

Access Report

**Maitland Gaol Tower  
Experience**  
6-18 John Street  
EAST MAITLAND NSW

For: Maitland City Council  
Ref: LP\_21536



## Document Control

This report has been prepared based on the documentation available and time allocated to conduct the review. All reasonable attempts have been made to identify key compliance matters.

## Revision Summary:

<b>prepared by:</b> Lindsay Perry	Draft Revision 1	19 February 2022 1 March 2022

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## Clarifications:

This report is limited to items within drawings listed in this report only.

**Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural.**

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry Access Pty Ltd. This may differ from that of other consultants.

## Definitions:

The following terminology has been used throughout this report:

**Compliant** | compliance with current accessibility legislation has been achieved  
**Compliant Configuration** | circulation and spatial planning requirements are compliant  
**Capable of compliance** | compliance is achievable through detailed design  
**Not Yet Complaint** | circulation and spatial planning requirements have not yet been met  
**To be addressed during detailed design stage** | details not available at DA stage  
**To be confirmed** | inadequate information is provided to determine compliance



## Executive Summary

Development application documentation for the Maitland Gaol Tower Experience located at 6-18 John Street East Maitland, has been reviewed against current accessibility legislation.

The following table summarises our findings.

Item No.	Description	Compliance Status
<b>The Disability (Access to Premises) Standards</b>		
4.1	Access Code	Refer BCA requirements
4.2	New Work & The Affected Part	
<b>Access and Approach</b>		
5.	Allotment Boundary to Entrance	Compliant Configuration
5.	Accessible Carparking to Entrance	Compliant Configuration
5.	Link between Associated Buildings	
5.	Accessways (Pathways Generally)	Compliant Configuration
5.	Accessible Carparking	Compliant Configuration

We consider that the drawings presented for assessment, for the purposes of a development application, generally comply with current statutory requirements.

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## 1 Project Background

Maitland Gaol is one of New South Wales premier heritage listed sites and attracts visitors from all over the world. It is located within the East Maitland Heritage Conservation Area.

Maitland Gaol was constructed between 1846 and 1849 to a symmetrical plan centred on an axis including the Courthouse and William Street. The plan included external stair access at the northeast and southwest external corners to a tower on top of the perimeter wall.

The towers provided access to a limited length of the top of each wall for visibility into the gaol interior.



Figure 1 | Maitland Gaol Tower + Gantries

The Maitland Gaol Tower Experience will provide a premium tour experience offering an immersive experience of the site from a prison officer's perspective with public access through guided tours to a limited section of the existing towers and gantry platforms on top of the tower walls. The tours will have a limited number of participants, be fully escorted by a trained member of staff, and include a detailed safety briefing prior to starting the tour. Both day and night tours will be offered.

The proposed building works will include a new steel access stair, re-use of the towers and gantry platforms, and modifications to the floor of the tower.

A performance-based approach to accessibility has been adopted in this project due to the heritage significance and existing conditions / constraints generally. Alternatives interpretive measures will be available for people unable to physically access the Maitland Gail Tower Experience.



## 2 Reviewed Documentation

Documentation prepared by Donn Architects has been reviewed as follows:

dwg no.	drawing name	revision
A001	Cover Sheet	A
A020	Existing Ground Floor Plan	A
A021	Existing Floor Plan of Towers + Gantry Walkways	A
A025	Existing Survey Levels at Towers 1 & 6	A
A030	External Elevations Sheet 1	A
A031	External Elevations Sheet 2	A
A040	Existing Section & Internal Elevations Tower 1	A
A050	Call Out Plans for Proposed Works	A
A100	Proposed Stair Plan(s) Tower 1	A
A101	New Framing Plan Tower 1	A
A150	Floor Plan & Photos Inside Tower 6	A
A500	Miscellaneous Detailing	A

## 3 Legislation

Access assessment has been made against Access Legislation including:

- The Commonwealth Disability Discrimination Act 1992 (DDA)
- Disability (Access to Premises (Buildings)) Standards 2010
- Access Code for Buildings 2010
- The National Construction Code Building Code of Australia Volume 1 2019, Amendment 1 (BCA)
  - Section D2.14 / D2.15 / D2.17 – landings, thresholds and slip resistance
  - Section D3 – Access for People with Disabilities
- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility
- Australian Standard AS1428.2(1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities
- Australian Standard AS1428.4.1 (2009) Amendment 1 – Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators

A summary of the requirements of relevant legislation follows.

### **The Disability Discrimination Act 1992**

The DDA requires independent, equitable, dignified access to all parts of the building for all building users regardless of disability. The DDA makes it unlawful to discriminate against a person on the grounds of disability.



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### **The Disability (Access to Premises) Standards**

The Disability (Access to Premises - buildings) Standards 2010 (the Premises Standards) commenced on 1 May 2011. Any application for a building approval for a new building or upgrade of an existing building on or after that date triggers the application of the Premises Standards.

The Premises Standards include an **Access Code** written in the same style as the Building Code of Australia. It has a number of Performance Requirements that are expressed in broad terms and references a number of technical Deemed-to-Satisfy Provisions.

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### **The National Construction Code / Building Code of Australia (Volume 1)**

The Building Code of Australia (BCA) is contained within the National Construction Code (NCC) and provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings (and new building work in existing buildings) throughout Australia. The BCA is a performance-based code and compliance can be met through satisfying the deemed-to-satisfy provisions or by meeting the prescribed performance requirements.

For public buildings, access for people with disabilities is generally required to and within all areas normally used by the occupants.

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### **AS1428 – Design for Access and Mobility**

The AS1428 Suite provides design requirements for accessibility generally, covering all types of disabilities. AS1428.1 and AS1428.4.1 are referenced by the NCC / BCA.

- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility contains access requirements that are mandatory for the provision of access for persons with a disability and is referred by the BCA
- Australian Standard AS1428.2(1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities provides enhanced and best practice requirements that will minimize DDA risk
- Australian Standard AS1428.4.1 (2009) Amendment 1 – Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators



## 4 Access to Heritage Buildings

The following commentary, considered applicable to the Maitland Gaol Tower Experience, outlines the key features for improving access to heritage buildings as outlined in the publication titled *Improving Access to Heritage Buildings: A practical guide to meeting the needs of people with disabilities* by Eric Martin (published in 1999).

Heritage places should be accessible to everyone, including people with disabilities. Providing access to buildings for people with disabilities is required under the Disability Discrimination Act however, there is also a need to conserve places of heritage value and not alter them in ways that adversely affect their significance.

Accessibility solutions will be unique to each historic building. Consequently, standardized design solutions may not be appropriate. Adopting a performance-based approach to the provision of access for people with disabilities that respects the heritage context is key in a successful building solution.

A five-step approach to identifying and implementing accessibility modifications is recommended by Martin (1992) as follows:

- Review the significance of the place and identify the elements of greatest significance.
- Undertake an Access Audit to determine existing and required levels of accessibility.
- Evaluate access options within a conservation context. This process includes consultation with authorities and approval of the proposed action.
- Prepare the access policy or action plan.
- Implement the necessary action

A collaborative approach to the design solution has been adopted in the Maitland Gaol Tower Experience project and the process above has been adopted throughout the design process as outlined below.

### 4.1 Significance of the Place

It is important that the significance of the place and its associated elements have been adequately defined.

The Maitland Gaol complex is listed on the NSW State Heritage Register, the NSW S.170 Register, the Maitland LEP and is located within the East Maitland Heritage Conservation Area. The site address is 6-18 John Street, East Maitland NSW 2323.

Maitland Gaol was constructed between 1846 and 1849 to a symmetrical plan centred on an axis including the Courthouse and William Street. The plan included external stair access at the north east and south west external corners to a tower on top of the perimeter wall. The towers provided access to a limited length of the top of each wall for visibility into the gaol interior.

Between 1883 and 1887, the gaol was extended to the east (the 'Eastern Extension'). Additional corner stairs and towers were constructed at the south west and south east



corners. Later upgrade works (late 20th Century) have replaced the original towers and added roofed gantry walkways installed over the original level sections of sandstone.

**Commentary:**

The Maitland Gaol Tower Experience is identified as a key feature of the Maitland Gaol Development Plan and will provide a premium tour experience offering an immersive experience of the site from a prison officer's perspective.

The Tower Experience project will offer public access through guided tours to a limited section of the existing towers and gantry platforms on top of the tower walls. The tours will have a limited number of participants, will be fully escorted by a trained member of staff, and will include a detailed safety briefing prior to starting the tour. Both day and night tours will be offered.

While access to the Tower has been maximised (as demonstrated throughout subsequent sections of this report), the experience will not be fully accessible due to the existing conditions. Alternative interpretive measures will be available for people unable to participate in the Maitland Gaol Tower Experience Tour.

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## 4.2 Accessibility Audit

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A building survey or assessment should be undertaken to evaluate the place's accessibility thoroughly, identifying all barriers and issues to be resolved.

A site inspection was conducted of the Maitland Gaol Complex, specific to the Tower experience. While a detailed accessibility audit was not conducted, the site is generally accessible as described below.

**Commentary:**

It is proposed that a full access audit will be conducted as part of a larger full-site upgrade works proposed for the site.

The site offers a reasonable level of accessibility for people of all abilities including the provision of accessible sanitary facilities and ramped access. For people with non-ambulant disabilities, assistance is currently required to gain access to the building from the carparking areas.

