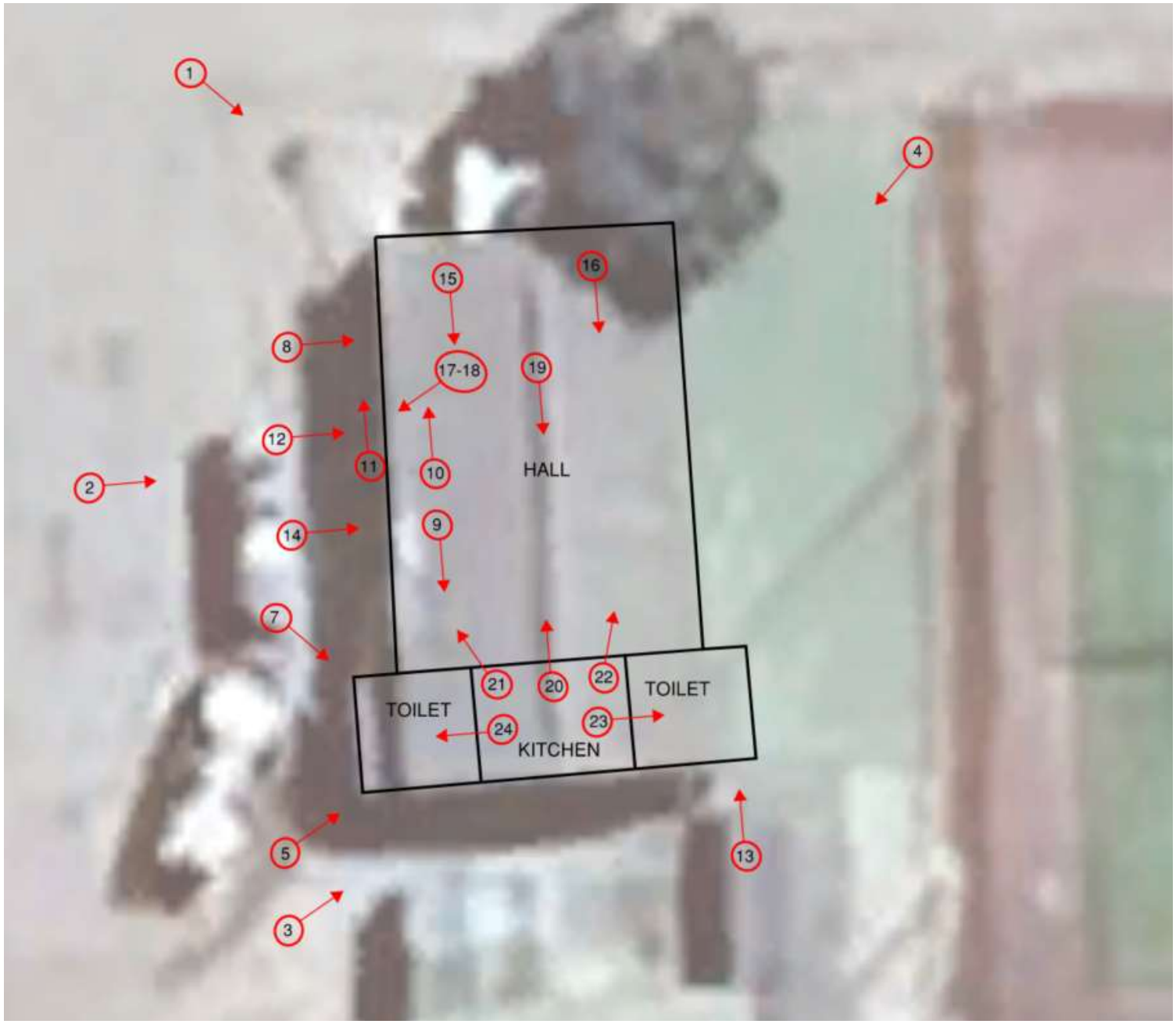
Good

Creation Date 15 May 1997 **Last Update** 01 Jan 2017 **Publish place record online (inHerit):** Approved

Disclaimer

This information is provided voluntarily as a public service. The information provided is made available in good faith and is derived from sources believed to be reliable and accurate. However, the information is provided solely on the basis that readers will be responsible for making their own assessment of the matters discussed herein and are advised to verify all relevant representations, statements and information.

Appendix B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17-18
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22
23
24
HALL
TOILET
TOILET
KITCHEN

Photograph 1 – Overall view of the hall looking toward the Northeast

Photograph 2 – Overall view of the hall looking toward the North

Photograph 3 – Overall view of the hall looking toward the Northwest

Photograph 4 – Overall view of the hall looking toward the South

Photograph 5 – Lower sections of the roof supporting columns (Minor Surface corrosion)

Photograph 6 – Minor surface rust to the lower section of column.

Photograph 7 – Column support for upper roof at toilet external entrance.

Photograph 8 – Floor joists supported on secondary Jarrah beams seated on stub supports

Photograph 9 – View to the underside of the Hall floor looking East

Photograph 10 – View to the underside of the Hall floor looking West

Photograph 11 – Corroded mesh detail within eaves & Surface corrosion to the top cord of the roof truss that supports the timber facia board

Photograph 12 – Penetrated sections of asbestos outer wall sheeting.

Photograph 13 - Lower sections of the roof supporting columns (Minor Surface rust)

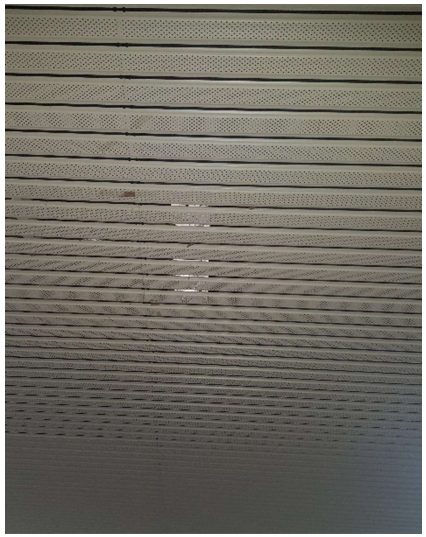
Photograph 14 – Penetrated sections of asbestos outer wall sheeting.

Photograph 15 – Penetrated sections of inner wall sheeting.

Photograph 16 – Penetrated sections of inner wall sheeting.

Photograph 17 – Bore Scope placed within the wall (Penetrated sections of wall sheeting).

Photograph 18 – Bore Scope placed within the wall.



Photograph 19 – Perforated ceiling cladding viewing to the roof structure

Photograph 20 – Within the roof space viewing toward the West.

Photograph 21 - Within the roof space viewing toward the Southwest.

Photograph 22 – Within the roof space viewing toward the Northwest.

Photograph 23 – Within the roof space view on the gable facing the Northeast

Photograph 24 – Within the roof space view on the gable facing the Southeast