Redfern North Eveleigh Precinct

Chief Mechanical Engineers Building

Statement of Heritage Impact

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December 2022

Document Information

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1	18.11.2022	Draft	For client review	Tatiana Barreto	Natalie Vinton
2	09.12.2022	Final	For submission	Tatiana Barreto	James Rongen-Hall

This report has been prepared based on research by Curio Projects specialists. Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and in figure captions.

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Executive Summary

Curio Projects Pty Ltd (Curio) has been commissioned by Transport for NSW (TfNSW) on behalf of Transport Asset Holding Entity (TAHE) to prepare a Statement of Heritage Impact (SoHI) to support a State Significant Development (SSD) Development Application (DA) No. SSD-39971796 for the heritage conservation and adaptive reuse of the former Chief Mechanical Engineers Building (CME Building) in North Eveleigh, which is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The purpose of this report is to identify any potential heritage impact that the proposal may have on the values of the heritage item itself, as well as any impact that the proposal may have on other heritage items and conservation areas in the vicinity.

Secretary's Environmental Assessment Requirements (SEARs)

The Department of Planning and Environment (DPE) has issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared to respond to the heritage-related SEARs, as set out in the following table.

SEAR	Response / Location in Report
19. Aboriginal Cultural Heritage *Provide an Aboriginal Cultural Heritage Assessment Report prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts for any Aboriginal cultural heritage values on the site.*	TfNSW and Ethos Urban advised Curio that the 2022 report prepared by Artefact Heritage (*Redfern North Eveleigh Precinct Renewal Project Aboriginal Heritage Study— Paint Shop Sub-Precinct*) has comprehensively assessed the study area regarding Aboriginal cultural heritage and therefore fulfills this SEAR. An Aboriginal Due Diligence report (*Chief Mechanical Engineers Building—Aboriginal Due Diligence Assessment*) has been prepared by Curio and includes an overview of the identified Aboriginal cultural values of the study area, a summary of the previous Aboriginal cultural heritage assessments to date, the findings and recommendations of Artefact 2022 and details of a meeting with Project RAPs to provide a Project update.
20. Environmental Heritage *Where there is potential for direct or indirect impacts on the heritage significance of environmental heritage, provide a Statement of Heritage Impact and Archaeological Assessment (if potential impacts to archaeological resources are identified), prepared in accordance with the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated.*	• Statement of Heritage Impact (SoHI): present report. • Archaeological Assessment: please refer to *Chief Mechanical Engineers Building—Historical Archaeological Assessment*, report prepared by Curio for TfNSW on behalf of TAHE.

Site Identification

The site comprises the former CME Building and its immediate surrounds. The site is identified as 505 Wilson Street and forms part of Lot 5 in Deposited Plan 1175706.

Originally constructed in 1887 and subsequently extended to keep pace with the expansion of the NSW railways and demand for engineering services, the CME Building is of State heritage significance. The CME Building is listed on the NSW Heritage Register (SHR No. 5014147) and Transport Asset Holding Entity (TAHE) s170 Register.

The CME Building is located within the Redfern North Eveleigh Precinct. The Redfern North Eveleigh Precinct is located within the wider Redfern-Waterloo Authority Sites SSP. The Redfern North Eveleigh Precinct is 10 hectares of land owned by Transport Asset Holding Entity (TAHE) at the southern edge of Redfern Station, located between the rail corridor and Wilson Street.

Project Overview

This application seeks consent for the heritage conservation and adaptive reuse of the CME Building, which includes:

- internal and external heritage conservation works to make the building suitable for adaptive reuse, including painting, repairs and refurbishment of the existing building (primarily internally) and installation of services to support future usage for offices or the like;
- building upgrades to ensure compliance with the Building Code of Australia (BCA), including accessibility and fire safety requirements;
- removal of any hazardous building materials;
- minor landscaping works.

The SSDA also proposes the following two easements:

- easement for overhang to cater for the eave and gutter attached to the existing brick building which forms part of the southern boundary and is associated with the Scientific Services Building;
- reciprocal Rights of Way over the existing driveway area between the CME building and the adjoining Scientific Services building to the west.

Summary of Heritage Impact

Overall, the proposal has been well considered with respect to the heritage items, values, and overall significance of the CME site and the wider ERW. The following table presents a summary assessment of the potential heritage impacts associated with the proposal.

Proposed Alterations	Summary of Heritage Impact
Adaptive reuse of the building	Positive impact The CME building has been underutilised and inaccessible to the public for the past 20 years, which has led to its complete neglect and decay. Despite the efforts to improve its exteriors in 2017, the interiors remain deteriorated and unoccupied.

Proposed Alterations	Summary of Heritage Impact
	The proposed adaptive reuse of the site creates an opportunity for the CME building to remain relevant and meet contemporary and future users' needs. The proposed commercial use for office purposes is consistent with the original use of the site, which housed administrative and design offices related to the ERW's daily activities. The proposal also offers the opportunity to return the CME building to be a key strategic location within the ERW and will help to activate the northern face of the site, bringing people to occupy the site and appreciate its heritage significance and fabric.
Building Interiors • General arrangement • Amenities • Stairs and Lift • Openings • Fireplaces	Minor to moderate impact Overall, the proposed alterations to the building interiors have been carefully studied to minimise adverse impacts to the original fabric and significant view lines whilst ensuring new amenities and accessible solutions are respectfully inserted to allow the operation of future tenants and compliance with current standards. Therefore, the minor to moderate impacts associated with the introduction of the lifts, amenities, and openings are necessary and appropriate to allow the building to be adaptively reused in the future.
Building Exteriors • Envelope • Balcony and Verandah	Minor impact The proposed alterations to the building envelope aim to retain the original elements and architectural composition of the facades whilst improving their overall condition and implementing recessive and minimal solutions to provide equitable and safe access to future users and visitors.
Landscape • Wilson Street frontage • Eastern garden • Rear	Positive impact The proposed landscape works will improve the overall condition of the external areas of the building and restore original routes and obstructed view lines throughout the site (e.g. Wilson Street & CME Building, eastern garden & CME Building, North Eveleigh & CME Building). The accessibility solutions implemented will help to reinstate the northern frontage as the primary entry to the building and attract more visitors to the site by providing an egalitarian experience to all. Therefore, the works will have a positive impact on the heritage values of the site.
Services	Minor impact The proposed services have been carefully designed to reuse the existing Ground Floor underfloor and roof space to run the ductwork, pipework, and cable trays while taking into consideration the orientation of the timber joists and existing penetrations. The only service running within the First Floor floorspace will be the sprinklers. New rooms, enclosed areas and the stormwater tank have been strategically located to minimise impacts and avoid alterations to the original layout, fabric and significant view lines.

Proposed Alterations	Summary of Heritage Impact
	The proposed fire sprinkler system has been introduced to avoid the need for fire stairs, which would significantly impact the heritage significance and fabric of the building. Therefore, the proposed works are necessary for the future use and operation of the site and will have a minor impact on the building.
Materiality and lighting	Neutral to positive impact The proposed materiality for the CME building will retain the existing finishes, materials and colours, and restore the integrity of the damaged materials. Proposed new materiality will be limited to new bathrooms and end-of-trip facilities and, where original toilets are to be replaced, the chosen materiality will be based on the existing finishes as a contemporary reinterpretation of the original rooms. Therefore, the proposed materiality is assessed as having a neutral to positive impact on the overall significance of the building. Proposed lighting is anticipated to have a positive visual impact as it will help highlight the original features of the façade, attracting the attention of passersby to the CME building.
Moveable Heritage Items	Positive impact The retained elements within the former CME Office will allow users and visitors to have an understanding of how the room was used and configurated in the past. The removed elements have been incorporated into the Heritage Interpretation Plan for the building, ensuring they continue to be celebrated. Therefore, the proposal will have a positive impact on the heritage values of the site.
Conservation and Restoration Works	Positive impact The Condition Report and Schedule of Conservation Works provide clear guidelines and recommendations to avoid adverse impacts on the heritage fabric of the building that could potentially detract from its significance. Therefore, provided that during the construction phase the report is closely followed and respected, the conservation and restoration works have the potential to have a major positive impact on the building, allowing the interiors of the building to be occupied once again and appreciated on a daily basis.
Heritage Interpretation	Positive impact The adaptive reuse of the building has provided an opportunity for the building's history to be thoughtfully considered, both now and in the future. Engaging and meaningful interpretive initiatives will be developed and implemented to aid the reconnection of the CME Building to both the Paint Shop sub-precinct and the wider Redfern North Eveleigh Precinct. In addition, the interpretation solutions will help to activate the site, attracting visitors to explore the precinct upon arrival and learn about the unique stories of the CME Building and former ERW.

Proposed Alterations	Summary of Heritage Impact
	Therefore, the heritage interpretation strategy will have a positive impact on the heritage values of the site.

Terminology & Abbreviations

The terms below used during the course of this report are defined as per the *Australia ICOMOS Charter for the Conservation of Places of Cultural Significance* (the Burra Charter) 2013, Article 1.1 to 1.17:

1. *Place* means a geographically defined area. It may include elements, objects, spaces, and views. Places may have tangible and intangible dimensions.
2. *Cultural Significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. *Cultural significance* is embodied in the *place* itself, its *fabric*, *setting*, *use*, *associations*, *meanings*, *records*, *related places* and *related objects*. Places may have a range of values for different individuals or groups.
3. *Fabric* means all the physical material of the place including elements, fixtures, contents and objects.
4. *Conservation* means all the processes of looking after a *place* so as to retain its *cultural significance*.
5. *Maintenance* means the continuous protective care of a place and its setting. Maintenance is to be distinguished from repair, which involves *restoration* or *reconstruction*.
6. *Preservation* means maintaining a *place* in its existing state and retarding deterioration.
7. *Restoration* means returning a *place* to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material.
8. *Reconstruction* means returning a place to a known earlier state and is distinguished from *restoration* by the introduction of new material.
9. *Adaptation* means changing a *place* to suit the existing *use* or a proposed use.
10. *Use* means the functions of a *place*, including the activities and traditional and customary practices that may occur at the place or are dependent on the place.
11. *Compatible use* means a *use* that respects the *cultural significance* of a place. Such use involves no, or minimal, impact on *cultural significance*.
12. *Setting* means the immediate and extended environment of a *place* that is part of or contributes to its *cultural significance* and distinctive character.
13. *Related place* means a *place* that contributes to the *cultural significance* of another place.
14. *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.
15. *Interpretation* means all the ways of presenting the *cultural significance* of a *place*.

Abbreviation	Explanation
ARD	Archaeological Research Design
ARHS	Australian Railway Historical Society
CME	Chief Mechanical Engineer
CMP	Conservation Management Plan
DPE	Department of Planning and Environment
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Protection and Biodiversity Act 1999
ELW	Eveleigh Locomotive Workshops
ERW	Eveleigh Railway Workshops
Heritage Act	NSW Heritage Act 1977
HCA	Heritage Conservation Area
HIP	Heritage Interpretation Plan
ICOMOS	International Council on Monuments and Sites
LEP	Local Environmental Plan
LES	Large Erecting Shop
LGA	Local Government Area
NLA	National Library of Australia
RL	Reduced Level
RNE	Register of the National Estate
SCA	Sydney City Archives
SHI	State Heritage Inventory
SLNSW	State Library of New South Wales
SHR	State Heritage Register
SoHI	Statement of Heritage Impact
SSP	State Significant Precincts
TAHE	Transport Asset Holding Entity
TEC	Telecommunications Equipment Centre
TfNSW	Transport for NSW
VIA	Visual Impact Assessment

1. Introduction

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1. Introduction

1.1. The Purpose of this Report

Curio Projects Pty Ltd (Curio) has been commissioned by Transport for NSW (TfNSW) on behalf of Transport Asset Holding Entity (TAHE) to prepare a Statement of Heritage Impact (SoHI) to support a State Significant Development (SSD) Development Application (DA) No. SSD-39971796 for the heritage conservation and adaptive reuse of the former Chief Mechanical Engineers Building (CME Building) in North Eveleigh, which is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The purpose of this report is to identify any potential heritage impact that the proposal may have on the values of the heritage item itself, as well as any impact that the proposal may have on other heritage items and conservation areas in the vicinity.

This SoHI has considered the impacts of the proposed development application in accordance with the relevant Heritage NSW guidelines and has been prepared in reference (but not limited) to the following project documents:

- CCG Architects, 2022. *Chief Mechanical Engineer's Building—Architectural SSDA Submission* (Appendix D).
- CCG Architects, 2022. *Architectural Design Report—Chief Mechanical Engineer's (CME) Building* (Appendix E)
- Arterra, 2022. *RNE - Chief Mechanical Engineers Building—External Works Package* (Appendix F).
- Arterra, 2022. *Statement of Landscape Intent – Chief Mechanical Engineers Office, North Eveleigh* (Appendix G).
- GHD, 2022. *CME Building—Concept Design Report – Engineering* Services (Appendix H).
- Curio Projects, 2022. *Chief Mechanical Engineers Building—Conservation Management Plan.*
- Curio Projects, 2022. *Chief Mechanical Engineers Building—Historical Archaeological Assessment*.
- Curio Projects, 2022. *Redfern North Eveleigh Precinct Renewal Project—Heritage Interpretation Plan: Chief Mechanical Engineers Building.*
- Curio Projects, 2022. *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works* (Appendix C).
- Curio Projects, 2022. *Chief Mechanical Engineers Building—Aboriginal Due Diligence Assessment* (Appendix H).

Additional heritage documents that provide the management principles, conservation policies, opportunities, and constraints to the overall Eveleigh Railway Workshop (ERW) site have been used to guide the preparation of this report. These include:

- OCP Architects & Curio Projects, 2022. *ERW Overarching Conservation Management Plan*, Prepared for UrbanGrowth NSW, updated with minor edits by Curio Projects 2021-22.
- Curio Projects, 2022. *Overarching Opportunities & Constraints – ERW*. Prepared for Transport for NSW.

1.2. Project Background

The Redfern North Eveleigh Precinct, including the CME Building, is the subject of an approved Part 3A Concept Plan (MP08_0015) which continues to apply to the land pursuant to Schedule 2 of Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017.

TfNSW is currently preparing a SSP Study for the Paint Shop Sub-Precinct within the wider Redfern North Eveleigh Precinct, which was exhibited between 26 July and 25 August 2022. It is noted that the SSP Study indicates that the Concept Approval would be surrendered should rezoning of the Paint Shop Precinct occur.

1.3. Site Identification

The site comprises the former CME Building (Figure 1.1) and its immediate surrounds (Figure 1.2). The site is identified as 505 Wilson Street and forms part of Lot 5 in Deposited Plan 1175706.

Originally constructed in 1887 and subsequently extended to keep pace with the expansion of the NSW railways and demand for engineering services, the CME Building is of State heritage significance. The CME Building is listed on the NSW Heritage Register (SHR No. 5014147) and Transport Asset Holding Entity (TAHE) s170 Register.

The CME Building is located within the Redfern North Eveleigh Precinct (Figure 1.3). The Redfern North Eveleigh Precinct is located within the wider Redfern-Waterloo Authority Sites SSP. The Redfern North Eveleigh Precinct is 10 hectares of land owned by Transport Asset Holding Entity (TAHE) at the southern edge of Redfern Station, located between the rail corridor and Wilson Street.

Figure 1.1: Chief Mechanical Engineers Building viewed from Wilson Street. Source: Ethos Urban, 2022.

Figure 1.2: Aerial showing the subject site boundaries. Source: Nearmap/Ethos Urban, 2022.