The Towers are not currently accessible to people with disabilities, nor are they publicly accessible. The Ground Floor level of Tower 1 (that contains a toilet) and Tower 6 were inspected.



Figure 2 | Tower 1 – Ground Level





Figure 3 | Tower 6 – Existing Stair Access

As a State-listed Heritage Item, the provision of a fully accessible route to the towers and gantry platforms is not achievable. While heritage is not in itself a reason for exempting access for people with disabilities, we understand that the provision of a lift within the tower space presents an unacceptable heritage impact, requiring significant intervention to the original sandstone fabric and the interior space at floor level of the tower. It would extinguish the interpretation of the tower interior completely by alienating the space available for a stair. Provision of a lift external to the tower itself would also present an unacceptable visual impact against the perimeter wall within the grounds of the gaol, or externally to the enclosed yards.

#### 4.3 Accessibility Options

Accessibility solutions can be developed once significance has been defined and the access required is determined. These solutions must respond to the purpose for access, whether it be interpretation, work or other reasons.

##### Commentary:

While access to Tower 1 and the Gantries will not be available for people with limited mobility, the following measures have been implemented to promote accessibility generally.

The accessible path of travel has been extended as far as possible into the existing ground level of the tower. This includes the provision of a ramp from the existing internal paved street and widening the doorway to the tower at the ground floor

Interpretive options will be made available to people unable to participate in the tour.

#### 4.4 Preparation of Access Plan

Any accessibility solution should be part of the long-term conservation and use of the place and be consistent with its conservation management plan. The solution should form part of a site-specific action plan.

##### Commentary:

The Maitland Gaol Tower Experience will have restrictions in participation to ensure the highest level of public safety. The proposed restrictions are as follows and not limited to disability:



### **Health, capability and safety considerations.**

To be able to access the Tower people will need to be able to

- walk up approximately 30 stairs, ascending 6.3m metres vertically.
- walk approximately 100 metres
- be confident and comfortable at a height of 7m metres above the ground
- hear and follow verbal safety instructions from the tour guide

People with the following conditions will need to confidentially disclose this to the operators (disclosed conditions will be discussed individually and the operator will reserve the right to decline entry to the tour).

- vertigo, dizziness, loss of balance,
- fear of heights or fear of enclosed spaces
- limb absence or significant limb difference
- heart conditions (including high or low blood pressure)
- chronic illness
- being in current recovery from surgery
- respiratory conditions
- epilepsy or other conditions that could result in fits or seizures
- pregnancy

People with the following will likely not be able to ascend the tower experience.

- People unable to safely and confidently climb 30 stairs ascending 6.3m metres vertically
- People who require crutches, frames or other mobility aids that prevent them being able to maintain 3 points of contact while ascending and descending a spiral staircase.
- People for whom physical exertion creates a high risk due to a heart, respiratory or other medical condition.
- People who cannot hear safety instructions or directions
- People who have had a fit or seizure in the last six months
- People with broken bones

Persons aged over 80 or who are more than 24 weeks pregnant can ascend the tower (subject to all other conditions) if they have a certificate of fitness signed by their GP.

Physical requirements will be outlined on the website, on a page during the ticketing process (acknowledgement of which will be required to complete purchase online).

For in person purchases, signage, a flyer or explanation by the staff member will ensure customers aware of requirements.

Staff will be trained to identify people who may have difficulty meeting the physical requirements.



### **Age restrictions**

Children under the age of 12 or who cannot independently climb stairs maintaining three points of contact will not be admitted entry.

The above measures ensure safety of the participants during the Maitland Gaol Tower Experience and are not specific to disability. Interpretive options (to be determined) will be available for people unable to participate in the tour. This will likely include audio visual displays, photographs, and the like.

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## **4.5 Implementation**

Implementation of the Access Plan may be phased in over time if funds are limited. Interim solutions can be considered until more permanent solutions can be implemented. Successful implementation also requires regular training of staff and volunteers in understanding people with disabilities, and how best to assist them to appreciate a place.

### **Commentary:**

The following measures will be implemented to ensure the restrictions on participants of the Maitland Gaol Tower Experience are clear to the general public.

- Physical requirements will be outlined on the website, on a page during the ticketing process (acknowledgement of which will be required to complete purchase online).
- For in person purchases, signage, a flyer or explanation by the staff member will ensure customers are aware of requirements / restrictions.
- Staff will be trained to identify people who may have difficulty meeting the physical requirements and also in etiquette for conversing directly with people with disabilities

This process is similar to other experiences such as the Sydney Harbour Bridge Climb (<https://www.bridgeclimb.com/faqs>) and Port Arthur Historic Site (<https://portarthur.org.au/what-to-do/#section-5>).



## 5 The Disability (Access to Premises) Standards

Any application for a building approval for a new building or upgrade of an existing building triggers the application of the Premises Standards. The Premises Standards include an Access Code written in the same style as the Building Code of Australia. Additionally, it offers a number of concessions for existing buildings as outlined below.

### 5.1 Access Code

The Premises Standards include an Access Code written in the same style as the Building Code of Australia.

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#### Compliance Summary:

Refer to BCA requirements throughout subsequent sections of this report.

### 5.2 New Work and The Affected Part

The Disability (Access to Premises – Buildings) Standards apply to **...a new part, and any affected part, of a building**, to the extent that the part of the building is...a Class 3, 5, 6, 7, 8, 9 or 10 building (Clause 2.1).

**New work** is defined as follows (Clause 2.1 (4)):

- An extension to the building or a modified part of the building.

An **affected part** is defined as follows (Clause 2.1 (5)):

- The principal pedestrian entrance of an existing building that contains a new part; and
- Any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

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#### Compliance Summary:

Compliant

#### Commentary:

In this instance, the **new work** is limited to the new stair and associated works within the Tower 1. The **affected part** is the path of travel from other areas of the Gaol, which is an existing condition and offers an accessible path of travel via the paved areas.

Maitland Gaol offers an accessible ramp at the main entrance, accessible carparking, accessible sanitary facilities, and a reasonable level of access throughout. The path of travel between the visitor entrance and the Tower is generally level via the existing paved internal street.

To facilitate an accessible path of travel to the base of the new stair, a threshold ramp will be provided at the new doorway. A 'landing' area with fall of 1:50 will be provided at the doorway, adjoining a kerb ramp (1:8) for access to the internal paved street. The doorway to the Tower will also be widened to achieve 850mm clear opening width to enable people using a wheelchair access (albeit limited) to the base of the new stair.

## 6 Tower 1 | Accessibility Items

The approach to the building needs to be considered when considering access for persons with a disability. The BCA has three requirements for the approach to the building for persons with a disability.

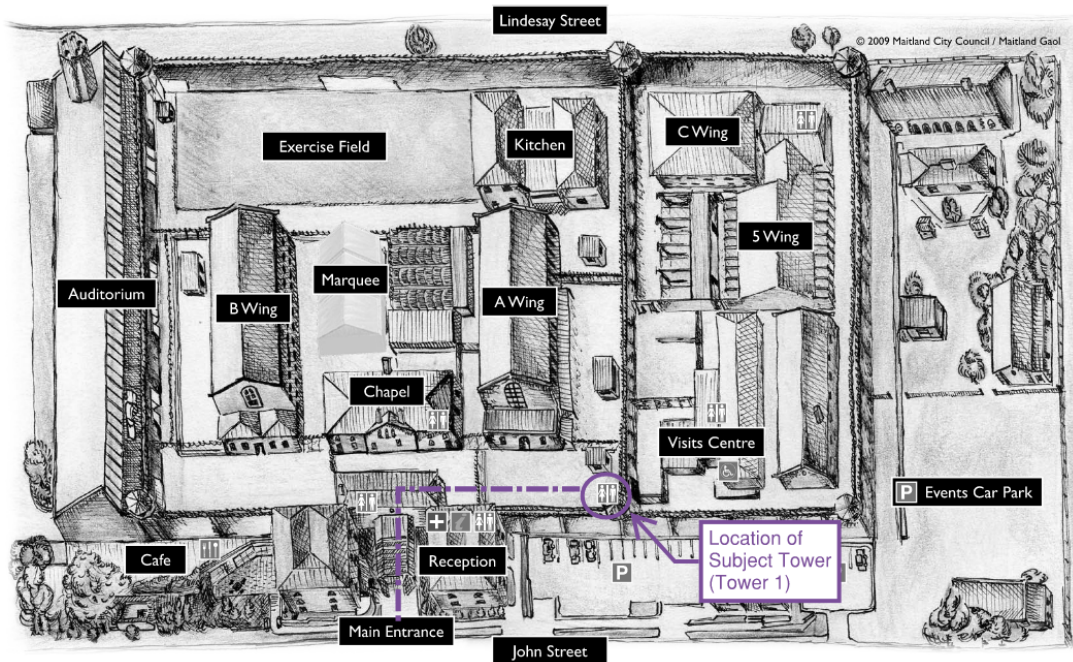


Figure 2 | Overall Site Plan

\*map sourced from Maitland City Council website <https://www.maitlandgaol.com.au/>

### 6.1 Approach to Tower 1

The BCA requires that a continuous accessible path of travel be provided from the allotment boundary at the main points of pedestrian entry to the main entrance. In the case of upgrade works such as the Tower 1, the path of travel is generally an existing condition.

#### Compliance Summary:

Compliant

#### Commentary:

The path of travel between the visitor entrance and the Tower is generally level via the existing paved internal street.

To facilitate an accessible path of travel to the base of the new stair, a threshold ramp will be provided at the new doorway. A 'landing' area with fall of 1:50 will be provided at the doorway, adjoining a kerb ramp (1:8) for access to the internal paved street. The doorway to the Tower will also be widened to achieve 850mm clear opening width to enable people using a wheelchair access (albeit limited) to the base of the new stair.

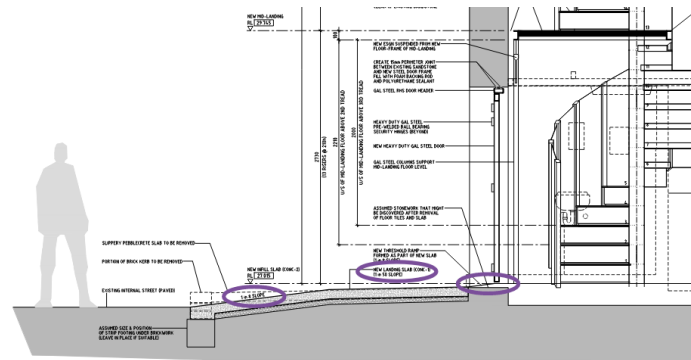


Figure 2 | Proposed Access to Tower from Internal Street

## 6.2 Kerb Ramp

Where kerb ramps are provided to pedestrian areas within the accessible path of travel, the configuration of kerb ramps is to be in accordance with AS1428.

### Compliance Summary:

Compliant

### Commentary:

A new kerb ramp is documented as part of the accessible path of travel to Tower 1. It offers compliance with AS1428.1, clause 10.7 as follows:

- The nominated gradient of the kerb ramp is 1:8
- The overall height is 150mm
- Splays are provided to each side of the kerb ramp – we note that a tooled joint can be provided during construction
- The proposed concrete ramp will offer a slip resistant surface.

## 6.3 Threshold Ramp

To achieve a seamless transition at the doorway, it is sometimes necessary to provide a threshold ramp at building entrances.

### Compliance Summary:

Compliant

### Commentary:

A new threshold ramp is documented as part of the accessible path of travel to Tower 1. It offers compliance with AS1428.1, clause 10.5 as follows:

- The nominated gradient of the threshold ramp is 1:8
- The overall height is 35mm
- The overall length is 280mm
- The threshold ramp is located within 20mm of the door leaf that it serves
- The threshold ramp is enclosed, being formed within the depth of the existing sandstone opening.
- The proposed concrete ramp will offer a slip resistant surface



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#### 6.4 Accessible Entrance

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In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and not less than 50% of all pedestrian entrances including the principal pedestrian entrance.

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##### Compliance Summary:

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Compliant (fit-for-purpose)

##### Commentary:

The existing doorway at the Ground Level of Tower 1 will be modified as a part of the proposed building works. A new “Heavy Steel Security Door with a flush pull handle will be installed. A performance-based approach to accessibility has been adopted in this instance due to the nature of the heritage fabric and upgrade works generally. The proposed doorway, being operated solely by Tour Guides and maintenance staff only is considered fit-for-purpose as follows.

- The doorway will achieve an 850mm clear opening width per AS1428.1 (2009) requirement for a doorway within the accessible path of travel.
- The doorway will be open at the commencement of scheduled tours only. It will remain locked at all other times – there is no public access to the Tower.

The doorway will be operated solely by Tour Guides and maintenance staff who require a high level of mobility to perform their roles.

In terms of discrimination, we foresee no discrimination on the ground of disability in this instance – the doorway is not operated by the general public and therefore, equitable use is achieved.

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#### 6.5 Extent of Access Generally

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For public buildings, access is required to and within all areas normally used by the occupants.

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##### Compliance Summary:

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Compliant (fit-for-purpose)

##### Commentary:

Due to the nature of the Tower, access for people with limited mobility is not achieved due to the provision of stair only access as a part of the Maitland Gaol Tower Experience.

Access for people with limited mobility has been maximised to the fullest extent possible within the proposed modifications. This includes the provision of an accessible path of travel, including doorway to the ground floor of Tower 1. This design approach is supported based on the following.



- The Maitland Gaol Tower Experience will have restrictions on participants including age, ability and medical conditions.
- Information regarding the accessibility of the tour will be readily available on Council's website.
- Alternative interpretive measures will be available for people unable to participate in the Maitland Gaol Tower Experience Tour.
- Wheelchair access is available to the entrance doorway and a level landing is provided each side of the door. This enables site lines to the new stair and into the tower area generally. It also offers a means of access for people with ambulant disabilities, who may not be able to participate in the full tour, to enter the ground floor of Tower 1 as a part of the overall experience.

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## 6.6 Stairs

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AS1428.1 has access requirements for all stairs other than fire isolated egress stairs and is applicable in this instance.

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### Compliance Summary:

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Compliant (performance-based solution)

### Commentary:

The proposed spiral stair to be constructed for access to the tower and gantries, as a part of the Maitland Tower Gaol Experience, does not offer compliance with AS1428.1 (2009), being of a spiral design.

The design intent of the spiral stair is heritage based and is considered viable based on the following:

- It offers a compact solution within the octagonal room allowing full access to all three (3) doors out onto the gantries
- It does not necessitate the inclusion of a trap door, which is not appropriate in terms of public safety issues
- The spiral has a regular 'rhythm' conducive to "muscle memory" and a person's gait when travelling up the stair.
- The inclusion of the mid-landing offers a resting point
- The tapering spiral treads and short balustrade components can be erected inside the confined tower in small sections to suit the restricted space without cranes
- The centralised location stands clear of the existing walls allowing the sandstone to be left largely un-touched and allowing space for interpretive displays along with sound and lighting
- A central support column affords limited fixings to the existing sandstone shaft as the stair extends up through the tower

Spiral Stairs do not achieve compliance with BCA Volume 1 or the accessibility requirements of AS1428,1 (2009). Therefore, a performance solution has been prepared to demonstrate that the items being addressed, with respect to access for people with disabilities, are fit-for-purpose based on the occupancy rates and characteristics of the Tower Experience, including alternative





accessibility arrangements as applicable. It will be submitted as part of the construction certificate application (refer to Appendix 1).

The acceptance criteria for the performance solution includes the following:

- The Maitland Gaol Tower Experience will have restrictions on participants including age, ability and medical conditions.
- Information regarding the accessibility of the tour will be readily available on Council's website.
- Alternative interpretive measures will be available for people unable to participate in the Maitland Gaol Tower Experience Tour.
- The provision of a spiral staircase provides authenticity in the heritage context and in terms of public safety is preferable to an access ladder or the like.
- The spiral staircase has been designed to reflect the requirements of BCA Volume 2 that provides requirements for the provision of spiral staircases in the residential setting.
- While not able to achieve compliance with AS1428.1 (2009), the stair will be provided with safety features to the greatest extent possible. This includes handrails both sides for three-point-contact that promotes stability and contrasting non-slip nosing strips to assist people with vision impairment.
- Tactile indicators will be omitted from the spiral stair due to the complexities in installation and associated trip risks.
- The proposed mid-landing offers a rest area for tour groups.
- The deemed-to-satisfy departures meet the relevant performance requirements

With respect to the design of the spiral stair and accessibility features per AS1428.1 (2009) proposed, we note the following have been incorporated:

- The stair will have closed risers
- Non-slip nosing strips, with luminance contrast, will be applied to stair treads
- The external handrail is circular with a diameter of 42mm, is continuous along the length of the stair, is at a height of 900mm and offers no obstructions to the passage of a hand along the rail.



## 7 Conclusion

This report demonstrates that the fundamental aims of accessibility legislation are achievable within the Maitland Gaol Tower Experience located at 6-18 John Street East Maitland. Spatial planning and general arrangements of facilities will offer inclusion for all building users.

Disability is often defined as any limitation, restriction or impairment which restricts everyday activities and has lasted or is likely to last for at least 6 months. Disabilities can be very varied. They can be physical, cognitive, intellectual, mental, sensory, or developmental. They can be present at birth or can occur during a person's lifetime. They can also be permanent or temporary. In Australia, almost one in five people – 4.3 million – have a disability with one in three having severe or profound core activity limitation.

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings or refurbishment works. The design approach needs to maintain a high level of equity for people with disabilities and meet the performance requirements of the BCA. The performance requirements adopt two main concepts in the provision of access for people with a disability being **to the degree necessary** and **safe movement**. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.



## Appendix 1 | Performance Solution



**lindsay perry access**

Performance Solution Report  
ACCESSIBILITY

**Maitland Gaol Tower  
Experience**

6-18 John Street, East Maitland  
ADDRESS NSW

For: Maitland City Council  
Ref: LP\_21536



## Document Control

This report has been prepared based on the documentation available and time allocated to conduct the review. All reasonable attempts have been made to identify key compliance matters.

## Revision Summary:

<b>prepared by:</b> Lindsay Perry	Draft Revision 1	19 February 2022 1 March 2022
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## Clarifications:

This report is limited to items within drawings listed in this report only.