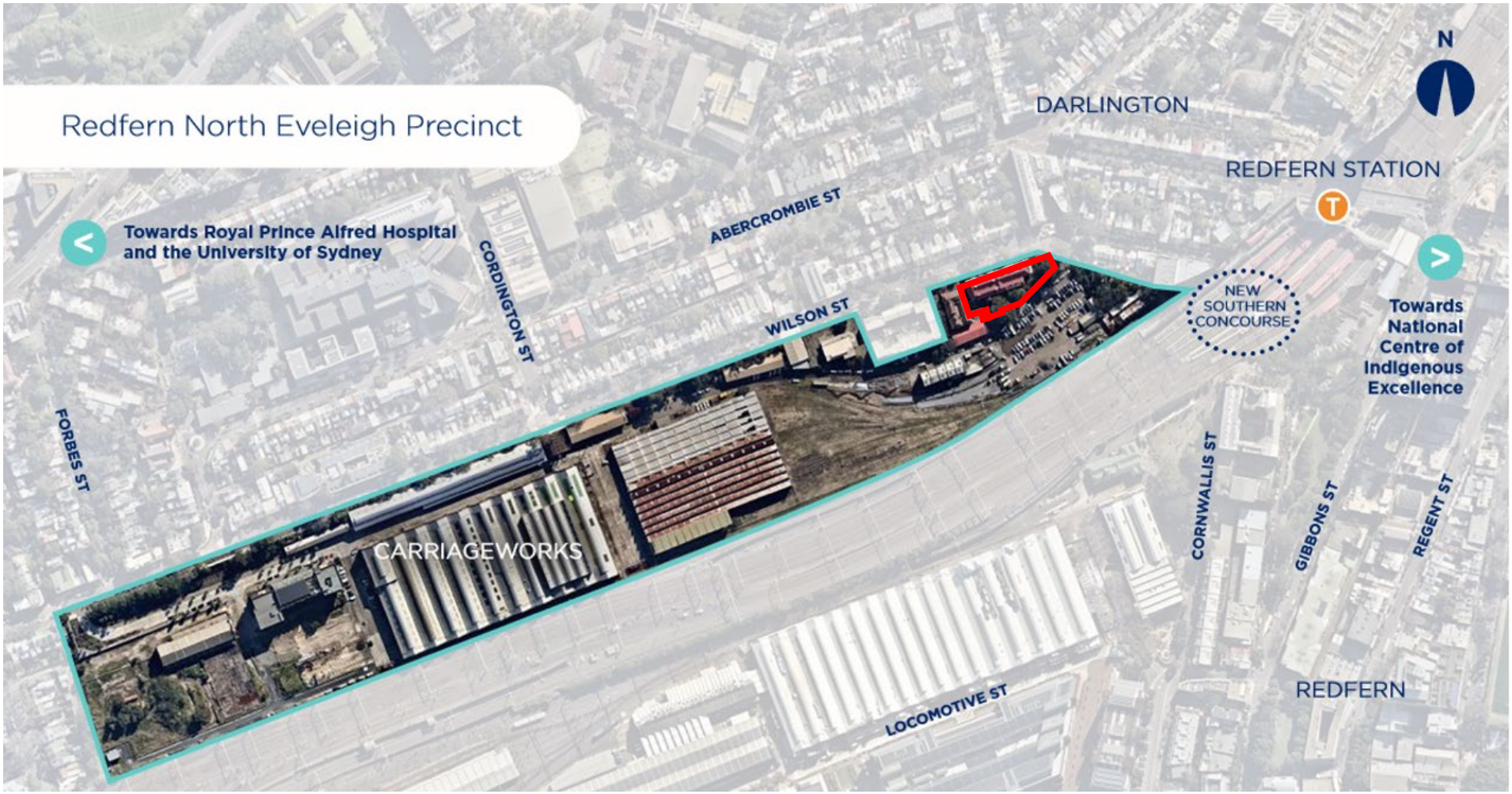

Figure 1.3: Redfern North Eveleigh Precinct. CME Building outlined in red. Source: TfNSW

1.4. Secretary's Environmental Assessment Requirements

The Department of Planning and Environment (DPE) has issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared to respond to the heritage-related SEARs, as set out in Table 1.1 below.

Table 1.1: SEARs – Heritage

SEAR	Response / Location in Report
19. Aboriginal Cultural Heritage *Provide an Aboriginal Cultural Heritage Assessment Report prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts for any Aboriginal cultural heritage values on the site.*	TfNSW and Ethos Urban advised Curio that the 2022 report prepared by Artefact Heritage (*Redfern North Eveleigh Precinct Renewal Project Aboriginal Heritage Study— Paint Shop Sub-Precinct*) has comprehensively assessed the study area regarding Aboriginal cultural heritage and therefore fulfills this SEAR. An Aboriginal Due Diligence report (*Chief Mechanical Engineers Building—Aboriginal Due Diligence Assessment*) has been prepared by Curio and includes an overview of the identified Aboriginal cultural values of the study area, a summary of the previous Aboriginal cultural heritage assessments to date, the findings and recommendations of Artefact 2022 and details of a meeting with Project RAPs to provide a Project update.
20. Environmental Heritage *Where there is potential for direct or indirect impacts on the heritage significance of environmental heritage, provide a Statement of Heritage Impact and Archaeological Assessment (if potential impacts to archaeological resources are identified), prepared in accordance with the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated.*	• Statement of Heritage Impact (SoHI): present report. • Archaeological Assessment: please refer to *Chief Mechanical Engineers Building—Historical Archaeological Assessment*, report prepared by Curio for TfNSW on behalf of TAHE.

1.5. Limitations and Constraints

The following report has been prepared using all readily available historical data and documentation available for the subject site and surroundings, including relevant archaeological reports and assessments. The report has been prepared in accordance with the Conservation Management Plan for the site[1], the best practice management guidelines issued by NSW Heritage and in accordance with Australia ICOMOS, *The Australian Charter for Places of Cultural Significance, The Burra Charter 2013* guidelines.

The report considers heritage matters only and no other non-heritage matters associated with the proposed redevelopment of the subject site.

[1] Curio Projects, 2022. *Chief Mechanical Engineers Building—Conservation Management Plan*. Prepared for TfNSW on behalf of TAHE.

1.6. Authorship

This report has been prepared by Tatiana Barreto, Built Heritage Specialist, with senior review and specialist input undertaken by Natalie Vinton, CEO of Curio Projects.

The Aboriginal and non-Aboriginal archaeological assessments have been undertaken by Rebecca Agius, Archaeologist and Heritage Specialist, and Sarah McGuinness, Senior Archaeologist and Heritage Specialist of Curio Projects.

GIS mapping has been undertaken by Joshua Godino, GIS Specialist of Curio Projects.

Historical research has been undertaken by Mikhaila Chaplin, Rebecca Agius, and Sebastian Gerber-Hood (Interpretation & Archaeology Specialist) of Curio Projects.

Physical Analysis has been undertaken by Tatiana Barreto and Sebastian Gerber-Hood of Curio Projects.

2. Statutory Context

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2. Statutory Context

In NSW, heritage items and known or potential archaeological resources (non-Aboriginal) are afforded statutory protection under three principal pieces of legislation:

- Environmental Planning and Assessment Act 1979 (NSW) (EPA Act)
- Heritage Act 1977 (NSW) (Heritage Act)
- National Parks and Wildlife Act 1974 (NSW) (NPW Act)

The study area and items of movable heritage are listed in a number of statutory and non-statutory registers including the Register of National Estate and the National Trust of Australia Register. This section provides a summary of the local and State statutory planning context for the CME Building with respect to its Aboriginal and non-Aboriginal heritage values. A detailed discussion of the site's statutory context is provided in the Non-Aboriginal Heritage Study report prepared for the project (Curio Projects 2022).

2.1. Environmental Planning and Assessment Act (NSW) 1979

The NSW Department of Planning and Environment (DPE) administers the EP&A Act, which provides the legislative context for environmental planning instruments made to legislate and guide the processes of development and land use. Local heritage items, including known archaeological items, identified Aboriginal Places and heritage conservation areas are protected through listings on Local Environmental Plans (LEPs), Regional Environmental Plans (REPs), and State Environmental Planning Policies (SEPPs). The EP&A Act also requires that potential historical archaeological resources are adequately assessed and considered as part of the development process, in accordance with the requirements of the Heritage Act (see relevant sections below for further on the Heritage Act).

2.1.1. State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021

From 1 March 2022, the State Environmental Planning Policy (State Significant Precincts) 2005 has been replaced by State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021 (*Eastern Harbour City SEPP 2021*). The former ERW site is located within the Redfern-Waterloo Authority Sites State Significant Precinct under the SEPP 2021 (SEPP 2021). Thus SEPP 2021 is the principle environmental planning instrument that applies to the entire former ERW site, including both the Redfern North Eveleigh Precinct as well as South Eveleigh. Part 2.2 and Appendix 3 (Redfern-Waterloo Authority Sites) of the SEPP sets out the zoning, land use and development controls that apply to the development of the site.

State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) identifies various types of development and particular sites upon which certain development is defined as State Significant Development (SSD). Schedule 2 of the Planning Systems SEPP lists specific sites where development has a capital investment value of more than $10 million; works on those sites are state significant. Clause 2 of Schedule 2 lists 'Redfern-Waterloo Sites' as a specific site subject to this requirement. As the proposed adaptive reuse and conservation of the CME Building will have a capital investment value greater than $10 million, the future development application to seek approval for the proposed development will be classified as SSD and will be submitted to the Department of Planning and Environment (DPE) for assessment.

Several built items of the former ERW are individually identified as heritage items under SEPP 2021, as listed below:

- Locomotive Workshop
- New Locomotive Workshop
- Works Managers Office

- Large Erecting Shop
- Carriage Workshops
- Blacksmith's Shop
- Paint Shop
- Scientific Services Building No. 1
- Chief Mechanical Engineers Office Building

2.1.2. City of Sydney Local Environmental Plan (LEP) 2012

The City of Sydney LEP 2012 provides local environmental planning provisions for land within the Sydney LGA. Clause 5.10 of the LEP 2012 sets out objective and planning controls for the conservation of heritage in the City of Sydney Local Government Area (LGA), including the conservation of built heritage and archaeological sites.

As the CME Building, as part of the wider ERW, is subject to the overriding provisions of Eastern Harbour City SEPP 2021, the subject site is excluded from the City of Sydney LEP 2012 provisions. However, several Heritage Conservation Areas and heritage items, listed as items of local heritage significance under Schedule 5 of the LEP, are located outside of the SEPP 2021 boundary, but in proximity to the Paint Shop Sub-Precinct. These are summarised in Section 2.4.

2.2. NSW Heritage Act 1977

In NSW, heritage items are afforded statutory protection under the Heritage Act. Heritage places and items of particular importance to the people of NSW are listed on the NSW SHR. The Heritage Act defines a heritage item as a 'place, building, work, relic, moveable object or precinct'. It is responsible for the conservation and regulation of impacts to items of State heritage significance, with 'State Heritage Significance' defined as being of 'significance to the state in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item'.

The CME Building is included in the State Heritage Register as *Eveleigh Chief Mechanical Engineers Office and Moveable Relics* (SHR #01139, gazetted 2/4/1999[2]) (Figure 2.1) with the moveable relics listed as:

- Toilet bowl with counterweight seat (AA24)
- Wall mirror timber frame, 0.6/1.0 (AM06)
- Timber plan cabinet, 6 draws, 1.5/0.9/0.9 (PA08)

The subject site is located adjacent to, but not within, the curtilage of the Eveleigh Railway Workshops SHR listing (SHR #01140, gazetted 2/4/1999[3]) (Figure 2.2). The subject site is also located proximal to the Redfern Railway Station Group curtilage (SHR#01234, gazetted 2/4/1999)[4]. The boundaries of these in relation to the CME Building are shown in Figure 2.3.

[2] NSW Government State Heritage Inventory, *Eveleigh Chief Mechanical Engineers Office and Moveable Relics*, SHR Item, accessed August 2022, < https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5014147>
[3] NSW Government State Heritage Inventory, *Eveleigh Railway Workshops*, SHR Item, accessed August 2022, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5045103>
[4] NSW Government State Heritage Inventory, *Redfern Railway Station group*, SHR Item, accessed August 2022, < https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5012154>

Figure 2.1: CME Building SHR Curtilage map. Source: State Heritage Inventory.

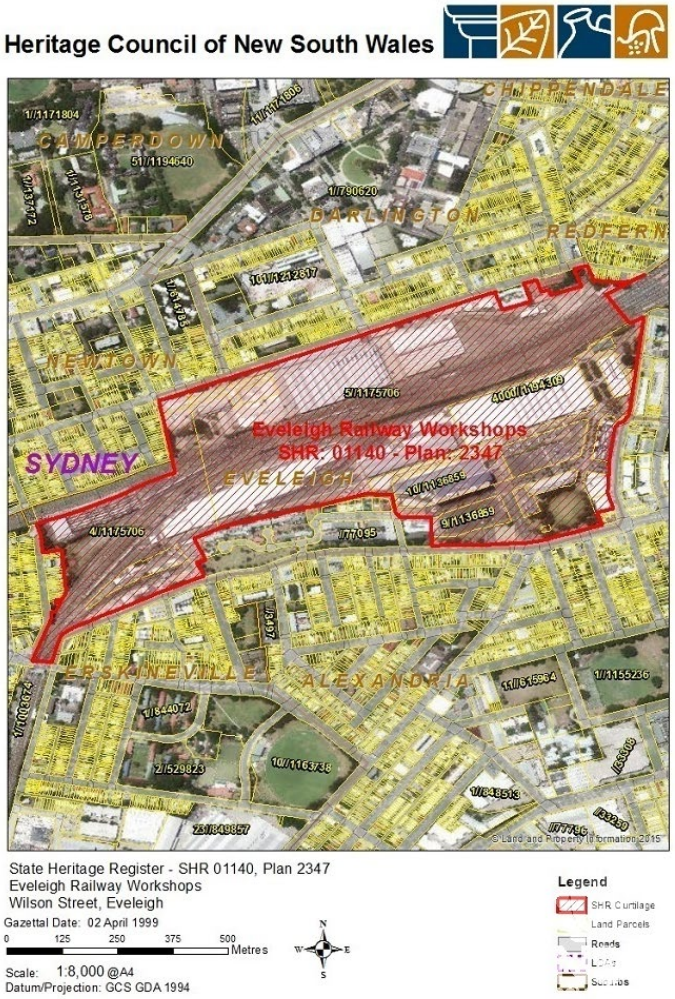

Figure 2.2: ERW SHR Curtilage map. Source: State Heritage Inventory.

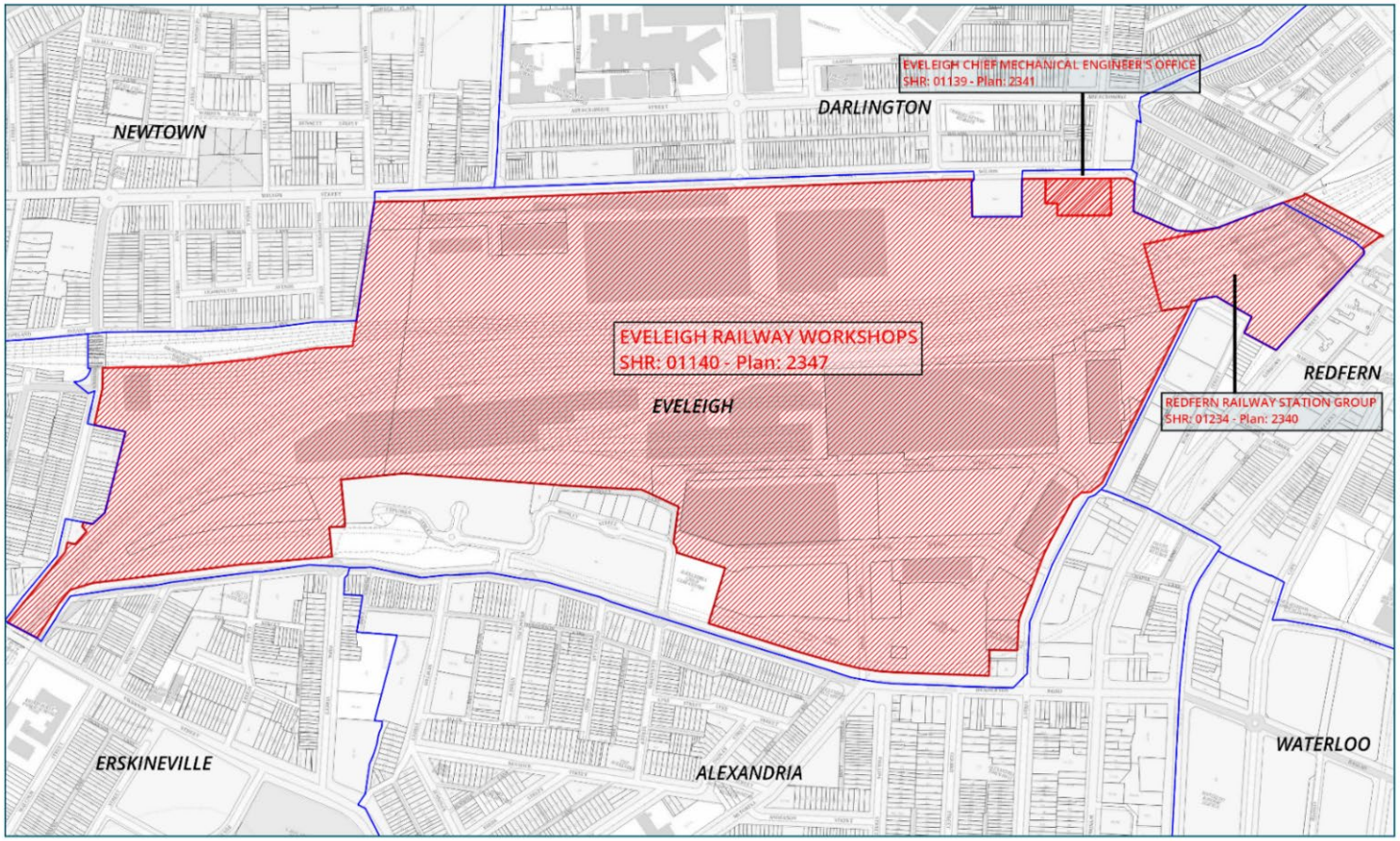

Figure 2.3: SHR curtilage for the CME Office (SHR no. 00139), the ERW (SHR no. 01140), and Redfern Railway Station Group (SHR no. 01234). Source: Curio Projects.

2.2.1. Section 170 Heritage and Conservation Register

Under Section 170 (s170) of the Heritage Act, government instrumentalities must keep a s170 Register which contains items under the control or ownership of the agency and which are or could be listed as heritage items (of State or Local significance).

- The Eveleigh Chief Mechanical Engineers Office (SHI #4801126) is listed on the NSW Transport Asset Holding Entity (TAHE) (formerly State Rail Authority) s170 Register (managed by Sydney Trains/Transport for NSW on behalf of TAHE).
- The CME building is also adjacent to the Eveleigh Railway Workshops (SHI #4801102).[5]

2.3. Non-Statutory Heritage Registers

2.3.1. Register of the National Estate

The *Chief Mechanical Engineers Office* was included in the Register of the National Estate (RNE 5014147)[6] as were the *Chief Mechanical Engineers Office Moveable Relics* (RNE 5012069)[7], yet this listing no longer appears on the database. The building was also included in the description of the *Eveleigh Railway Workshops* (RNE 15903).[8]

2.3.2. National Trust

The CME Building is included in the National Trust's listing for the Eveleigh Railway Workshops (#57460, 24/3/1986).[9]

2.4. Heritage Items and HCAs in the Vicinity

Table 2.1 provides a summary of all statutory heritage listings both included within, as well as in the vicinity of, the CME Building, the subject site, illustrated in Figure 2.4.

Table 2.1: Summary of heritage listings within and in the vicinity of the subject site.

Item No.	Heritage Register	Item Name	Address
01140	SHR	ERW	Great Southern and Western Railway
01139	SHR	Eveleigh Chief Mechanical Engineers Office and Moveable Relics	Great Southern and Western Railway
01234	SHR	Redfern Railway Station group	Great Southern and Western Railway

[5] TAHE s170 Register, last updated 1 Sep 2021, accessed August 2022, accessible from <https://www.transport.nsw.gov.au/projects/community-engagement/sydney-trains-community/heritage-and-conservation-register>

[6] Australian Government, *Chief Mechanical Engineers Office (former)*, Register of the National Estate Archive, accessed August 2022, < https://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;search=place_name%3Dchief%2520mechanical%2520engineer%3Bkeyword_PD%3Don%3Bkeyword_SS%3Don%3Bkeyword_PH%3Don%3Blatitude_1dir%3DS%3Blongitude_1dir%3DE%3Blongitude_2dir%3DE%3Blatitude_2dir%3DS%3Bin_region%3Dpart;place_id=1781>

[7] OCP Architects 2002, *Eveleigh Carriageworks CMP Vol 1*, p. 276.

[8] Australian Government, *Eveleigh Railway Workshops*, Register of the National Estate Archive, accessed August 2022, < https://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;search=town%3Develeigh%3Bkeyword_PD%3Don%3Bkeyword_SS%3Don%3Bkeyword_PH%3Don%3Blatitude_1dir%3DS%3Blongitude_1dir%3DE%3Blongitude_2dir%3DE%3Blatitude_2dir%3DS%3Bin_region%3Dpart;place_id=15903>

[9] National Trust, *Eveleigh Railway Workshops* datacard.

Item No.	Heritage Register	Item Name	Address
I2245	SLEP 2012	Former McMurtrie, Kellermann & Co Factory including interiors	181 Lawson Street, Darlington
I1322	SLEP 2012	Terrace House "Waratah" Including Interiors	117 Lawson Street, Darlington
I517	SLEP 2012	Terrace Group Including Interiors	254-266 Abercrombie Street, Darlington
I157	SLEP 2012	Former "Galway Castle Hotel" and Residence Including Interior and Grounds	306 Abercrombie Street, Darlington
I520	SLEP 2012	Terrace Group Including Interiors	338-348 Abercrombie Street, Darlington
I2244	SLEP 2012	Former Jones IXL factory garage including interiors	2-10 Golden Grove Street, Darlington
I1979	SLEP 2012	St Michael's Church Group Including Building and its Interiors and Grounds	19-23 Golden Grove Street, Newtown
I52	SLEP 2012	St Paul's College Group, University of Sydney	9 City Road, Camperdown
I534	SLEP 2012	Terrace Group Including Interior	104- 123 Darlington Road, Darlington
I2252	SLEP 2012	Former F.W. Gissing factory including interiors	197-207 Wilson Street, Newtown
C1	SLEP 2012	Alexandria Park HCA	Alexandria
C18	SLEP 2012	Golden Grove HCA	Darlington/Newtown
C19	SLEP 2012	Darlington HCA	Darlington/Redfern
C44	SLEP 2012	Pines Estate HCA	Newtown
C45	SLEP 2012	Queen St HCA	Newtown
C56	SLEP 2012	Redfern Estate HCA	Redfern

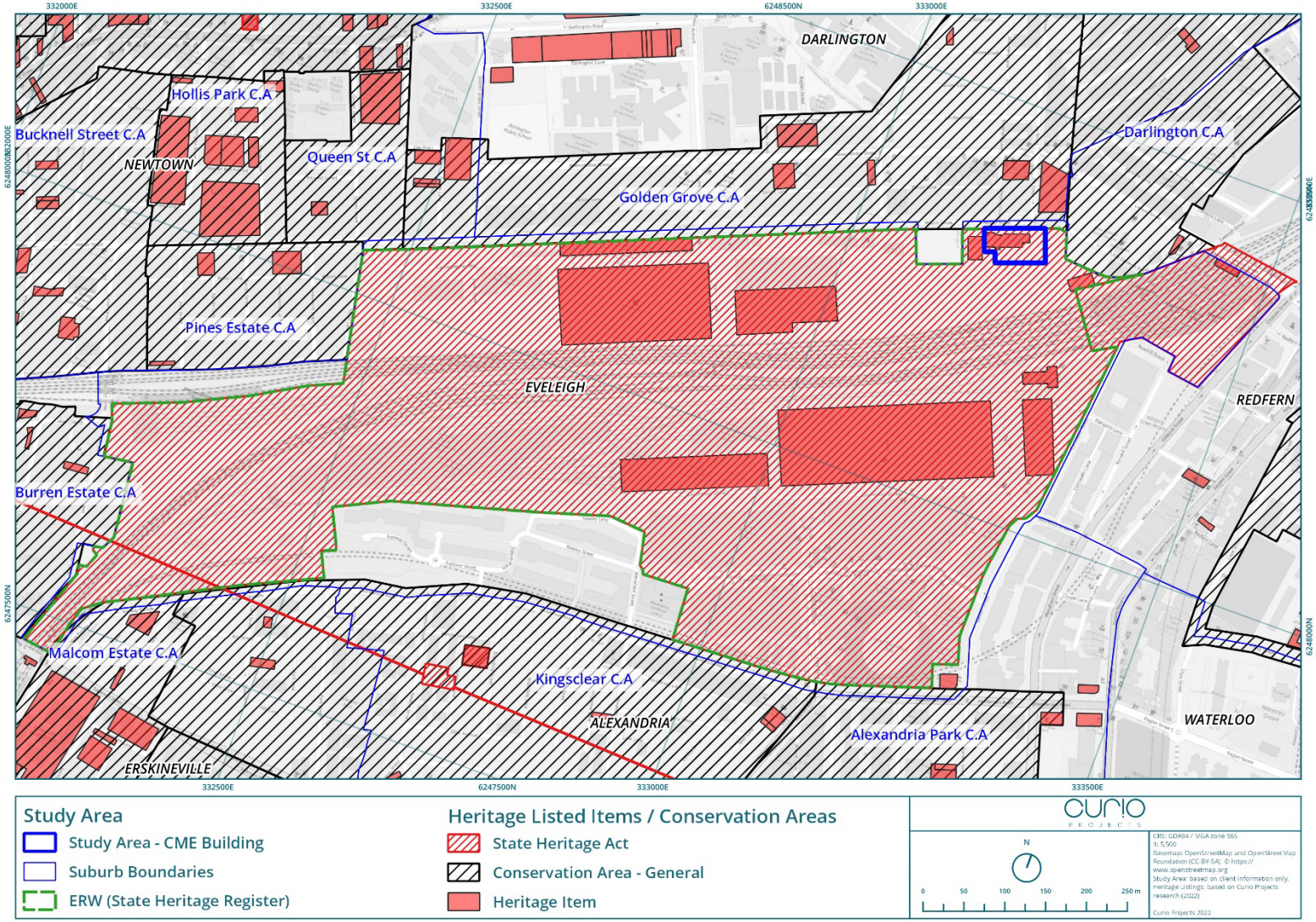

Figure 2.4: Heritage items and Conservation Areas in the vicinity of the subject site. Source: Curio Projects, 2022.

3. Historical Summary

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3. Historical Summary

This chapter provides a brief summary of the historical phases of use and development activity at the subject site in order to provide historical context for the assessment of heritage impact in this report. For a full historical overview, reference should be made to the Conservation Management Plan[10] prepared by Curio (2022) for the site.

3.1. Aboriginal Ethnohistory

3.1.1. Pre-European Environment

Much of the evidence of traditional Aboriginal lifestyle and economy was disrupted in the early years of European colonisation and understandings of Aboriginal groups and their lifeways prior to European settlement is in part reliant on historical records and documents written by early European settlers.

Prior to the arrival of Europeans in Sydney Cove, the current study area would have formed part of the hunting and gathering grounds of the Eora. The Sydney region has two main language groups: Darug, with two main dialects—one spoken along the coast and another in the hinterland/Cumberland Plain region of western Sydney—and Tharawal, spoken to the south of Botany Bay[11]. The subject site is understood to be situated within the lands of the Gadigal people. According to early records of Governor Philip, the Gadigal lands stretched from "*...the entrance of the harbour, along the south shore, to the cove adjoining the settlement*"[12]. The traditional territory of the Gadigal is therefore recognised to extend along the southern side of the Sydney Harbour from South Head, west to approximately Darling Harbour (previously known as Cockle Bay), and south towards Botany Bay.

Aboriginal clans were associated with specific territories or places and were differentiated by different customs from one another. Areas associated with water sources were the most densely populated and communities would have travelled across the landscape as the seasons changed and the corresponding resources that became available in different locations.

As hunter-gatherers, the local Aboriginal communities living in the area would have pursued a mixed food economy, utilising and relying upon readily available and abundant natural resources. Sydney Harbour (known as Warrane or War-ran[13]), situated approximately 2.5 km north of the subject site, would have provided coastal marine resources including fish, shellfish, and crustacea which could be gathered from the sea, though the availability and abundance of resources likely changed seasonally[14]. Cockle Bay would have been an ideal location for fishing expeditions along the harbour via bark canoe, as well as the nearby landscape of Hawkesbury sandstone cliffs eroding into overhangs and rock shelters which would have been suitable for habitation. In contrast, the environment associated with locations further inland from the coast resulted in a reliance on the

[10] Curio Projects, 2022. *Chief Mechanical Engineers Building—Conservation Management Plan.*

[11] Attenbrow 2010.

[12] Phillip, A., 1790 [1892], Letter from Governor Phillip to Lord Sydney, Government House, Sydney Cove, February 12th, 1790, in Historical Records of NSW vol. 1 no. 2 – Phillip 1783-1792, Government Printer, Sydney: 293-301 [1892:309]

[13] City of Sydney, 2013, *Barani Sydney's Aboriginal history*. https://www.sydneybarani.com.au

[14] Attenbrow 2010, p. 62

exploitation of possums, kangaroos, plant resources—including vegetable roots, berries and seeds—and freshwater resources such as eels and mullets[15].

Early settlers noted a road linking Cockle Bay to Botany Bay that acted as an important corridor for trade and movement for Aboriginal people in early Sydney. The area along this corridor between Cockle Bay and Botany Bay is described in 1788 by Governor Arthur Phillip as being occupied by wood and, beyond that, a kind of heath sandy and full of swamps. The same area is later described in 1792 by Atkins as being associated with immense trees, lofty branches, flowering shrubs, and blossoms of vivid and beautiful colours[16]. The current subject site is located within this corridor and these early descriptions are consistent with contemporary Aboriginal understandings of the area's importance to past Aboriginal groups utilising the area. According to Professor Dennis Foley, an Indigenous Cultural Leader, for instance, the alignment of Cleveland Street (approximately 500m south of the subject site) follows a natural ridgeline that formed an old meandering walking track that was used by past Aboriginal people to access important areas within the surrounding landscape[17].

[15] Murray, R. and White, K., 1988, Dharug and Dungaree: The History of Penrith and St Marys to 1860. Hargreen Publishing Company in conjunction with the Council of the City of Penrith.

[16] Archaeological & Heritage Management Solutions (AHMS), 2015, Central to Eveleigh Corridor: Aboriginal and historical Heritage Review for UrbanGrowth NSW. Unpublished Report, p 13; Comber Consultants Pty Ltd, 2017, 244 Cleveland Street, Surry Hills – Aboriginal Cultural Heritage Report, p. 10

[17] Information obtained from notes taken by SJB architects following a conversation with Professor (Uncle) Dennis Folley regarding Aboriginal use of land in and around the study area. (Pers. Com. Between SJB architects and Professor (Uncle) Dennis Folley on 27 April 2022).