Construction is to be in accordance with the recommendations made in this access report to ensure compliance.

**Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural. This needs to be considered during construction to account for wall linings and the like.**

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry Access Pty Ltd. This may differ from that of other consultants.

## References:

Australian Bureau of Statistics, 2019  
Disability, Ageing and Carers, Australia: Summary of Findings, 2018  
<https://www.abs.gov.au/ausstats/abs@.nsf/0/C258C88A7AA5A87ECA2568A9001393E8?Opendocument>

Goldsmith, S. 2001, *Designing for the Disabled The New Paradigm*, Architectural Press, Oxford

Institute of Access Training Australia (IATA) 2015, *The Why's of Access*, viewed 17 July 2017, <http://www.accessauditsaustralia.com.au/The-Whys-of-Access.aspx>



## 1. Introduction

The following item within the proposed Maitland Gaol Tower Experience does not meet the deemed to satisfy provisions of the National Construction Code: The Building Code of Australia Volume 1, Amendment 1 2019 (BCA).

- The proposed Maitland Tower Gaol Experience will not be accessible to people with limited mobility.

The proposed spiral stair to be constructed for access to Tower 1 and gantries, as a part of the Maitland Tower Gaol Experience, does not offer compliance with AS1428.1 (2009).

## 2. Performance Based Design Brief

A performance-based design brief has been prepared as a part of this performance solution and has been accepted by the relevant stakeholders. It is attached as Appendix 2 of this report,

## 3. Key Stakeholders:

organisation:	Representative/s:	role:
Maitland City Council	Allision Cronin	Project Manager
Maitland City Council	Zoe Whiting	Heritage Interpretation Specialist, Maitland Gaol
Maitland City Council	Mike Baudinette	Destination Manager, Maitland Gaol
Donn Architects	Peter Donn	Architect
Maitland City Council	Murray Freeman	Team Leader Building Assessment
Lindsay Perry Access	Lindsay Perry	Accredited Access Consultant

## 4. Project Description

The Maitland Gaol complex is listed on the NSW State Heritage Register, the NSW S.170 Register, the Maitland LEP and is located within the East Maitland Heritage Conservation Area. The site address is 6-18 John Street, East Maitland.

Maitland Gaol was constructed between 1846 and 1849 to a symmetrical plan centred on an axis including the Courthouse and William Street. The plan included external stair access at the north east and south west external corners to a tower on top of the perimeter wall. The towers provided access to a limited length of the top of each wall for visibility into the gaol interior.

Between 1883 and 1887, the gaol was extended to the east (the 'Eastern Extension'). Additional corner stairs and towers were constructed at the south west and south east corners. Later upgrade works (late 20th Century) have replaced the original towers and added roofed gantry walkways installed over the original level sections of sandstone.



The Maitland Gaol Tower Experience is identified as a key feature of the Maitland Gaol Development Plan and will provide a premium tour experience offering an immersive experience of the site from a prison officers's perspective. The Development Plan identifies a vision for Maitland Gaol as an iconic tourism destination, driven by its unique heritage, connection to community and innovative experience.

The Tower Experience project will offer public access through guided tours to a limited section of the existing towers and gantry platforms on top of the tower walls. The tours will have a limited number of participants, will be fully escorted by a trained member of staff, and will include a detailed safety briefing prior to starting the tour. Both day and night tours will likely be offered.



Figure 1 | Maitland Gaol Tower 1 + Gantries

## 5. Reviewed Documentation

Documentation prepared by Donn Architects has been reviewed as follows:

dwg no.	drawing name	revision
A001	Cover Sheet	A
A020	Existing Ground Floor Plan	A
A021	Existing Floor Plan of Towers + Gantry Walkways	A
A025	Existing Survey Levels at Towers 1 & 6	A
A030	External Elevations Sheet 1	A
A031	External Elevations Sheet 2	A
A040	Existing Section & Internal Elevations Tower 1	A
A050	Call Out Plans for Proposed Works	A
A100	Proposed Stair Plan(s) Tower 1	A
A101	New Framing Plan Tower 1	A
A150	Floor Plan & Photos Inside Tower 6	A
A500	Miscellaneous Detailing	A

## 6. Process for the Assessment of the Performance Solution

The above-mentioned items do not meet the deemed-to-satisfy provisions of the BCA and are considered a Performance Solution.

### 6.1 Compliance Pathways:

BCA Clause A2.0 states that the compliance with the NCC is achieved by complying with the governing requirements of the NCC (Deemed-to-Satisfy Solution) and the performance requirements. Compliance can be satisfied by a Performance Solution, a Deemed-to-Satisfy Solution or a mixture of both. The performance solution is to be at least equivalent to the Deemed-to-Satisfy provisions.

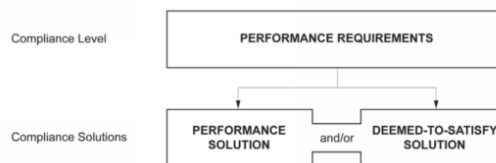


Figure 2 | Compliance Solutions

The process outlined in Clause A2.2 has been followed to demonstrate compliance with the performance requirements. This requires that the performance solution be at least equivalent to the deemed-to-satisfy provisions and that the Performance Solution will only comply when the assessment methods used satisfactorily demonstrate compliance with the performance requirements.

### 6.2 Assessment Method:

With regard to BCA Clause A2.2(2) Assessment Methods, we advise that a combination of Expert Judgement (Method C) and Comparison with the Deemed-to-Satisfy Provisions (Method D) has been adopted in the preparation of this performance solution.

Expert judgement is based upon professional opinion and experience. In this regard, Lindsay Perry is a qualified Access Advisor, being an accredited member of The Association of Consultants in Access, Australia – membership number 136. For the past fifteen years, Lindsay Perry has been providing access consultancy services throughout Australia. She is a registered architect and accredited access consultant holding a Bachelor degree in both science and architecture and a Master of Disability Studies. These qualifications offer a sound basis to provide advice regarding access to premises for persons with a disability. Lindsay Perry carries public liability insurance and professional indemnity insurance.

### 6.3 Performance Requirements:

The performance requirements of the BCA specify the minimum level of performance for buildings and building elements. They offer flexibility in achieving compliant outcomes and encourage innovative design. In terms of accessibility, this allows usability factors; the specific needs of the building occupants; and the way in which the building will be managed to be considered as a part of the assessment / compliance process.

The requirements of the Disability Discrimination Act 1992 (DDA) have also been considered in the preparation of this Performance Solution. The DDA is a complaint-based law that makes it unlawful to discriminate against a person on the ground of disability.





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## 7. The Performance Based Approach to Accessibility

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A performance-based approach to accessibility must demonstrate that the design solution will provide an equitable and comparable condition to that of the deemed-to-satisfy provisions of the BCA.

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### 7.1 Equity and Dignity:

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Equity and dignity are important aspects in the provision of access to buildings for all users and must be considered as part of the performance-based approach. The design proposal needs to maintain a high level of equity for people with disabilities and meet the performance requirements of the BCA.

The NCC Guide to Volume 1 2019 clarifies that the term “equitable” is used within the BCA to meet the intention of DDA and to provide people with a disability with the same rights as the rest of the community. The word “equitable” combines concepts of fairness and equality. The guide states that it does not mean that all people must be able to do precisely the same thing in the same way. Rather, it implies that if some people can use a building for a particular purpose, then most people should be able to use the building for that purpose. Regardless, a person with a disability should be able to gain access to and within a building, and to the services and facilities within buildings, in a manner which is not devaluing or demeaning – in other words, with “dignity”.

The performance requirements adopt two main concepts in the provision of access for people with a disability being to the degree necessary and safe movement. Both of these concepts need to be achieved within the context of equitable and dignified access.

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### 7.2 Determination of “To the Degree Necessary”:

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BCA A1.0 Interpretation (3)(c) advises that the term “to the degree necessary”, when applied to a performance requirement, means that consideration of all the criteria referred to in the performance requirements will determine the outcome appropriate to the circumstances and that in certain cases it may not be necessary to incorporate any specific measures to meet the said performance requirement.

Lindsay Perry Access have adopted the following in determining the appropriateness of a performance-based design solution and providing access “to the degree necessary”. Criteria in relation to access for people with disabilities is to take into consideration three factors: the use and function of the building; the primary user group occupying the building; and the risk of discrimination issues arising from the design proposal. Our methodology involves triangulation upon which to determine whether access is provided “to the degree necessary”.

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### 7.3 Determination of “Safe Movement”:

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With regard to safe movement, examples of criteria upon which we base our assessment of the suitability of the design proposal takes into account gradient, crossfall and angles of intersection of the floor plane with respect to people using mobility aids or are unstable on their feet. It also considers the needs of people with vision impairment with respect to the identification of potential hazardous situations. Safe movement is considered site specific and cannot be generalized.



## 8. Relevant Disability Statistics

The Australian Bureau of Statistics (ABS) 2019, 4430.0 - Disability, Ageing and Carers, Australia 2018 states the following statistics with respect to the disability.

### 8.1 General Disability Statistics:

General disability statistics are as follows:

- Approximately 18% of all Australians have some form of disability (over 4.4 million people)
- 17.8% of females and 17.6% of males in Australia have disability.
- Of all people with disability, 1.9 million are aged 65 and over, representing almost half (44.5%) of all people with disability.