Figure 3.1: Yoo-long erah-ba-diang 1795 Farm Cove initiation ceremony: 'striking out the tooth'. Attributed to T Watling (artist), James Neagle (engraver). Source: National Library of Australia, Neagle, James. (1798). Yoo-long erah-ba-diang. (S11111/22)[18]

Figure 3.2: Cockle Bay, now Darling Harbour (1819-1820). Source: Trove, available at https://trove.nla.gov.au/work/12335999

[18] Retrieved May 4, 2022, from http://nla.gov.au/nla.obj-143787504

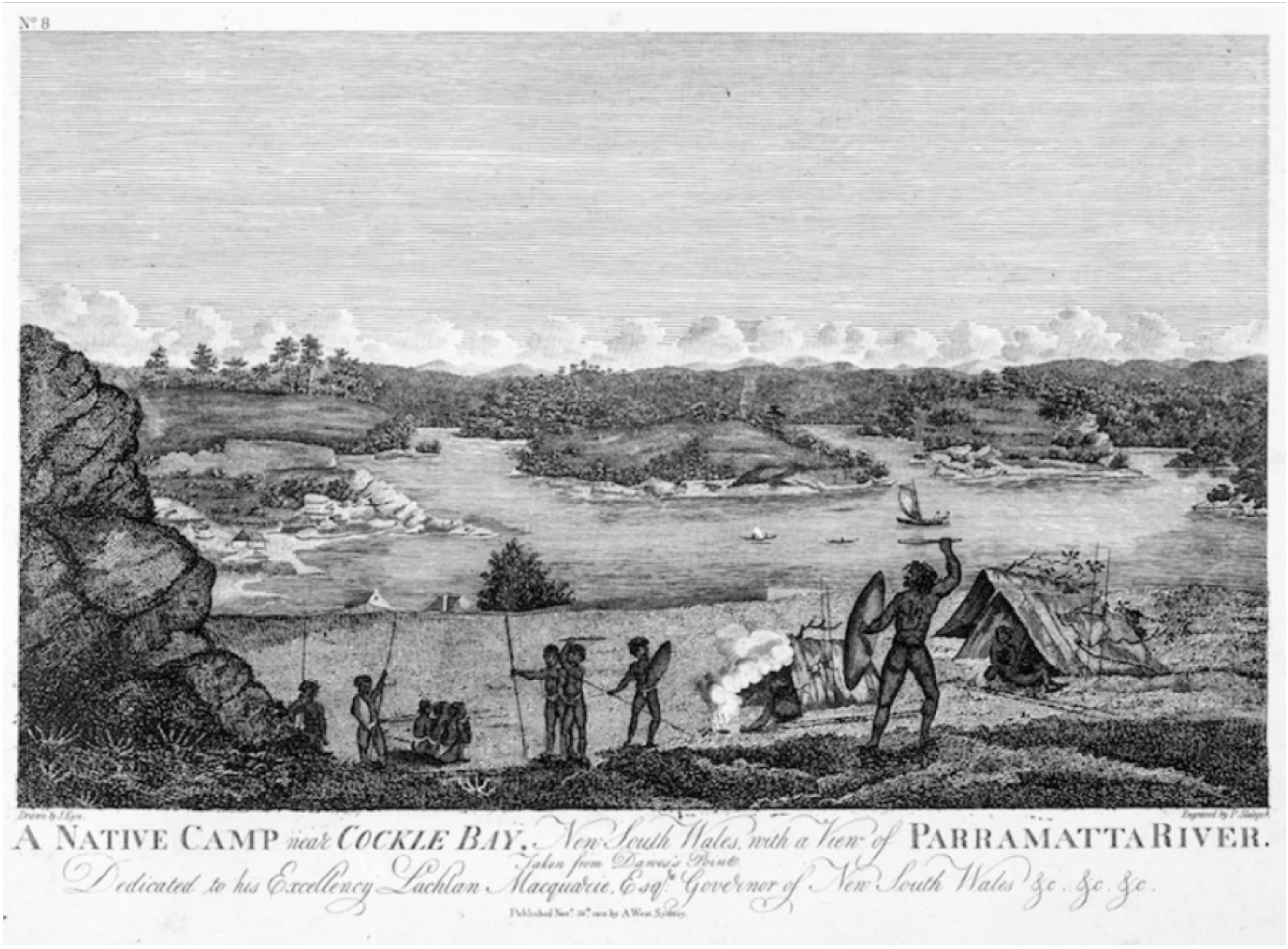

Figure 3.3: A native camp near Cockle Bay. Source: Trove, available at http://nla.gov.au/nla.obj-135782267

3.1.2. Post Contact History

At the time of the arrival of the First Fleet in January 1788, it is estimated that at least 1,500 Aboriginal people may have lived along the coastal region between Broken Bay and Botany Bay. The arrival of the First Fleet devastated the lives and activities of Aboriginal people in the Sydney area, restricting access to areas traditionally used for hunting and gathering, shelter, and ceremonial purposes, while also introducing devastating diseases such as smallpox. It is estimated that almost half of Sydney's Aboriginal population died in the first smallpox epidemic recorded in the colony in 1789[19].

Initial interactions between early colonists and Aboriginal groups were peaceful and British settlers engaged in gift-giving aiming to encourage integration into the colony while also deterring any potential opposition to the establishment of the European settlement[20]. As the colony expanded, many of the original walking tracks used by local Aboriginal groups, including the east-west walking track which meanders along Cleveland Street, were adopted by the colonists and used as transport corridors. The expansion of the colony and limited meaningful dialogue between the British colonists

[19] Hinkson, M. & Harris, A., 2010, Aboriginal Sydney: a guide to important places of the past and present, 2nd ed, Aboriginal Studies Press Canberra.

[20] Karskens, G., 2016, Phillip and the Eora. Governing race relations in the colony of New South Wales. Sydney Journal, Vol 5, No 1. 39–55. pp. 43-44

and the local Aborigines resulted in increased conflict between settlers and the local Aboriginal people.

Aboriginal people who survived epidemics and displacement continued to live a semi-traditional life often on the margins of European settlement occasionally supplementing their resources with supplies from new settlers[21]. The Aboriginal population continued to decline and, by 1827, it was estimated that the population had declined to roughly a third of the original population that had existed at the time of the colony's establishment in 1788.

Despite their displacement, Aboriginal communities continued to utilise the land around the increasing spread of European colonisation. A watercolour painting by Joseph Lycett looking towards Sydney from Surry Hills in 1819 shows a small group of Aboriginal people camping on the margins of the colony demonstrating the continued use of the Sydney area by Aboriginal groups (Figure 3.4). The general location of the subject site is believed to have continued ceremonial use as noted in Artefact 2022:

> *Today's Belmore Park and Central Station were important cultural grounds for ceremonial practice during the 1790s, with David Collins describing a 'clear spot between the town and the brickfield' being utilised for one such ceremony in December 1793.[22] Collins noted the continuous use of this space as a ceremonial site, noting that the Aboriginal community 'derived so many comforts and so much shelter in bad weather' at the site.[23] Moore Park, south-east of the subject site, was another key place for continuing cultural practices; colonists would travel to watch 'payback rituals' take place in the area, where Aboriginal people would resolve grievances through ritual and punishment.[24] Until the mid-1800s, the area of Prince Alfred Park (known then as Cleveland Paddocks) was an Aboriginal campsite where Gadigal lived until the coming of the railway in the 1850s. As the first railway terminus at the Cleveland Paddocks was constructed in 1855, the Aboriginal community was dispersed from the campground[25].*

The presence of a flaked glass artefact from an archaeological site located on the corner of Mountain and Smail Streets at Ultimo (Mountain Street Ultimo; AHIMS ID# 45-6-2663) and situated approximately 900m to the north of the current subject site indicates that land adjacent to Blackwattle Creek continued following the arrival of Europeans and provides evidence for the adaptation and use of new European materials for the production of artefacts[26].

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[21] Murray and White 1988

[22] Collins, 1798, *An Account of the English Colony in New South Wales*, Volume 1, T. Cadell Jun and W. Davies, London

[23] Collins, 1802, *An Account of the English Colony in New South Wales from its First Settlement in January 1788 to August 1801,* Volume 2, T. Cadell Jun and W. Davies, London

[24] Cox Inall Ridgeway, 2021, *Central Precinct Renewal Project: Consultation Report for Aboriginal Heritage Interpretation Strategy*. Prepared for Transport for NSW

[25] Artefact, 2022, *Redfern North Eveleigh Precinct Renewal, Aboriginal Cultural Heritage Study*. Prepared for Transport for NSW

[26] Dominic Steele Consulting Archaeology (DSCA), 2003, Final Aboriginal Archaeological Excavation Report. Quadrant Development Site, Broadway and Mountain Streets, Sydney, NSW, Containing NPWS Site #45-6-2629 and Associated Areas of PAD. Report to Australand Holdings Limited and College Square Residential Pty Ltd.

Figure 3.4: Sydney from Surry Hills 1819. Watercolour by Joseph Lycett showing Aboriginal group camping. Source: State Library of New South Wales [a928334 / ML 54][27].

3.2. Early Land Grants and Development

The area that makes up the subject site as well as the wider suburb of Eveleigh was home to several Land Grants in Sydney's early history. The section of land that now forms part of Eveleigh was granted to John Davis in 1794, however, the grant was cancelled before Davis could claim the property. Following this, James Chisolm, a Scottish soldier, merchant and landowner, arrived in the colony in 1790 with the NSW Corps and was granted a 62- acre land in 1822 within the area known today as Eveleigh. [28]

Chisholm cleared areas of his estate to use as farming allotments and built 'Calder House' in the northeast corner of the estate (previously located west of the subject site) sometime between 1820 to 1830.[29] After the death of Chisholm in 1837, his family continued to live at Calder House until 1855 and, following the establishment of the Eveleigh Railway Workshops (ERW), the building was used as a residence for the Locomotive Works Manager and Chief Mechanical Engineer of the ERW until it was destroyed in a fire in 1923 and its remains later demolished in 1924.[30]

Located directly north of Chisholm's estate was a 52-acre land grant given to William Hutchinson, an ex-convict and successful businessman, in 1819. In the same year, a 95-acre land grant was given to William Chippendale, an early free settler and land holder, located east of the Chisholm estate. From

[27] Retrieved May 4, 2022, from https://archival.sl.nsw.gov.au/Details/archive/110327850
[28] OCP Architects, 2022. *Eveleigh Railway Workshops Overarching Conservation Management Plan*: 24
[29] Sources vary regarding the exact date of original construction of the Calder House cottage, reporting variously from c.1820 to the late 1830s.
[30] OCP Architects 2017b, *North Eveleigh West- Conservation Management Plan*.

the 1830s onwards, the Eveleigh-Redfern area was continuously subdivided into various farmyards and estates and, in the 1850s, the Hutchinson and Chippendale estates were themselves divided-up for residential developments. The modern suburb of Redfern encompassed much of the subdivided Redfern Estate, in which ownership was retained by the Redfern family until the early 1840s.

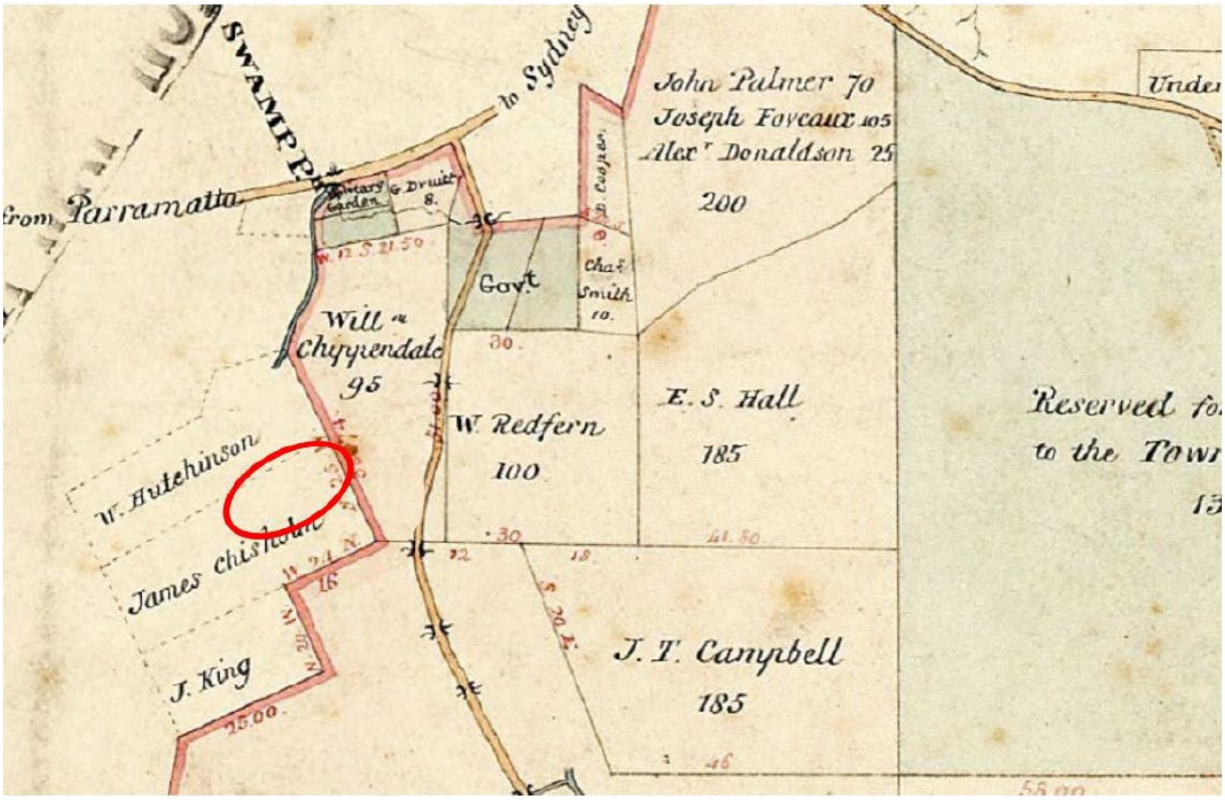

Figure 3.5: Undated map of Parish of Alexandria, early land grants. General area of the CME Building indicated in red. Source: Historical Lands Record Viewer

3.3. Eveleigh Railway Workshops

After Sydney's first railway line was completed and opened in 1855, the growth and demand for rail infrastructure and transportation dramatically increased within a short space of time.[31] The small groups of rail workshops at the original Sydney Terminal yards on Devonshire Street, consisting of corrugated iron sheds and a two-storey pattern and turning workshop, could not support the ever-growing needs of Sydney's increasing suburban traffic[32]. Because of this, recommendations were made from at least 1875 for a larger site purpose-built for the maintenance of rolling stock.

In 1879, the government purchased the Chisholm estate for a compensation price of 100,000 pounds and agreed to the construction of the workshops at Eveleigh in 1880. The ERW thereafter opened sequentially throughout 1887 as buildings were completed, with the Locomotive Workshops on the southern side of the railway line first—Bays 1-4 opening first closely followed by Bays 5-15—and later in the same year the opening of Bays 16-25 of the Carriage Workshops on the ERW's northern side.[33] This division split the workshops in two, with the Locomotive Workshops to the south and the Carriage Workshops to the north. The reasoning behind the split of the complex was to allow the two different facilities to operate independently of one another, thus avoiding

[31] OCP, 2002. *Eveleigh Carriageworks Conservation Management Plan*: 34
[32] Ibid: 85
[33] Godden Mackay Logan 2013, *Australian Technology Park CMP Vol.1*, p.10-12

interference with rail traffic, but close enough to allow for communication between the two workshops.[34]

The gradual decline of the workshops from 1945 occurred due to a number of compounding factors including the effects of World War II, the post-war boom and new Sydney suburbs opening up to satisfy housing needs.[35] Other elements contributing to the decline of the workshops included the dramatic increase in motor vehicle sales that lessened railway traffic, and electric carriages being introduced, which were built with steel rather than timber like in Eveleigh and were, therefore, better suited to other workshops like Chullora. As materials and technologies improved, the turn around time of repairs lessened, which led to smaller numbers of vehicles passing through Eveleigh. By 1973, the State Rail Authority decided that, due to poor productivity at the ERW, it was time for it to close. By 1989, all work at the ERW had ceased and the complex closed for good.