### 8.2 Types of Disabilities:

Statistics for the main types of disabilities are as follows:

- Only 4.4% of people with a disability in Australia use a wheelchair.
- Over three-quarters (76.8%) of people with disability reported a physical disorder as their main condition.
- 1 in 6 (approximately 16%) of Australians are affected by hearing loss.
- There are currently 357,000 people in Australia (8%) who are blind or have low vision.
- 45% of Australians aged 16–85 years experience a mental health condition during their lifetime.
- 3 million Australians live with depression or anxiety.

### 8.3 Definition of Disability:

Disability is often defined as any limitation, restriction or impairment which restricts everyday activities and has lasted or is likely to last for at least 6 months. Disabilities can be very varied. They can be physical, cognitive, intellectual, mental, sensory, or developmental. They can be present at birth or can occur during a person's lifetime. They can also be permanent or temporary.

In Australia, almost one in five people – 4.3 million – have a disability with one in three having severe or profound core activity limitation.

### 8.4 Achieving Equity and Dignity:

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings or refurbishment works. The design approach needs to maintain a high level of equity for people with disabilities and meet the performance requirements of the BCA. The performance requirements adopt two main concepts in the provision of access for people with a disability being **to the degree necessary** and **safe movement**. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.



## 9. Assumptions

The building works are subject to compliance with National Construction Code: The Building Code of Australia Volume 1 2019 (BCA). Volume 1 of the BCA deals with public buildings and therefore must cater to the widest range of users possible. This means that a wide range of disabilities must be considered in a performance-based approach including non-ambulant disabilities; ambulant disabilities; sensory disabilities – hearing and vision; and intellectual disabilities.

It is important that a holistic approach to accessibility is used when determining the appropriateness of the proposed performance solution.

## 10. Occupancy Rates

The occupancy rates of the building are an important factor in determining the appropriateness of a performance-based design solution. For this building, occupancy rates are considered diverse given the public nature of the retail areas. Access and equity are important factors in a building of this nature.

Specific to the Maitland Gaol Tower Experience, there will be restrictions in participation to ensure the highest level of public safety. The proposed restrictions are as follows and not limited to disability:

### **Health, capability and safety considerations.**

To be able to access the Tower people will need to be able to

- walk up approximately 30 stairs, ascending 6.3m metres vertically.
- walk approximately 100 metres
- be confident and comfortable at a height of 7m metres above the ground
- hear and follow verbal safety instructions from the tour guide

People with the following conditions will need to confidentially disclose this to the operators (disclosed conditions will be discussed individually and the operator will reserve the right to decline entry to the tour).

- vertigo, dizziness, loss of balance,
- fear of heights or fear of enclosed spaces
- limb absence or significant limb difference
- heart conditions (including high or low blood pressure)
- chronic illness
- being in current recovery from surgery
- respiratory conditions
- epilepsy or other conditions that could result in fits or seizures
- pregnancy

People with the following will likely not be able to ascend the tower experience.

- People unable to safely and confidently climb 30 stairs ascending 6.3m metres vertically
- People who require crutches, frames or other mobility aids that prevent them being able to maintain 3 points of contact while ascending and descending a spiral staircase.



- People for whom physical exertion creates a high risk due to a heart, respiratory or other medical condition.
- People who cannot hear safety instructions or directions
- People who have had a fit or seizure in the last six months
- People with broken bones

Persons aged over 80 or who are more than 24 weeks pregnant can ascend the tower (subject to all other conditions) if they have a certificate of fitness signed by their GP.

Physical requirements will be outlined on the website, on a page during the ticketing process (acknowledgement of which will be required to complete purchase online).

For in person purchases, signage, a flyer or explanation by the staff member will ensure customers aware of requirements.

Staff will be trained to identify people who may have difficulty meeting the physical requirements.

#### **Age restrictions**

Children under the age of 12 or who cannot independently climb stairs maintaining three points of contact will not be admitted entry.

The above measures ensure safety of the participants during the Maitland Gaol Tower Experience and are not specific to disability.

## **11. Primary vs Secondary Accessibility Features**

An accessibility feature, within the context of access to premises, can be considered a feature that makes the use of built environment less challenging for people with disabilities. Accessibility features are commonly used with reference to technology, however, in the context of a building they can be considered as ramps, handrails, hearing augmentation and the like noting that accessibility features should generally be mainstream items.

The deemed-to-satisfy departure subject to this Performance Solution relate to the accessibility of the Maitland Gaol Tower Experience – both access to the d Towers and the proposed spiral stair. Due to the restrictions on use proposed as a part of the experience (that extend beyond disability), the departures are considered secondary accessibility features affecting usability rather than accessibility. Interpretive options (to be determined) will be available for people unable to participate in the tour. This will likely include audio visual displays, photographs, and the like.

## **12. Context:**

In this instance, the heritage significance of the existing building, and its structure, affect the capacity to comply with currently accessibility legislation.

Further, the Maitland Gaol Tower Experience will have restrictions on use to always ensure the highest level of public safety.



### 13. Deemed-to-Satisfy Departure

The proposed spiral stair to be constructed for access to the tower and gantries, as a part of the Maitland Tower Gaol Experience, does not offer compliance with AS1428.1 (2009).

#### 13.1 Summary of Legislative Requirements and Deemed-to-Satisfy Departure

<b>Class of Building:</b>	Class 9b
<b>Deemed to Satisfy Clauses:</b>	<p>Clause D3.3 In a building required to be accessible— ... a stairway...except for stairways in areas exempted by D3.4 must comply with...Clause 11 of AS1428.1.</p> <p>Clause D3.8 (a) (iii) For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have vision impairment that they are approaching... a stair</p>
<b>Deemed-to-Satisfy Departure:</b>	The spiral stair proposed to Tower 1 will not offer compliance with BCA Volume 1 or AS1428.1 (2009). Further, tactile indicators will not be provided to the stair.
<b>Australian Standard Clauses:</b>	<p>AS1428.1 (2009), Clause 11.1 Stair construction generally.</p> <p>AS1428.4.1 (2009), Clause 2.4 Where required on a path of travel, warning indicators shall be located at both the top and bottom of...stairs, as shown in figure 2.4.</p>
<b>Proposed Performance Solution:</b>	It is proposed to accept the proposed spiral staircase and omission of tactile indicators due to the restricted user group and controlled environment in which the Maitland Gaol Tower Experience will operate. Further, the accessibility features of AS1428.1 (2009) stair construction requirements have been implemented as far as possible in the design of the stair.
<b>Performance Requirements:</b>	<p>DP1 Access must be provided, to the degree necessary, to enable –</p> <p>(a) people to –</p> <p>i. approach the building from the road boundary and any accessible car</p>



	<p>parking spaces associated with the building; and</p> <ul style="list-style-type: none"> <li>ii. approach the building from any accessible associated building; and</li> <li>iii. access work and public spaces, accommodation and facilities for personal hygiene; and</li> </ul> <p>(b) identification of accessways at appropriate locations which are easy to find.</p> <p>DP 2 So that people can move safely to and within a building, it must have—</p> <ul style="list-style-type: none"> <li>(a) walking surfaces with safe gradients; and</li> <li>(b) any doors installed to avoid the risk of occupants –             <ul style="list-style-type: none"> <li>i. having their egress impeded; or</li> <li>ii. being trapped in the building; and</li> </ul> </li> <li>(c) any stairways and ramps with—             <ul style="list-style-type: none"> <li>i. slip-resistant walking surfaces on—                 <ul style="list-style-type: none"> <li>(A) ramps; and</li> <li>(B) stairway treads or near the edge of the nosing; and</li> </ul> </li> <li>ii. (ii) suitable handrails where necessary to assist and provide stability to people using the stairway or ramp; and</li> <li>iii. (iii) suitable landings to avoid undue fatigue; and</li> <li>iv. (iv) landings where a door opens from or onto the stairway or ramp so that the door does not create an obstruction; and</li> <li>v. (v) in the case of a stairway, suitable safe passage in relation to the nature, volume and frequency of likely usage.</li> </ul> </li> </ul>
<p><b>Acceptance Criteria:</b></p>	<p>Demonstration shall be provided based on the collective agreement of the stakeholders that provision of a spiral staircase and omission of tactile indicators provides a suitable outcome in the context of building function / use and occupant profile.</p>
<p><b>Assessment Method:</b></p>	<p>In accordance with BCA A2.2(2) Assessment Methods, a combination of Expert Judgement (Method C) and Comparison with the Deemed-to-Satisfy Provisions (Method D) has been adopted in this instance.</p>



## 13.2 Assessment of the Performance Solution

The following commentary provides rationale for the design of the spiral staircase and omission of tactile indicators within the Maitland Gaol Tower Experience project.

### 13.2.1 Analysis:

A spiral staircase is proposed with the Tower 1 as part of the Maitland Gaol Tower experience. The BCA, for public buildings, does not permit the use of spiral stairs.

The decision to incorporate a spiral stair rather than a non-complaint “service” stair (ladder like in nature) is considered viable in this instance based on the following.

- The spiral stair is a compact solution within the octagonal room allowing full access to all 3 doors out onto the gantries
- The spiral has a regular ‘rhythm’ to suits a person’s gait when travelling up the stair – this also assists “muscle memory”.
- The inclusion of the mid-landing allows for a resting point for users
- The tapering spiral treads and short balustrade components can be erected inside the confined tower in small sections to suit the restricted space without cranes
- The centralised location stands clear of the existing walls and allows the sandstone (heritage significance) to be left largely un-touched and also allows space for interpretive display along with sound and lighting
- The central support column affords limited fixings to the existing sandstone shaft as the stair extends up through the tower – a straight stair run would require a number of bolted connections at the raking stringers

The acceptance criteria for the performance solution, as agreed by the relevant stakeholders is as follows.

- The Maitland Gaol Tower Experience will have restrictions on participants including age, ability and medical conditions.
- Information regarding the accessibility of the tour will be readily available on Council’s website.
- Alternative interpretive measures will be available for people unable to participate in the Maitland Gaol Tower Experience Tour.
- The provision of a spiral staircase provides authenticity in the heritage context and in terms of public safety is preferable to an access ladder or the like.
- The spiral staircase has been designed to reflect the requirements of BCA Volume 2 that provides requirements for the provision of spiral staircases in the residential setting.
- While not able to achieve compliance with AS1428.1 (2009), the stair will be provided with safety features to the greatest extent possible. This includes handrails both sides for three-point-contact that promotes stability and contrasting non-slip nosing strips to assist people with vision impairment.
- Tactile indicators will be omitted from the spiral stair due to the complexities in installation and associated trip risks.
- The proposed mid-landing offers a rest area for tour groups.
- The deemed-to-satisfy departures meet the relevant performance requirements

The following commentary demonstrates that the design of the spiral stair will offer a suitable safe passage for participants of the Maitland Gaol Tower Experience.

### Compliance with BCA Volume 2:

While the BCA Volume 1 precludes the use of a spiral stair, Volume 2 allows their use within the residential setting (clause 3.9.1.2 Stairway construction includes requirements for spiral stairs as follows: (Table 3.9.1.1 Riser and going dimensions)

type	riser		going		slope	
	max	min	max	min	max	min
spiral	220	140	370	210	680	590

For tapered treads, such as those within a spiral stair, the maximum allowable width is 1000mm.

With respect to the design of the spiral stair per BCA Volume 2, we note the following have been incorporated in the design of the spiral stair:

- There are a total of 30 risers within the proposed stair – a landing is provided at riser no. 13.
- The overall configuration of the spiral stair offers compliance with BCA Volume 2 as follows: the width of the stair is 640mm; riser height is 210mm; going length (at centre) is 229mm; 2R+G = 649mm.

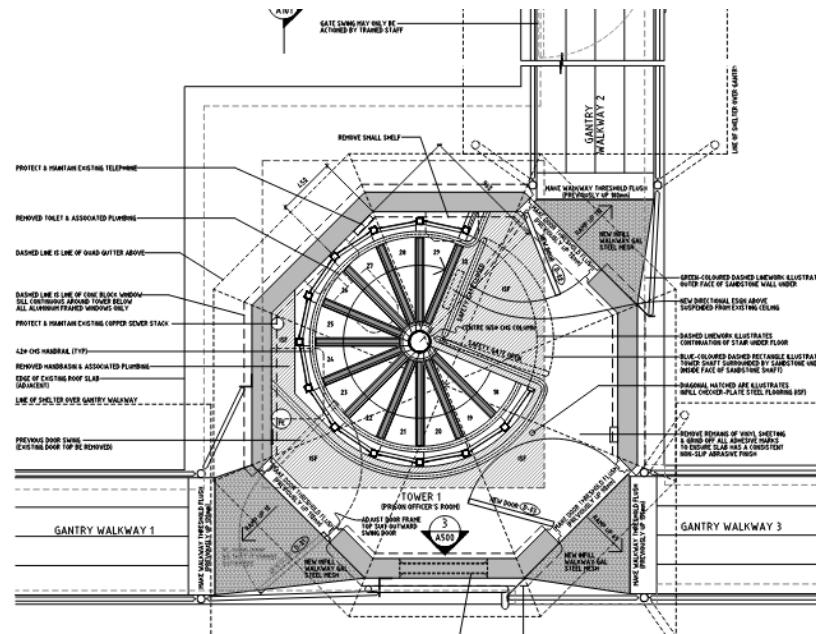


Figure 3 | Stair Plan (Upper Portion)

### Compliance with AS1428.1 (2009), clauses 11 & 12

With respect to the design of the spiral stair per the accessibility features of AS1428.1 (2009), we note the following have been incorporated in the design of the spiral stair:

- The stair will have closed risers
- Non-slip nosing strips, with luminance contrast, will be applied to stair treads





- The external handrail is circular with a diameter of 42mm. It is continuous along the length of the stair at a height of 900mm. It has been designed with no obstructions to the passage of a hand along the rail.
- The provision of a second handrail to the stair (albeit not compliant with accessibility requirements) offers stability to the users through by offering a third contact point.

### **Muscle Memory:**

The proposed configuration of the stair offers consistency throughout the flight. The height of the riser and length of the treads are consistent throughout the length of the stair. Many trips and falls are attributed to inconsistent riser height. This can be attributed to the concept of “muscle memory”. Muscle memory is a form of procedural memory that involves consolidating a specific motor task into memory through repetition and has been used synonymously with motor learning.

When a movement is repeated over time, a long-term muscle memory is created for that task, eventually allowing it to be performed with little to no conscious effort. This process decreases the need for attention and creates maximum efficiency within the motor and memory systems. Examples of muscle memory are found in many everyday activities that become automatic and improve with practice, such as using stairs.

When ascending or descending a flight of stairs, a person does not generally look at each riser to see how high it is. They look at and feel the first riser, then rely on proprioception and assume the rest are the same. The brain acclimatises to a certain riser height and while using the stairs a persons’ legs execute the muscle memory action of taking steps up or down, at the height they are used to.

When considered in the context of the performance requirements of the BCA that require a suitable safe passage in relation to the nature, volume and frequency of likely usage of the stairs, we consider that the muscle memory of the users will offer the suitable safe passage required.

### **Omission of Tactile indicators:**

Our approach towards the provision of tactile indicators has been developed to reflect the requirements of AS1428.4.1 and offer a safe environment for all users of the building. While tactile indicators can aid people with vision impairment, they also have the capacity to affect the balance of people with mobility impairments or interfere with the use of a mobility aid.

There are two types of tactile indicators – warning indicators and directional indicators. Warning tactile indicators provide warning of a potential hazard while directional indicators offer a wayfinding tool for orientation throughout the built environment.

Key concepts in the provision of tactile indicators are as follows and have been adopted as a part of our philosophy within the assessment of the spiral stair. These key concepts are noted in the Forward to AS1428.4.1 (2009) and Appendix A of AS1428.4 (2002)– Wayfinding.

- Tactile indicators provide cues which when combined with other environmental information, assist people who are blind or vision impaired with their orientation.



- “Orientation” is a person’s awareness of where they are, where they are going and where they have been.
- Warning tactile indicators indicate an approaching hazard but not the nature of the hazard. They provide a message to pause and consider a change in direction.
- Tactile indicators should be installed to provide guidance and/or warning of an obstruction or hazard in any location where insufficient alternative or “natural” tactile cues exist.
- People who are blind or have vision impairment are able to make use of aids and environmental cues available to them for wayfinding in the community. Eg, guide dogs, personal assistants, orientation training, tactile indicators, dome buttons, auditory traffic lights.
- Having established the circumstances that assist safe wayfinding, the design industry should not overuse the installation of tactile indicators but rather use of the full range of environmental guidance features available so as to minimize inconvenience to other members of the community.

The spiral staircase to be constructed within Tower 1 will be a unique condition and the user group is controlled. It is unlikely that a person who is dependent on tactile indicators for orientation and mobility will participate in the Maitland Gaol Tower Experience unaccompanied.

In this instance, the omission of tactile indicators is seen to increase user safety for people with vision impairment due to the circular nature of the spiral stair. A compliant installation of the tactile indicators, in terms of set-out, cannot be achieved in a practical manner.

There is currently much debate about the effectiveness of tactile indicators, especially with regard to the general safety issues regarding slipping and tripping for members of the public that do not have vision impairment. There is also concern that people with mobility impairments that use an aid such as a walking frame or wheelchair find it difficult to traverse tactile indicators.

Regular ongoing maintenance is required to ensure tactile indicators remain in their as-installed state and in many instances, this does not occur causing tactile indicators to lose their effectiveness as a way-finding tool.

Within the international context, Australian requirements for tactile indicators are not reflected in international standards.

At the international level, the British and American building standards (BS8300 2010 & ADA Standards 2010 respectively) have no requirement for the provision of tactile indicators. The Singapore Accessibility Code 2013 offers the provision of tactile indicators as optional and dependent on-site circumstances, suggesting their installation should be minimised.

ISO 21542 includes an appendix on the installation of tactile indicators advising that they are generally used by people travelling alone. It also advises that installation and patterns



vary from country to country and that luminance contrast is the important factor, more so than the tactile contrast.

The international context, in conjunction with the circular nature of the spiral stair and restricted user group, support the argument for the omission of tactile indicators in this instance and is deemed to not adversely affect people who are blind or have vision impairment. As such, we consider that the above assessment demonstrates that omission of tactile indicators to the spiral stair is consistent with Performance Requirement DP1 of the BCA.