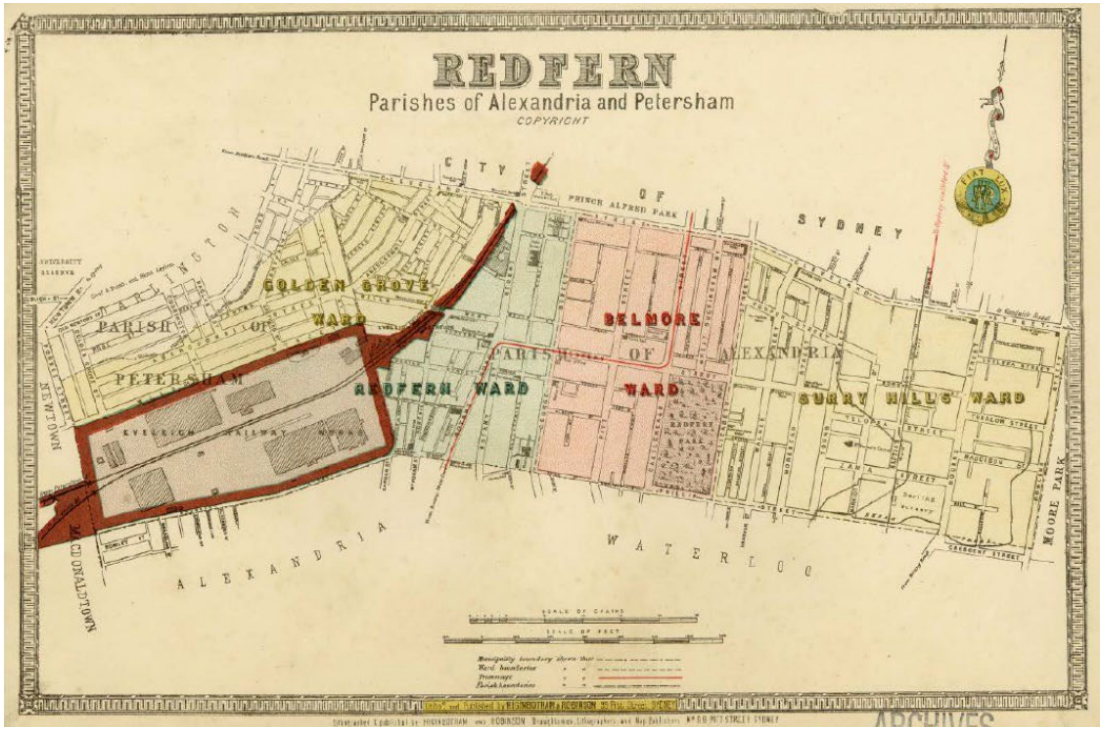

Figure 3.6: Undated Parish of Alexandria and Petersham Map of Redfern. Highlights of the resumption of land by the Government for the ERW. Source: State Library of NSW, 1172084

3.3.1. South Eveleigh

Using some of the most advanced technology of its era, the Locomotive Workshops in South Eveleigh became a key player in the growth of Australian industry and infrastructure. From its inception in 1887, the facility played a large part in the development of the NSW railway network. The South Eveleigh site comprised four primary structures, each responsible for a different aspect of locomotive construction and maintenance.[36] [37]

The four main structures of the South Eveleigh Workshops were:

[34] OCP Architects, 2022. *Eveleigh Railway Workshops Overarching CMP*: 28-29
[35] OCP 2002a
[36] OCP Architects, 2022. *ERW Overarching CMP*: 28-29
[37] Note that a number of other buildings central to the operations of the workshops have since been demolished, including the Foundry, Wheelpress Shop, the Pattern Shed and the Smith's Shop.

- Locomotive Workshop: The largest and arguably the most important structure in South Eveleigh, made up of 16 equally sized bays, iron trusses and columns, and a corrugated iron-roof. Here the individual parts of the locomotives were manufactured and maintained, with engines being constructed in Bays 6-9. This workshop originally consisted of two separate structures, separated by a laneway in what is now Bay 4a.
- Large Erecting Shop (LES): Built in 1899, it was here the individual parts manufactured in the Loco Workshops were assembled to create a functioning locomotive engine. Engines would also be both repaired and eventually dismantled here, making the LES a kind of 'hospital' for locomotives, as the location for their birth, care, and death.
- New Locomotive Shop: This ultra-modern workshop was built in 1908 for the manufacturing of new locomotive engines solely on-site, as opposed to merely assembling, maintaining, and repairing locomotives imported from Great Britain.
- Engine Running Sheds: These sheds could hold up to 126 engines at a time, and were responsible for cleaning, repairing, and servicing. The building was demolished in the 1920s to make way for the engine dive.[38]

Figure 3.6: View of the Locomotive Workshop before 1910, looking southwest. Source: State Rail Authority Archives, State Archives NSW, c53214-15923-NID601/1

3.3.2. North Eveleigh

While the South Eveleigh Locomotive Workshop built and maintained the NSW Railways locomotive engines, the North Eveleigh Carriage Workshop was responsible for the construction and maintenance of the train carriages that the locomotives would tow behind them. North Eveleigh also notably housed the highest-level administrative staff for the whole ERW, although both workshops had individual Works Managers on their respective sides of the railway tracks.

The primary buildings located in North Eveleigh consisted of:

[38] Simpson Dawbin, 2003. *Large Erecting Shop CMP*: 52

- Carriage Workshop: Built in 1887 as the primary workshop for constructing and maintaining carriages and wagons. The workshops now make up the main building of the 'Carriageworks' cultural precinct
- Paint Shop: After construction and/or repair, carriages would be sent over a traverser to the nearby Paint Shop, which was built in 1887, for painting, polishing, and varnishing. All further beautifications and outfitting would also take place in the Paint Shop, after which the carriage was placed back onto its original undercarriage via crane and made ready for return or introduction to the railway system.[39]
- Blacksmiths Shop: Built in c.1907-1909, the Blacksmith's shop (opposite the Carriage Workshop) was responsible for creating the carriage and wagon parts that would then be constructed in the main Carriage Workshop.
- Chief Mechanical Engineers (CME) Building: The office of the Chief Mechanical Engineer, built in 1887, was the primary administrative building for the whole ERW, as it was under his supervision that both the Railway Workshops operated. The building also housed offices for ordinary engineers, overseers, inspectors and various clerical staff.
- Scientific Services Building: Located directly west of the CME, this building was constructed in 1916 and contained laboratories for railway-related testing and research, such as material and design testing.[40]
- Stores 1 & 2: Located west of the Carriage Workshops and built in 1883 were the facilities for movement, handing and storage of goods relating to the Railway Workshops.[41]

[39] OCP, 2002. *Eveleigh Carriageworks Conservation Management Plan*: 109
[40] OCP, 2002a. *Eveleigh Carriageworks Conservation Management Plan*: 69
[41] Curio Projects, 2022. *RNE Paint Shop Sub Precinct Non-Aboriginal Heritage Study:* 45

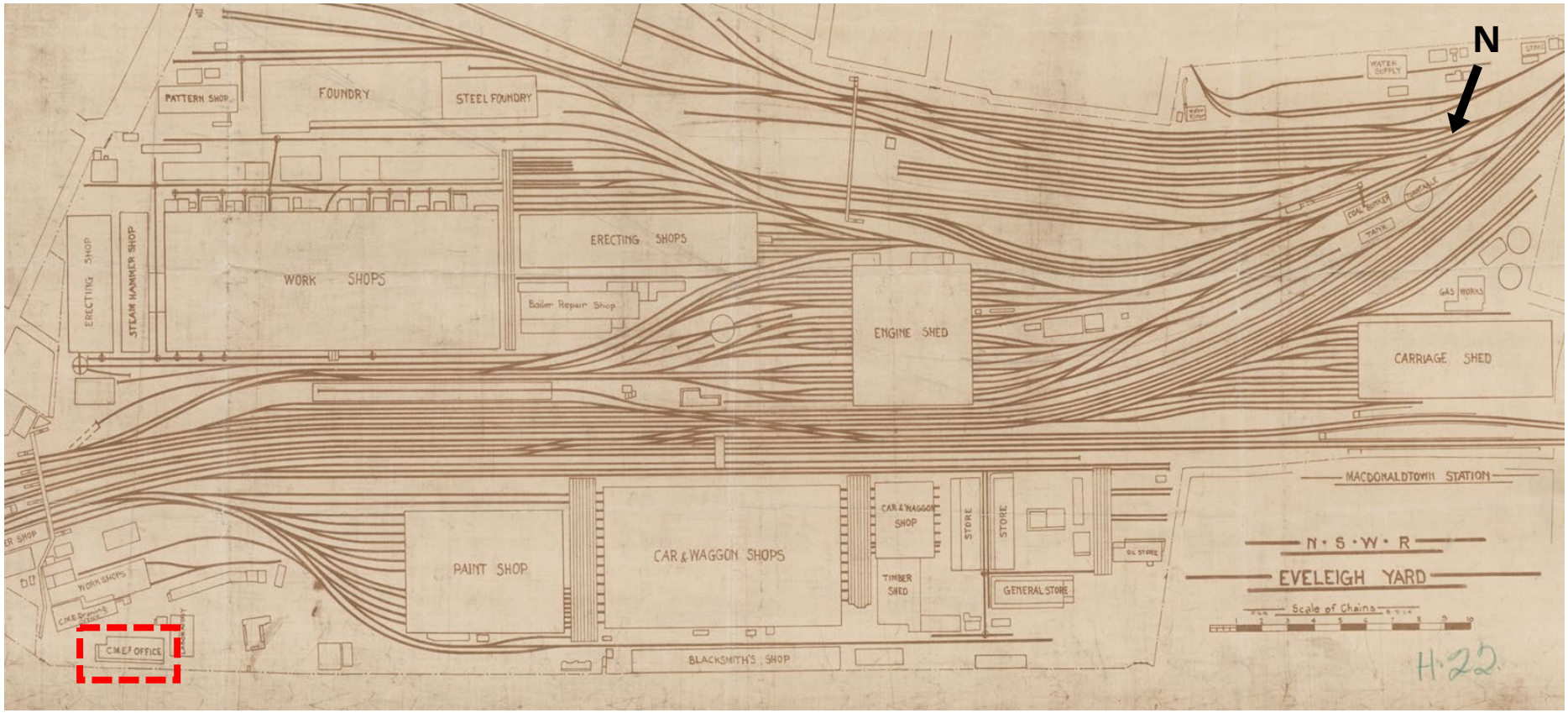

Figure 3.7: View from Cornwallis Street across rail line to the south eastern end of Carriage Works. South Eveleigh Managers Office and Tower in the foreground, undated. Source: 003 - Z/SP/E12/3 - N.S.W.R. Eveleigh Yard - Erskineville St, Swanson St, Wells St 1914 - SLNSW

The following timeline in Table 3.1 provides a key historical summary relevant to the North Eveleigh precinct development.

Table 3.1: Historical Timeline for North Eveleigh

Year	Event
1855	NSW first rail line constructed, bisecting Chisholm land at Eveleigh
1884	Majority of North-eastern Fan of Tracks laid
1887	Carriage Workshops building and Chief Mechanical Engineers Office (Stage 1) constructed
c1888	Paint Shop constructed
1899	Large Erecting Shop (South Eveleigh) completed
c1890	System of steam pipes constructed below the floor in the Paint Shop
1892	Union negotiation led to the workshops being closed on Saturdays
1900	CME Building is extended to the East
c1901	Traverser No. 1 installed between Carriage Workshop and Paint Shop, following removal of earlier steam Ground Traversers from Bay 17 and 23 of Carriage Workshop Building.
1907	Carriage and Wagon Blacksmith's Shop constructed north of Carriage Workshop Building
c1912	Signal and Telegraph Branch Workshop constructed Northern Paint Shop Extension (former Suburban Car Workshops) constructed. Painting function relocated from 1887 Paint Shop into new extension.
C1913	Compressor House constructed
c1913/14	Construction of southern footbridge over railway line connecting North and South Eveleigh and the western end of Redfern Station, allowing workmen to cross rail tracks more safely
1914-15	New Stores Building constructed in western end of North Eveleigh complex
1915	Traverser No. 1 between Carriage Workshop and Paint Shop extended
c1916	Single-storey strong room/laboratory constructed west of CME Office (precursor to Scientific Services Building No.1)
1917	"Great Strike" following the introduction of the Taylor card system at Railway Workshops
1920	CME Building is extended to the South with additional office rooms and a female toilet
c1922	Carriage Lifting Crane constructed adjacent to southern elevation of Paint Shop in the west Scientific Services Building No. 1 constructed (incorporating c.1916 single-storey building in same location)
1923-24	Calder House vacated due to poor condition[42] (previously used as CME/Works Manager Residence), burns down 1924
1924	Air-driven spray-painting equipment installed in Paint Shop.
1925-27	Quadruplication of Illawarra Line, electrification of suburban rail lines, construction of Illawarra dives.
1935-36	Air compressor plant in Compressor House upgraded with addition of a 750 cubic feet/minute electric air-compressor
1937	Chullora Workshops opened

[42] Godden 1986: 79

Year	Event
1930s	Large, corrugated iron shed housing Trimming Shop constructed in former location of Calder House
1950s	Introduction of steam locomotion
1963	Last steam locomotive used to haul passenger service in NSW Atlas Copco compressor installed in Compressor House (Atlas Copco aftercooler added in 1968)
1966	Scientific Services Building No. 2 constructed
1986	Suburban Car Workshops set up in former Paint Shop extension
2008	Concept Plan approved for the redevelopment of the North Eveleigh Precinct
2020	Sydney Trains temporary site office established in Fan of Tracks area in Paint Shop Sub-Precinct as part of Redfern Station Southern Access and Concourse upgrade project.
2021	Transport undertake SSP study to reassess requirements and updates to 2008 Concept Plan for Paint Shop Sub-Precinct.

3.3.3. Redfern Station

What is now known as Redfern Station was originally known as 'Eveleigh Station' and was constructed in c1886-1887. This was the second 'Eveleigh Station' replacing an earlier building constructed 200 meters to the west in 1876, and the site was only officially renamed 'Redfern Station' in 1906.[43] From its inception, Redfern Station had a close functional connection with the ERW up until its closing in the 1980s and was heavily used by the workers of the entire ERW for their daily commute. The station underwent several extensions over the years, adding new platforms as well as a steel footbridge at the station's southern platform end providing access between North and South Eveleigh, as well as providing a shortcut route over the railway line for pedestrians and students.[44] The footbridge was demolished in c1996 followed by the final closure of the ERW.[45]

Surviving examples of the interconnection between the station and the Workshops remain in the 'Elston's Sidings', located at the western end of the station platforms in North Eveleigh and the remains of the footbridge footings in North Eveleigh, both near the subject site. The Telecommunications Equipment Centre (TEC), located west of Platform 1 and adjacent to the sidings, was built in 1912 as a workshop to facilitate signaling between both sides of the ERW, as well as the railway system as a whole.[46] Elston's Sidings, the TEC, and the remaining footbridge footings showcase the close relationship between North Eveleigh and Redfern Station and demonstrate the importance of viewing the structures collectively within their heritage context.

In c1999, Redfern underwent a significant upgrade to its northern end including the construction of a new footbridge and stairways. The Redfern Riots in 2004 caused significant damage to the station's Lawson Street ticket office and heritage building, which prompted the windows to be bricked up and then later reinstated with iron barring to prevent any future damage.[47]

[43] Curio Projects, 2020. *Redfern Station Conservation Management Plan:* 66
[44] Ibid: 40
[45] Curio Projects, 2020. *Redfern Station Conservation Management Plan:* 67
[46] Ibid: 64
[47] Tonkin Zulaikha Greer, 2021. *Redfern Station Upgrade HIP*: 16

Figure 3.8: Overhead Booking office at Redfern Station, view from Platform 1, 1916. Source: SLNSW, FL8961177.

3.4. Chief Mechanical Engineers Building (CME Building)

The Chief Mechanical Engineers (CME) Building was constructed in 1887 in the northeastern corner of North Eveleigh along Wilson Street and built on the highest area of land within the Eveleigh Railway Workshops precinct, offering an important key view line from the CME Building across the ERW landscape.

The CME Building, initially known as the Locomotive Engineers Office and later the General Managers Office, was established to house offices of the Chief Mechanical Engineer under whose supervision the entire ERW operated. Additionally, the building was used as an office space for engineers, overseers, inspectors, and professional clerical staff of the ERW until its closure with the workshops in 1989.[48] The building continued to house office spaces for administration staff until the early 2000s after which the building was vacated.