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### **13.2.2 Evaluation:**

In our assessment of this performance solution, three factors have been considered being the use and function of the building; the primary user group; and potential discrimination issues.

#### **Use and Function:**

The function of the subject spiral stair is to provide access to Tower 1 and Gantries as a part of the Maitland Gaol Tower Experience. We note that this is a secure area that will remain locked outside of tour times.

For the purpose of consideration of accessibility, the assumption that tours will be provided during the daylight hours and in the evening has been made.

The daytime (normal hours are 9 to 4pm) tour will likely involve

- commencing with safety briefing
- an ascent of an internal staircase up Tower 1
- commentary in Tower 1 and in the short gantries to the north and west of this Tower. Each gantry is approximately 7 metres long.
- walking approximately 40 metres from Tower 1 to Tower 6 possibly stopping at one or more locations for commentary and photography
- accessing the northern gantry from Tower 6 for commentary and photography
- returning to Tower 1 for descent via the internal staircase with more commentary possible on the return leg.

The night-time (sundown to approximately 9pm) tour would likely involve

- commencing with safety briefing
- an ascent of an internal staircase up Tower 1
- commentary in Tower 1 and in the short gantries to the north and west of this Tower. Each gantry is approximately 7 metres long.
- walking to a position approximately halfway between Tower 1 and Tower 6 where either a commentary or interpretation of the riot in the 1970's will be given
- Continuing to Tower 6 for commentary and photography, including from the northern gantry.
- returning to Tower 1 for descent via the internal staircase.

Inclusive of safety briefing and signing of declarations/waivers and conduct of the tour, the entire process will likely be 60 minutes.



### Primary User Group:

Users of the subject spiral stair as part of the Maitland Gaol Tower Experience are a controlled group as follows:

Number of people per tour:

- 10 per tour initially but possibly up to 15 per tour
- Increasing from 10 to 15 will depend on structural constraints as well as feedback and experience of guides in managing groups on the wall

Number of staff per tour:

- One staff member per tour group.
- At peak times there may be a group assembling and being briefed by its guide while the preceding tour is finishing and descending.

Further, there will be restrictions on participants of the experience as follows. These are not limited to disability.

Health, capability and safety considerations.

To be able to access the Tower people will need to be able to

- walk up approximately 30 stairs, ascending 6.3m metres vertically.
- walk approximately 100 metres
- be confident and comfortable at a height of 7m metres above the ground
- hear and follow verbal safety instructions from the tour guide

People with the following conditions will need to confidentially disclose this to the operators (disclosed conditions will be discussed individually and the operator will reserve the right to decline entry to the tour).

- vertigo, dizziness, loss of balance,
- fear of heights or fear of enclosed spaces
- limb absence or significant limb difference
- heart conditions (including high or low blood pressure)
- chronic illness
- being in current recovery from surgery
- respiratory conditions
- epilepsy or other conditions that could result in fits or seizures
- pregnancy

People with the following will likely not be able to ascend the tower experience.

- People unable to safely and confidently climb 30 stairs ascending 6.3m metres vertically
- People who require crutches, frames or other mobility aids that prevent them being able to maintain 3 points of contact while ascending and descending a spiral staircase.
- People for whom physical exertion creates a high risk due to a heart, respiratory or other medical condition.
- People who cannot hear safety instructions or directions
- People who have had a fit or seizure in the last six months
- People with broken bones



Persons aged over 80 or who are more than 24 weeks pregnant can ascend the tower (subject to all other conditions) if they have a certificate of fitness signed by their GP.

Physical requirements will be outlined on the website, on a page during the ticketing process (acknowledgement of which will be required to complete purchase online).

For in person purchases, signage, a flyer or explanation by the staff member will ensure customers are aware of requirements.

Staff will be trained to identify people who may have difficulty meeting the physical requirements.

### **Age restrictions**

Children under the age of 12 or who cannot independently climb stairs maintaining three points of contact will not be admitted entry.

The above measures ensure safety of the participants during the Maitland Gaol Tower Experience and are not specific to disability.

### **Discrimination Issues:**

While discrimination on the ground of accessibility cannot be completely eliminated, we consider the likely of a complaint made under the DDA in this instance to be minimal due to the physical nature of the Maitland Gaol Tower Experience and restricted user group.

Interpretive options (to be determined) will be available for people unable to participate in the tour. This will likely include audio visual displays, photographs, and the like.

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### **13.2.3 Performance Requirement DP1 – Discussion:**

Performance requirement DP1 states that access must be provided to the degree necessary, to enable people to access public spaces. In this instance, the public places are considered to be areas within the Maitland Gaol Tower Experience being Tower 1 and the Gantries.

“To the degree necessary” has been determined through analysis of the use and function of the building; the primary user group occupying the building; and the risk of discrimination issues as outlined in Section 13.2.2 of this report and as demonstrated in Section 7.2.2.

Given the controlled and secure nature of Tower 1 and the Gantries, we consider that access is provided “*to the degree necessary*” in this instance.

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### **13.2.4 Performance Requirement DP2 – Discussion:**

In respect to stairs, performance requirement DP2 states that so that people can move safely to and within a building, it must have—suitable handrails where necessary to assist and provide stability to people using the stairway or ramp; suitable landings to avoid undue fatigue; and suitable safe passage in relation to the nature, volume and frequency of likely usage.



As demonstrated throughout this performance solution, suitable handrails are provided – handrail are provided to both sides that enable three-point contact that ensure maximum stability for users at all times when using the spiral stair. Further, the consistency of the riser height and tread length triggers muscle memory of the users, offering a suitable safe passage. The controller used group, that is restricted, and secure nature of the tower attribute to a low user volume and frequency of use.

The subject stairs are considered to enable people to move safely to and from the building.

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### 13.2.5 Conclusion:

It is our professional opinion that Performance Requirements DP1 and DP2 of the BCA have been met in the design of the spiral stair to Tower 1 as part of the Maitland Gaol Tower Experience.

As demonstrated above, access has been provided to the degree necessary so that people can access public spaces and move safely to and within the building.

We consider that compliance with the BCA has been met through satisfying these performance requirements. The performance solution is equivalent to the Deemed-to-Satisfy provisions.

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## 14. Summary

The above assessment demonstrates that the following departure from the deemed-to-satisfy provisions of the BCA offers compliance with the applicable performance requirements noted throughout this report.

- The proposed Maitland Tower Gaol Experience will not be accessible to people with limited mobility. The spiral stair to be constructed for access to the tower and gantries, as a part of the Maitland Tower Gaol Experience, does not offer compliance with AS1428.1 (2009).

Please contact the undersigned is you wish to discuss this matter in greater detail.

Yours Sincerely,

**LINDSAY PERRY**

B.Arch, M.Dis.Stud.

Internationally Certified Access Consultant GAATES ICAC BE-02-106-18

ACAA Accredited Access Consultant No. 136 |

Registered Architect NSW 7021

Livable Housing Assessor 20047 | NDIS SDA Assessor SDA00049





# APPENDIX 1

## Curriculum Vitae

# Curriculum Vitae



## Lindsay Perry

B.Sc(Arch), B(Arch) Hons II, M.Dis.Stud

Lindsay Perry is an **Internationally Certified Access Consultant** (Level 2) who is passionate about access and inclusion. Lindsay has over eighteen years of experience in access consulting throughout Australia and at the international level, having worked with the United Nations.

Committed to ensuring that accessible environments are created that will improve the quality of life for the community as a whole, Lindsay considers a wide range of disabilities in her work.

Lindsay has extensive experience in a wide range of projects. Having worked across five states and territories throughout Australia and at the international level, Lindsay is at the cutting edge of accessibility issues globally.

### qualifications:

- 2019 Certificate IV in Access Consulting
- 2015 Master of Disability Studies, University of Newcastle
- 1996 Bachelor of Architecture (Hons II), University of Newcastle
- 1993 Bachelor of Science (Arch), University of Newcastle

### committee involvement:

- 2020- **President**, Association of Access Consultants, Australia
- 2019-2020 **Vice President**, Association of Access Consultants, Australia
- 2014- Ordinary Member, ACAA NSW Network

### professional associations:

GAATES International  
Accredited Member – ICAC BE-02-106-18

Association of Access Consultants, Australia  
Accredited Member – 136

NSW Board of Architects  
Registered Architect 7021

Livable Housing Australia  
Registered Assessor – 20047 NDIS

SDA Assessor  
Registered Assessor – SDA00049

### philosophy:

Lindsay adopts a best practice, performance-based approach to accessibility where all advice is based on project specifics including factors such as legislation, site topography, fundamental usability, heritage significance and existing conditions.

### experience:

Lindsay has extensive experience in a wide range of projects at all design stages. This includes small retail fit-outs to larger hospital and transport projects.

She is also experienced in the preparation of accessibility strategy and management procedures, performance solutions and expert witness work.

Recently, she has been working in the Specialist Disability Accommodation space to deliver certification on a range of different projects for NDIS participants with a broad range of individual needs.

### point of difference:

Lindsay's point of difference is her communication abilities, problem solving abilities and adherence to project timelines.

She is currently a PhD candidate at the University of Newcastle researching universal design in developing countries.