> *On the western side of the main lines will be situated Locomotive Engineers Offices, a two-storey building, 100 feet x 50 feet, containing offices for the Locomotive Engineer, Locomotive Overseer, Locomotive Inspector and the professional and clerical staff, &c., in connection with the department. From the position of the building, it commands a good view of the whole of the yard. (1882 Annual Report)* [49]

The CME building underwent numerous modifications over the years, alongside the ERW growth and continued expansion. The current CME building is mostly unaltered since the 1920s and still includes the fabric of the 1887, 1900 and 1920 structural phases. The original external heritage fabric has

[48] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP ;* Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 31

[49] Railways and Tramways of NSW Annual Report, 1882.

been maintained, although an addition to the building in 1900, which was grafted onto the structure's eastern wall, would have affected the original fabric, and two fires in 1902 and 1908 are likely to have resulted in modifications.[50]

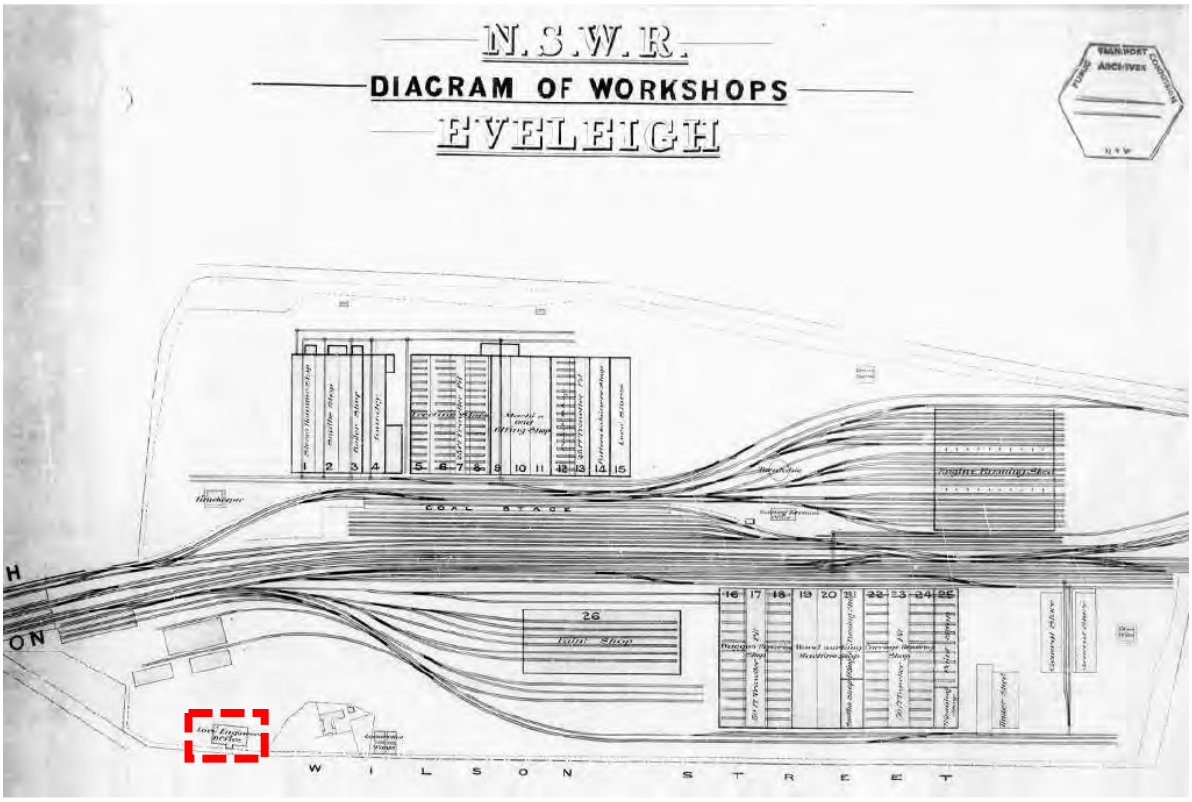

Figure 3.5: NSW Railways Diagram of Eveleigh Workshops, 1887. General location of the CME Building circled in red. Source: NSW State Records, R5601117.

[50] Curio, 2022. RNE Paint Shop Sub Precinct Non-Aboriginal Heritage Study: 51

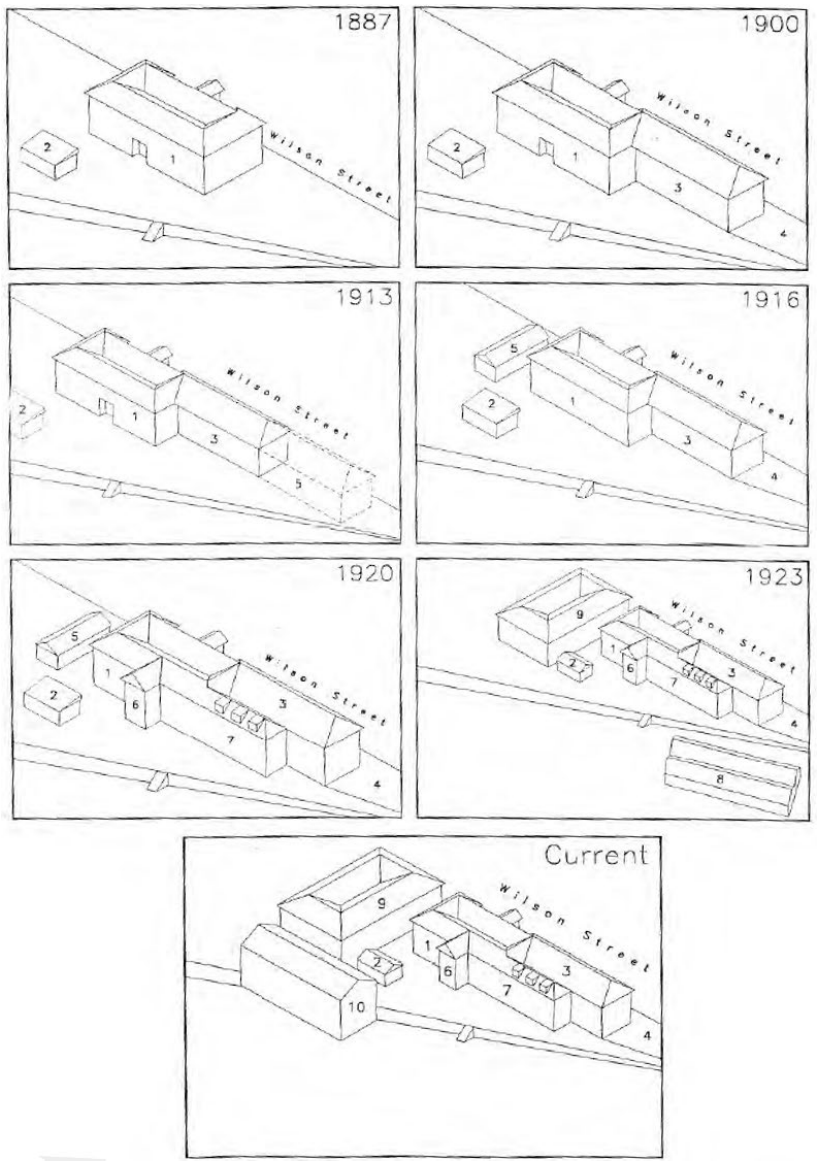

Figure 3.6: Illustrative scheme of the evolution of the CME Building since construction. Source: Rappaport & Caldis Cook Group, 1997.

3.4.1. 1887: Construction

The 1887 construction of the Chief Mechanical Engineers Building included timber tongue-and-groove floorboards on timber joists and bearers, a ceiling rose in every room and a total of 16 fireplaces[51]. The moulded timber architraves, skirting blocks and glazed fanlights were built above most doors, with detail given to the offices in the main corridors. Ceilings dating to the 1887 construction are believed to have been made up of lathe and plaster[52].

The Chief Mechanical Engineers Office in the original 1887 construction was originally known as the Office of the Locomotive Engineer, as seen in Fig 3.9, and was located in the first room to the east of the CME Building's northern entrance (now Room G4, visible in Figure 4.7). During the 1887 phase,

[51] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP* ; Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 26-27
[52] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 28

the room opposite this to the West was the office of the Assistant CME (now Room G2A) which later was used as a laboratory for X-Ray equipment[53].

Whilst the ERW was still in operation, the employees (up to 3,500 workers during the workshops peak period) would use the southern entrance of the CME Building for access to the Pay Office (listed as the 'Clerks Room' in Figure 4.7, now the building's easternmost room, Room G1), located at the western end of the building, to collect their wages weekly.[54] The door leading into this Clerk's Room (now Room G1) includes a vertically sliding window and ledge within one of the door panels that was used to deliver these pay packets to the employees.[55] The Pay Office would have stored a large amount of paperwork and records.

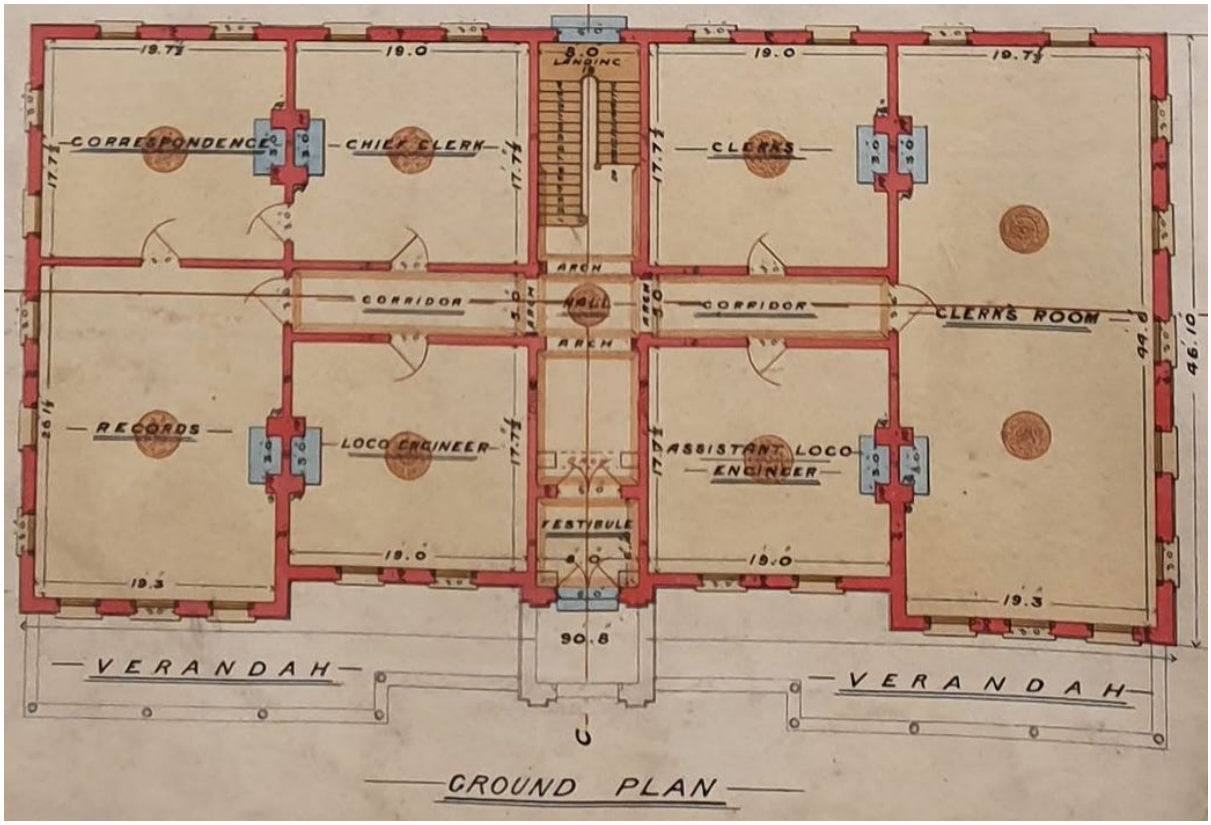

Figure 3.7: Ground Floor plan of the original 1887 construction of the CME Building. Source: Rappaport & Caldis Cook Group, 1997.

[53] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 40, 64
[54] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP;* Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 41
[55] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 45

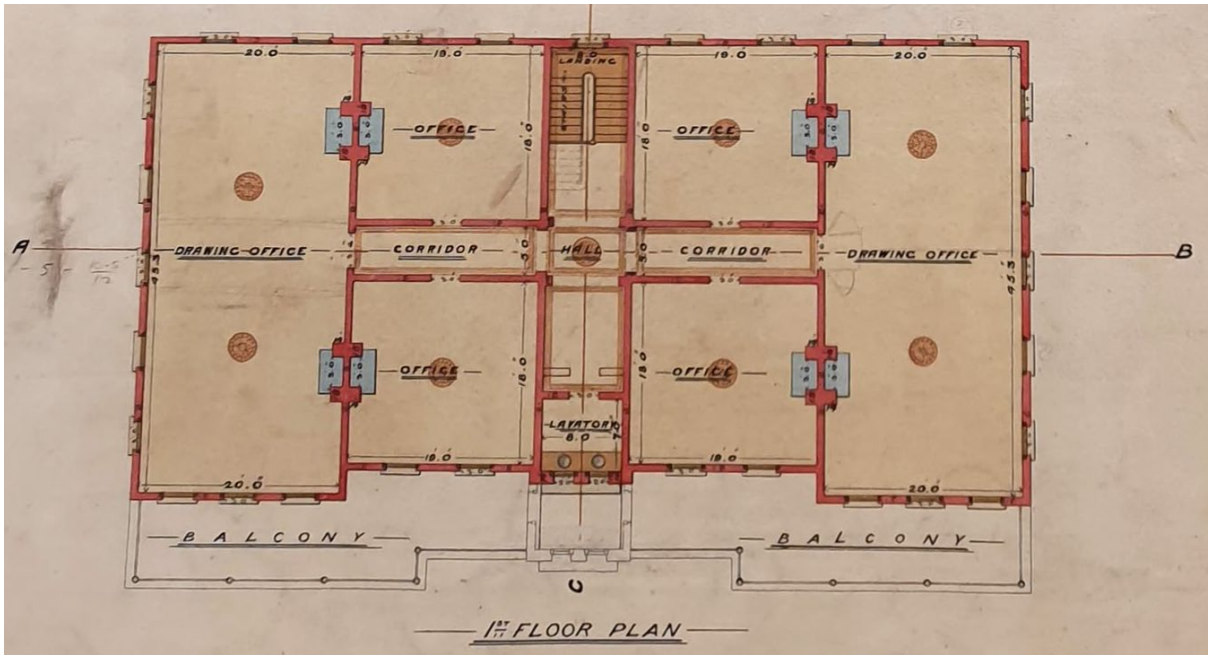

Figure 3.8: First-floor plan of the original 1887 construction of the CME Building. Source: Rappaport & Caldis Cook Group, 1997.

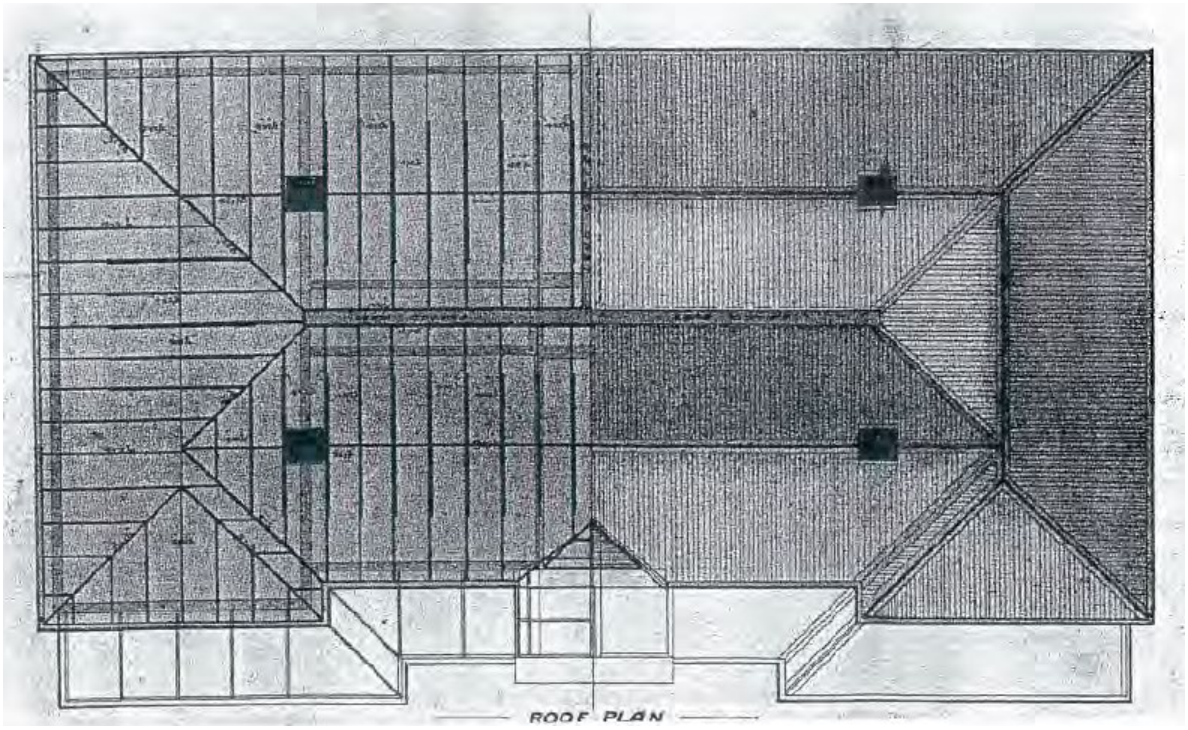

Figure 3.9: 1887 construction of the CME Building roof plan which includes details of the cut-away section of the roof truss timbers. Source: Rappaport & Caldis Cook Group, 1997.

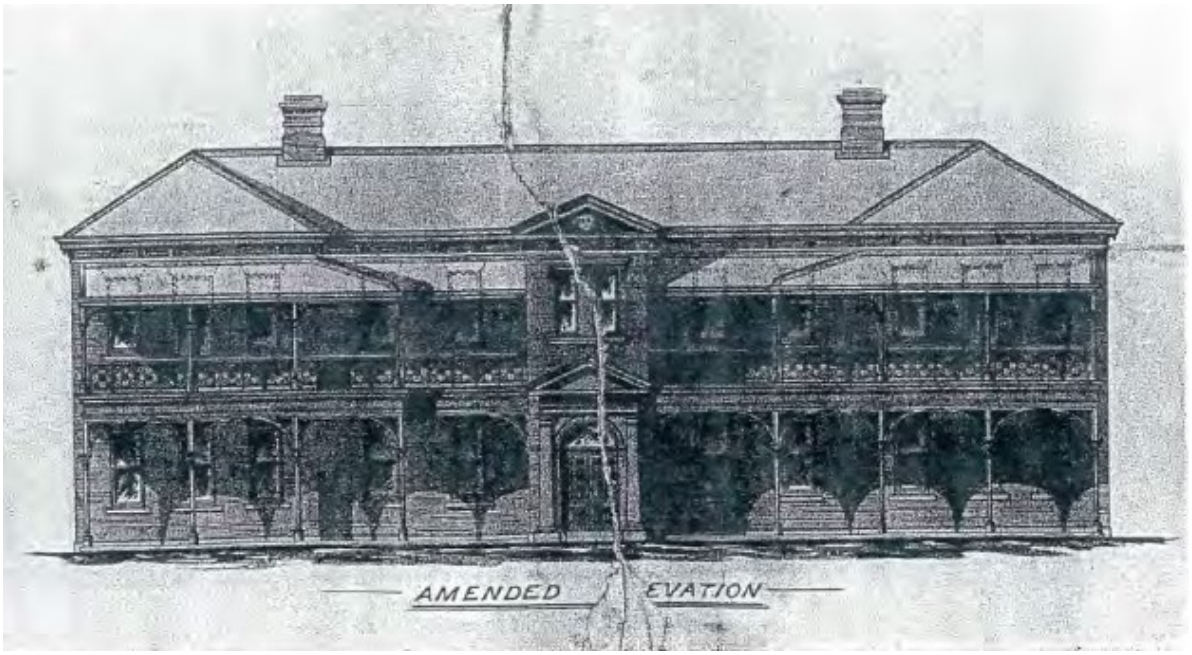

Figure 3.10: Original 1887 construction amended plan that shows the balconies and verandah. Source: Rappaport & Caldis Cook Group, 1997.

Figure 3.11: Image of the 1887 construction of CME Building in 1893 from Wilson Street. Source: 'Eveleigh: A Populous Suburb of Sydney'. Source: Australian Town & Country Journal, 4 March 1893, p. 27.

3.4.2. 1900: Addition

The 1900 addition involved an eastern extension of the CME Building and was designed and constructed to be sympathetic and consistent with the original 1887 construction. The windows, roof, and balcony match the original building, and internally the doors match the original building.

The 1900 addition reflects the rapidly growing NSWGR due to the rising population of rail users and the need to provide facilities to cope with this increase.[56]

Changes undertaken for the 1900 addition include the widening of the corridors on both levels, fireplaces moved to the northern perimeter, paint additions to the balcony, as well as the introduction of plumbing, electrical, gas and telecommunications services.[57]

The 1900 addition also included a large room on the first floor, built to the west of the drawing office visible in Figure 3.8, which was entirely allocated to be a drawing office for designs (this room is now listed as Room F6), as opposed to the previous use of the entire first floor for this purpose.[58] An isolated office located to the west of this new large drawing office (now room F5) was potentially used as an office for the Drawing Office Supervisor and contained a full-height glazed screen to have a wider view of the drawing room.[59]

The 1900 addition also relocated the office space of the Chief Mechanical Engineer, moving to a large office space on the easternmost part of the building's ground floor (now Room G10). This new CME office included a larger office space, a private entrance along Wilson Street and a private lavatory that became the first indoor toilet in the building. The Chief Mechanical Engineers desk is believed to have been located in front of the bank draws facing west.[60] The Assistant CME's office was similarly relocated to the eastern end of the ground level of the CME building, directly to the west of the CME's office (now Room G6 or G7).[61]

From the 1900 addition of the CME Building also came the creation of a new and well-maintained garden located east of the building, which was maintained until the 1990s. While this garden is still present to some degree in the current era, it only contains a select few ferns, trees and grass lawns.

[56] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP;* Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 31
[57] Ibid
[58] Ibid
[59] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP*: 48-49
[60] Ibid
[61] Ibid

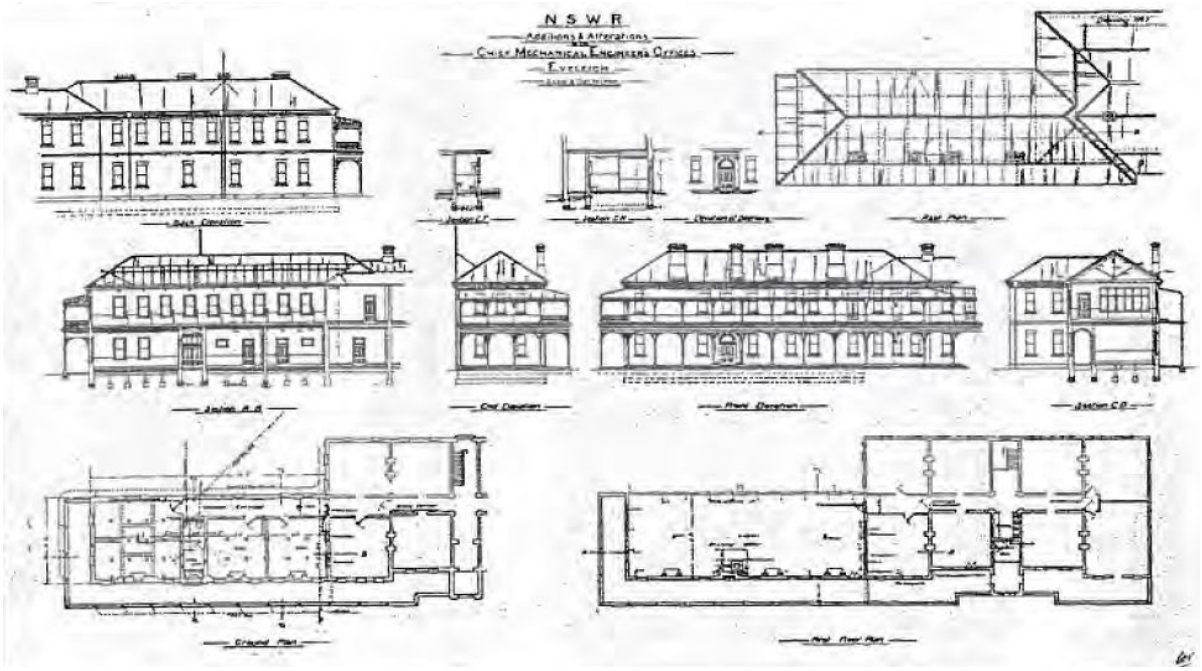

Figure 3.12: Plans, sections and elevations of the 1900 addition showing the sympathetic treatment of the extended façade to that of the original 1887 construction. Source: Rappaport & Caldis Cook Group, 1997.

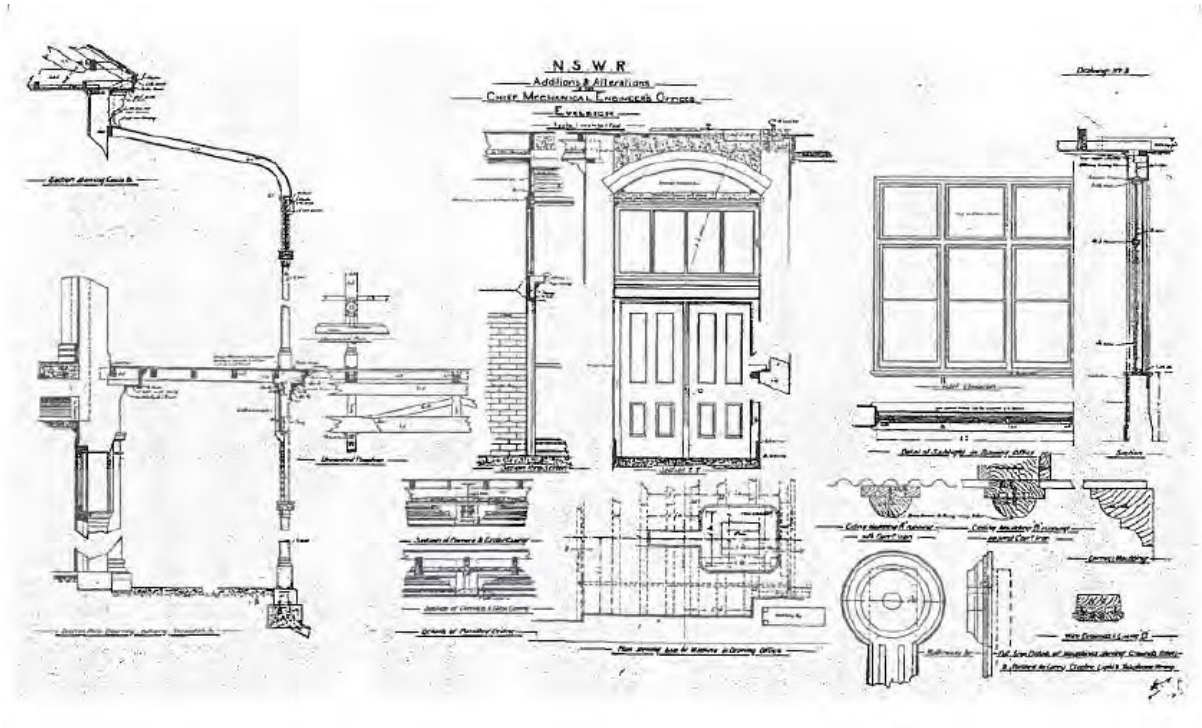

Figure 3.13: Detailed drawing of the Chief Mechanical Engineer's new entrance as part of the 1900 addition. Source: Source: Rappaport & Caldis Cook Group, 1997.

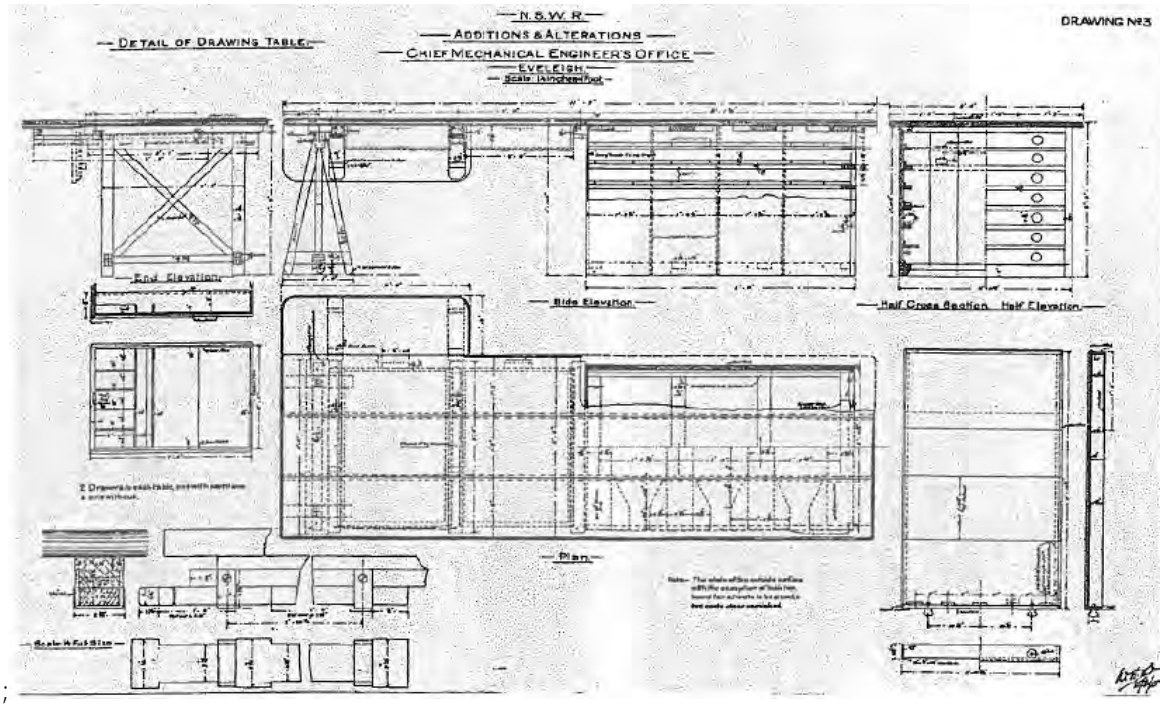

Figure 3.14: Detailed drawing of the 1900 addition drawing table design which were extensively used on the first floor of the CME building. Source: Rappaport & Caldis Cook Group, 1997.

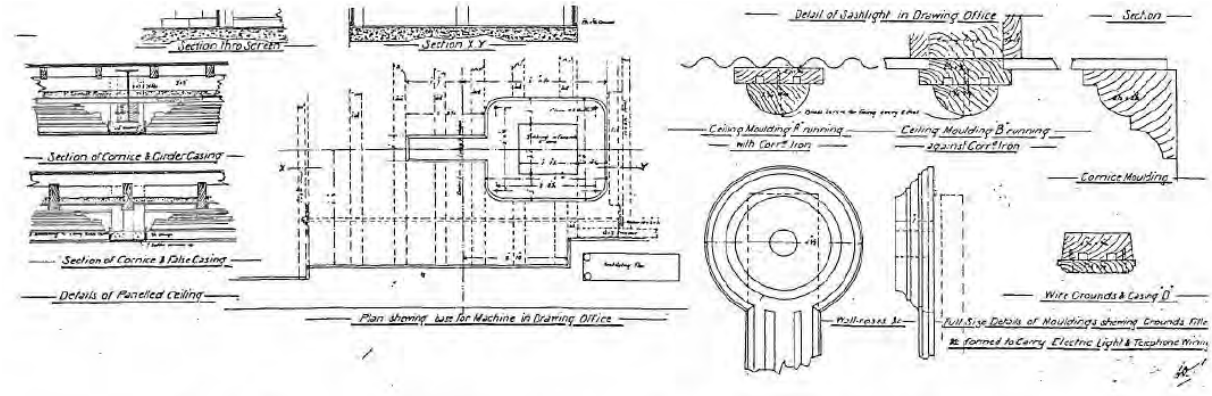

Figure 3.15: Details of numerous ceiling framing, cornice and bulkhead details as part of the 1900 addition to the CME building. Details of the corrugated iron ceilings for the general officers and pressed metal ceilings for the CME's office. Source: Rappaport & Caldis Cook Group, 1997.