# APPENDIX 2

Performance Based Design Brief





**lindsay perry access**

Performance Based Design Brief  
ACCESSIBILITY

**Maitland Gaol Tower  
Experience**

6-18 John Street, East Maitland  
ADDRESS NSW

For: Maitland City Council  
Ref: LP\_21536



## Document Control

This report has been prepared based on the documentation available and time allocated to conduct the review. All reasonable attempts have been made to identify key compliance matters.

## Revision Summary:

<b>prepared by:</b> Lindsay Perry	Draft Draft 2 Revision 1	1 February 2022 19 February 2022 1 March 2022
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## Contact Details:

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NEW LAMBTON NSW 2305

[lindsay@lpaccess.com.au](mailto:lindsay@lpaccess.com.au)  
0418 909 180

## Copyright:

This content of this report, including any intellectual property, remains the property of Lindsay Perry Access Pty Ltd and cannot be reproduced without permission.

## Clarifications:

This report is limited to items within drawings listed in this report only.

Construction is to be in accordance with the recommendations made in this access report to ensure compliance.

**Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural. This needs to be considered during construction to account for wall linings and the like.**

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry Access Pty Ltd. This may differ from that of other consultants.



## 1. Introduction

The following item within the proposed Maitland Gaol Tower Experience does not meet the deemed to satisfy provisions of the National Construction Code: The Building Code of Australia Volume 1, Amendment 1 2019 (BCA).

- The proposed Maitland Tower Gaol Experience will not be accessible to people with limited mobility.

The proposed spiral stair to be constructed for access to the tower and gantries, as a part of the Maitland Tower Gaol Experience, does not offer compliance with AS1428.1 (2009).

This performance-based design brief (PBDB) has been prepared to outline the proposed performance solution to address this item. It will demonstrate that the proposed design solution will meet the performance requirements of the BCA, being at least equivalent to the deemed to satisfy provisions.

Lindsay Perry is an access consultant accredited within Australia (ACAA No. 136) and at the international level (IAAP No. BE-02-106-18). Lindsay Perry Access Pty Ltd carries public liability insurance, professional indemnity insurance and workers compensation insurance.

## 2. Key Stakeholders:

organisation:	Representative/s:	role:
Maitland City Council	Allision Cronin	Project Manager
Maitland City Council	Zoe Whiting	Heritage Interpretation Specialist, Maitland Gaol
Maitland City Council	Mike Baudinette	Destination Manager, Maitland Gaol
Donn Architects	Peter Donn	Architect
Maitland City Council	Murray Freeman	Team Leader Building Assessment
Lindsay Perry Access	Lindsay Perry	Accredited Access Consultant

## 3. The Subject Building

The Maitland Gaol complex is listed on the NSW State Heritage Register, the NSW S.170 Register, the Maitland LEP and is located within the East Maitland Heritage Conservation Area. The site address is 6-18 John Street, East Maitland.

Maitland Gaol was constructed between 1846 and 1849 to a symmetrical plan centred on an axis including the Courthouse and William Street. The plan included external stair access at the north east and south west external corners to a tower on top of the perimeter wall. The towers provided access to a limited length of the top of each wall for visibility into the gaol interior.

Between 1883 and 1887, the gaol was extended to the east (the 'Eastern Extension'). Additional corner stairs and towers were constructed at the south west and south east corners.



Later upgrade works (late 20th Century) have replaced the original towers and added roofed gantry walkways installed over the original level sections of sandstone.

The Maitland Gaol Tower Experience is identified as a key feature of the Maitland Gaol Development Plan and will provide a premium tour experience offering an immersive experience of the site from a prison officer’s perspective. The Development Plan identifies a vision for Maitland Gaol as an iconic tourism destination, driven by its unique heritage, connection to community and innovative experience.

The Tower Experience project will offer public access through guided tours to a limited section of the existing towers and gantry platforms on top of the tower walls. The tours will have a limited number of participants, will be fully escorted by a trained member of staff, and will include a detailed safety briefing prior to starting the tour. Both day and night tours will likely be offered.



Figure 1 | Maitland Gaol Tower + Gantries

#### 4. Reviewed Documentation

Documentation prepared by Donn Architects has been reviewed as follows:

dwg no.	drawing name	revision
A001	Cover Sheet	A
A020	Existing Ground Floor Plan	A
A021	Existing Floor Plan of Towers + Gantry Walkways	A
A025	Existing Survey Levels at Towers 1 & 6	A
A030	External Elevations Sheet 1	A
A031	External Elevations Sheet 2	A
A040	Existing Section & Internal Elevations Tower 1	A
A050	Call Out Plans for Proposed Works	A
A100	Proposed Stair Plan(s) Tower 1	A
A101	New Framing Plan Tower 1	A
A150	Floor Plan & Photos Inside Tower 6	A
A500	Miscellaneous Detailing	A



## 5. The Scope & Basis of Proposal

The items to be addressed through the proposed performance solution, being the non-compliance of the proposed spiral staircase with AS1428.1 (2009) is considered a secondary accessibility feature. The area served by the spiral stair, being the Towers and Gantries, are a restricted area where there is no public access. The areas will remain locked and secured outside of the scheduled tour times.

The performance solution will demonstrate that based on the function and use of the subject spiral staircase, performance requirement DP2 have been met in the proposed design.

## 6. Applicable Performance Requirements

The following performance requirements are applicable to this performance solution:

### DP 2

So that people can move safely to and within a building, it must have—

- (a) walking surfaces with safe gradients; and
- (b) any doors installed to avoid the risk of occupants –
  - i. having their egress impeded; or
  - ii. being trapped in the building; and
- (c) any stairways and ramps with—
  - i. slip-resistant walking surfaces on—
    - (A) ramps; and
    - (B) stairway treads or near the edge of the nosing; and
  - ii. suitable handrails where necessary to assist and provide stability to people using the stairway or ramp; and
  - iii. suitable landings to avoid undue fatigue; and
  - iv. landings where a door opens from or onto the stairway or ramp so that the door does not create an obstruction; and
  - v. in the case of a stairway, suitable safe passage in relation to the nature, volume and frequency of likely usage.

## 7. Applicable Assessment Process:

BCA Clause A2.2(2) outlines Assessment Methods that can be used to validate a proposed performance solution. The following can be adopted:

- Method A: Evidence of Suitability
- Method B: Verification Methods
- Method C: Expert Judgement
- Method D: Comparison with the Deemed-to-Satisfy Provisions

A combination of Expert Judgement (Method C) and Comparison with the Deemed-to-Satisfy Provisions (Method D) will be adopted in the preparation of this performance solution.

In this regard, expert judgement is based upon professional opinion and experience. Lindsay Perry is a qualified access consultant accredited within Australia (ACAA No. 136) and at the international level (IAAP No. BE-02-106-18). She holds the Certificate IV in Access Consulting.



For over twenty years, Lindsay Perry has been providing access consultancy services throughout Australia and at the international level. She is a registered architect and accredited access consultant holding a bachelor's degree in both science and architecture and a Master of Disability Studies. These qualifications offer a sound basis to provide advice regarding access to premises for persons with a disability.

## 8. Agreed Acceptance Criteria:

The acceptance criteria for the performance solution need to be established to ensure the relevant Performance Requirements are met for the project given the occupancy and use characteristics of the building.

The performance solution will demonstrate that the items being addressed, with respect to access for people with disabilities, are fit-for-purpose based on the occupancy rates and characteristics of the building, including alternative accessibility arrangements as applicable.

The acceptance criteria will include the following:

- The Maitland Gaol Tower Experience will have restrictions on participants including age, ability and medical conditions.
- Information regarding the accessibility of the tour will be readily available on Council's website.
- Alternative interpretive measures will be available for people unable to participate in the Maitland Gaol Tower Experience Tour.
- The provision of a spiral staircase provides authenticity in the heritage context and in terms of public safety is preferable to an access ladder or the like.
- The spiral staircase has been designed to reflect the requirements of BCA Volume 2 that provides requirements for the provision of spiral staircases in the residential setting.
- While not able to achieve compliance with AS1428.1 (2009), the stair will be provided with safety features to the greatest extent possible. This includes handrails both sides for three-point-contact that promotes stability, and contrasting non-slip nosing strips to assist people with vision impairment. Tactile indicators will not be provided to the spiral staircase.
- The proposed mid-landing offers a rest area for tour groups.
- The deemed-to-satisfy departures meet the relevant performance requirements



## 9. Format and Content of Final Report:

The final performance solution report will include the following sections:

- Introduction
- Summary of Performance Based Design Brief
- Key Stakeholders
- Project Description
- Process for the Assessment of the Performance Solution
  - Compliance Pathways
  - Assessment Method
  - Performance Requirements
- Relevant Disability Statistics
  - General Statistics
  - Types of Disabilities
  - Definition Of Disability
  - Achieving Equity and Dignity
- Assumptions
- Occupancy Rates and Profile
- Primary and Secondary Accessibility Features
- Context
- Deemed to Satisfy Departure
  - Summary of Legislative Requirements
  - Justification of the Performance Solution
    - Analysis
    - Evaluation
    - Comparison of other Heritage Facilities / Tours
    - Discussion of the Performance Requirements
    - Design Enhancements
    - Conclusion
- Summary
- Appendix 1 – CV
- Appendix 2 – Performance Based Design Brief

Please contact the undersigned if you wish to discuss the content of this report in further detail.

Yours Sincerely,

**LINDSAY PERRY**

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