3.4.3. 1913: Addition (Cancelled)

An eastern extension was proposed in 1913 to be constructed in the location of the current CME gardens. This proposal was rejected and was never executed, likely due to boundary limitations caused by its close proximity to the site's eastern border. These 1913 additions would have included a new CME office, toilet and entranceway with another three new drawing rooms.[62]

[62] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP;* Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 33

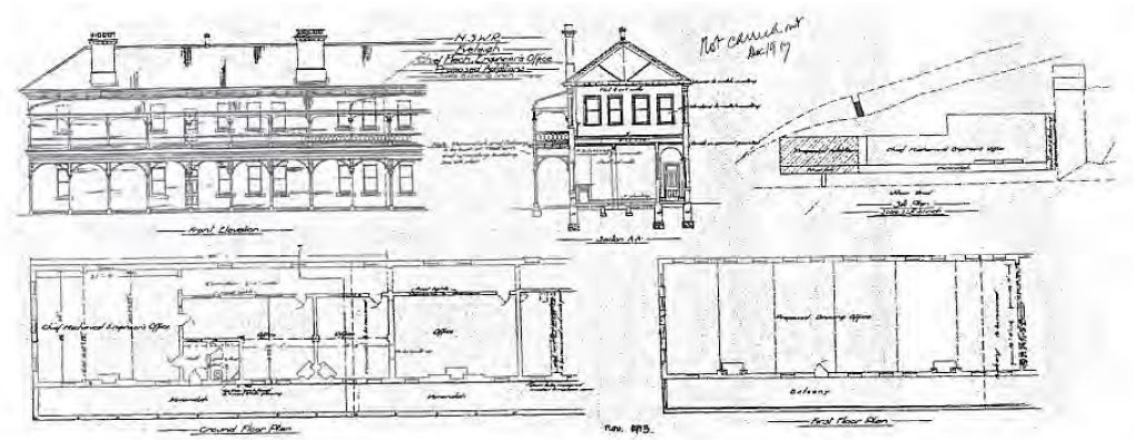

Figure 3.16: Drawings of the 1913 addition that was cancelled. Source: Rappaport & Caldis Cook Group, 1997.

3.4.4. 1920: Addition

The final 1920 addition of the CME Building included several new facilities, such as an enlarged drawing office, three new general offices, a new exit, as well as the first indoor female toilets and two additional male toilets on the ground floor at the southern entrance to the building.[63] The inclusion of female toilets in the 1920 phase highlights the increase in female staff and their role in the administration side of the ERW within the CME Building. The increase in facilities also demonstrates the growth in general staffing of the building due to the expansion of operations at the ERW.

The three additional offices were constructed on the ground floor as part of the 1920 addition in the southeastn part of the building, below the 1900 additions (now Rooms G12, G13, and G14). The drawing office on the first floor (now Room F6A) was also expanded to the southeast to create three alcoves with skylights (now Room F6E and F6F).[64] The skylights were likely added due to the need for more natural light for the drawing tables.

Three years after the 1920s addition was completed, an entirely new separately housed drawing office was constructed to the southeast of the CME Building, demonstrating the dramatic increase in work and need for accommodation during this period[65].

[63] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP* ; Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 34
[64] Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 35
[65] Curio Projects 2022. Chief Mechanical Engineers Office CMP: 58

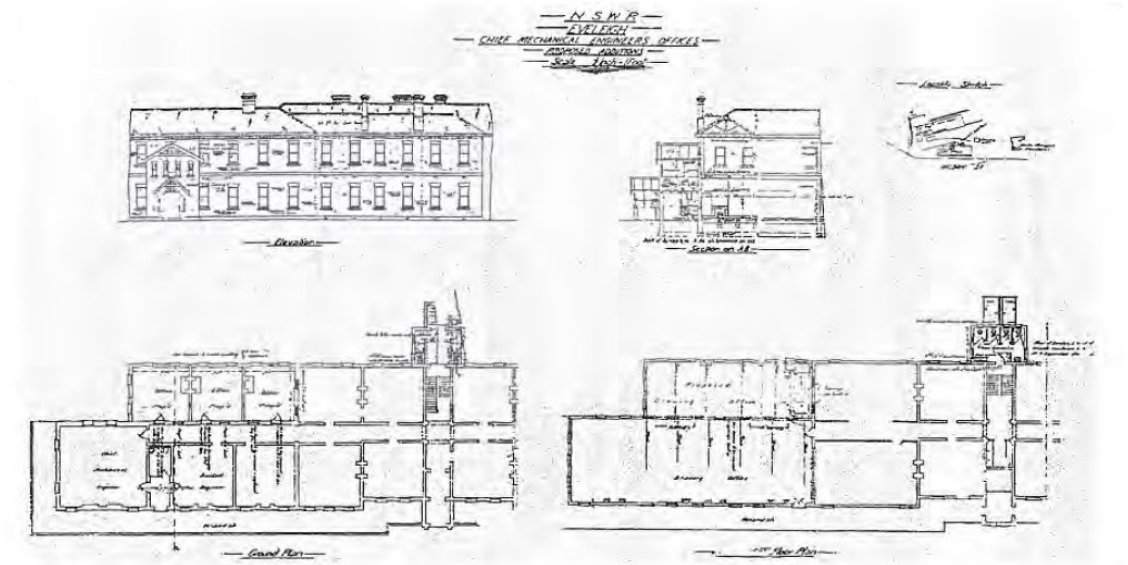

Figure 3.17: Plans of the 1920 addition which included the construction of three skylights over the drawing office, now Room F6. Source: Source: Rappaport & Caldis Cook Group, 1997.

Figure 3.18: Sun Tiy Sang in his Gardening Truck, in front of the CME Building in 1925. Note the high fence on top of a concrete footing. Source: State Library of NSW, PXA 1284 - 9Bv78Xm9

Figure 3.19: Eastern elevation, entrance driveway and gardens of the CME Building, c.1950. Source: Rappaport & Caldis Cook Group, 1997.

3.4.5. Role of the CME Building within the ERW

The Chief Mechanical Engineer was the highest authority at the ERW and ultimately oversaw and managed the entire site from the CME office. The CME himself was, as head of the State Railways' Mechanical Branch, ultimately responsible for the design, construction, maintenance, and care of all operating rolling stock within the entire NSW railway system.[66] Other responsibilities included testing new materials and systems that were appropriate for use in the railways, establishing and building new railroads across NSW, and reporting and monitoring the performance of rolling stock. [67]

The CME Building not only housed the Chief Mechanical Engineer of the ERW but also their subordinate engineers, assistants, and clerks. These engineers would spend their time designing new locomotive or carriage blueprints and technologies in the Drawing Room, as well as testing materials or designs in the Scientific Services Building. Several of these mechanical engineers who worked at the CME building would make huge contributions to the railway system and would be responsible for the industrial and infrastructural growth and development of NSW and Australia as a whole. Such achievements included improving the capability of locomotive performance, speed and hauling ability, as well as the creation and implementation of designs for state-of-the-art locomotives and carriages across Australia.[68] In the 1920s, as electrification continuously became more advanced, Eveleigh engineers worked on revising their understanding of electrifying the railway system and would later be instrumental in the introduction of dieselisation to the state's trains.

[66] Ibid

[67] Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 14

[68] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP* ; Rappoport & Caldis Cook Group,1997. *Chief Mechanical Engineers CMP*: 91

The CME building also appears to have served as the pay office for the North Eveleigh Carriage Workshop, serving a similar function to the Works Managers Office on the ERW's southern side. This room also plays an important role in Australia's history when, at around noon on the 10th of June 1914, a robbery heist took place near the building's pay office on Wilson Street. Taking place on the workshop's fortnightly payday, the two robbers targeted the pay boxes as they were being transferred from the nearby bank to the CME Building via a horse-drawn wagon. The Eveleigh Paymaster Frederick Charles Miller and his colleague were robbed at gunpoint by a pair of masked gunmen, who took one of two boxes and sped away in an automobile. A reward of £400 was later posted by the police for information about the identity of the men who were later caught. The heist shocked the entire nation for its sheer audacity, being done in broad daylight on a busy road, and involved the first recorded use of a 'getaway car' in Australian history.[69]

Figure 3.20: Mr R. Hill on his retirement showing staff of CME Building, 1961. Source: State Archives & Records, NRS-22469-1-7-H611142

[69] Rachel Hollis 2022, 'Robbery Under Arms – The Eveleigh Heist 1914' *NSW State Archives and Records.* Accessed from: https://www.records.nsw.gov.au/archives/magazine/galleries/eveleigh-heist

Figure 3.21: The Drawing Office, Chief Mechanical Engineer's Department, 1903. Source: Australian Town and Country Journal, 4 March 1893.

Figure 3.22: Mr J Scoular, Chief Draughtsman in his office, 1903. Source: Australian Town and Country Journal, 4 March 1893.

The following section highlights some of the key individuals that worked in the CME building from its construction up until its closure in 1989. These include men that held the position of Chief Mechanical Engineer as well as some other leading Railway men that spent time in the building for a significant part of their career.

Table 1.1: Chief Mechanical Engineers and Assistant Chief Mechanical Engineers of ERW

Name	Role	Year
Mr William Thow	Chief Mechanical Engineer	1889-1911
Mr Ernest Edward Lucy	Chief Mechanical Engineer	1911-1932
Mr Walter Russell	Assistant Chief Mechanical Engineer	1918-1920
Mr A. D. J. Forster	Assistant Chief Mechanical Engineer	1920-1925
Mr Harold Young	Chief Mechanical Engineer	1932- 1950
Mr W.H. Armstrong	Chief Mechanical Engineer	1951 - 1956
Mr C. Cardew	Assistant Chief Mechanical Engineer	1955-1963
Mr F. P. Heard	Chief Mechanical Engineer	1956-1966
Mr W. Waite	Chief Mechanical Engineer	1966-1973

Mr William Thow (CME 1889-1911)

Like many of the administrators and skilled professionals working in Australia in the latter parts of the 19th century, Mr Thow came to Australia from the United Kingdom.[70] In 1876, Thow was given the position of Locomotive Engineer for the State of South Australia, before being offered the same position in NSW in 1889, succeeding a Mr Midelton. Thow was thereafter the first person to be given the title of 'Chief Mechanical Engineer', as the position name was changed upon his appointment. As Chief Mechanical Engineer, Thow was responsible for all the Locomotive, Carriage and Wagon Workshops in NSW, with his office located in the Chief Mechanical Engineers Office in Eveleigh.[71] Aside from his several travels to England and America for railway development research, Mr Thow was well known for his heavy focus on the potential for electrification. This was a development that he was largely able to see through after 22 years as the CME, being present for the earliest conversions from steam to electric locomotives before the task fell to his successor.[72]

[70] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP: 94*
[71] Ibid.
[72] NSW Railways, 1920. *New South Wales Railway and Tramway Magazine,* 1st December 1920.

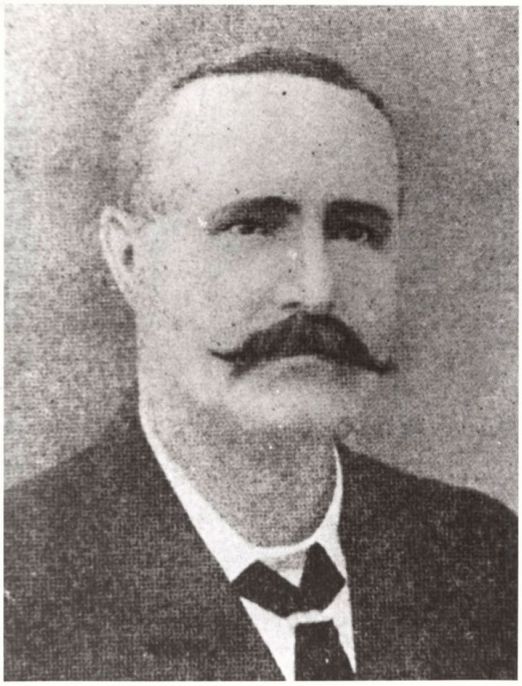

Figure 3.23: Photograph of William Thow, First Chief Mechanical Engineer (1889-1911) NSW. Source: State Archives & Records NRS-17420-2-3-343/000

Mr Ernest Edward Lucy (CME 1911-1932)

Ernest Edward Lucy originally hailed from the United Kingdom and began work for NSW Railways in 1906 as the Assistant Chief Mechanical Engineer under Mr Thow. Lucy was given the top position in 1911 after the latter's retirement and would himself retire from the position in 1932, after 22 years of service.[73] Ernest Lucy served as CME for some of the most productive and eventful years of the ERW, having control over 16,000 men and supervision over 26,000,000 miles of track at its peak. Similarly, the beginnings of electrification, so valued by his predecessor Mr Thow, were greatly expanded under Mr Lucy with the introduction of mainstream electric trains throughout the state. This Golden Age was not without its problems, however, and Mr Lucy was also responsible for managing the railways during the collapse of infrastructure transportation during the Great Strike of 1917, the devastating effect of the First World War, as well as the beginnings of the Great Depression in the 1930s.[74]

[73] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 95
[74] D. Burke, 1986. *Man of Steam – E E Lucy – Gentlemen Engineer in the Great Days of the Iron Horse*

Figure 3.24: Photograph of E. E. Lucy, Chief Mechanical Engineer. Source: State Archives & Records, 17420-2-3-343/001

Mr A. D. J. Forster (Assistant CME 1920 to 1925)

Alfred Foster was born in Sydney and grew up in the suburb of Paddington. After attending Fort Street Public School, Foster signed up as an apprentice at the ERW in 1906. The next year he won the jubilee scholarship for the University of Sydney, enabling him to study mechanical engineering. Graduating with honours in 1911, Forster was given the chance to travel overseas for a year to acquire experience, all expenses paid, as part of an extension to his scholarship. He would spend a further three years working around Europe as an inspecting engineer for the NSWGR.[75] At the outbreak of the First World War in 1914, Forster had just left Germany, narrowly avoiding the hostilities and was prevented from enlisting by the NSW Director-General of Public Works, citing his value as a skilled engineer. After working on the Metropolitan Railway Construction Branch in Sydney as Chief Assistant and being credited with much of the surveyal, location choice and design of the city, eastern, and western suburbs line, Forster was once again sent overseas to observe rapid transit operations in England and America in 1917, before being given the position of Assistant CME in 1920.[76] In 1925, Forster was only 35 and was promoted to the position of Railway Commissioner, the youngest man to be given the position in history.[77]

W.H. Armstrong (CME 1951 to 1956)

Bill Armstrong started his career in the NSW Railway Department in 1908, beginning as a fitter and turner apprentice.[78] By 1933, Armstrong had risen to the role of Divisional Locomotive Superintendent at Goulburn and was promoted to Assistant CME under H. Young in 1936. When Young was forcibly retired in 1950, Armstrong was subsequently promoted to the position of CME at the age of 59. Armstrong was the first CME to come from within Australia, instead of the United

[75] Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP*: 97
[76] D. Burke, 1986. *Man of Steam – E. E. Lucy – Gentlemen Engineer in the Great Days of the Iron Horse*
[77] Smith's Weekly, *The Man of the* Week, 10 January 1925: 2
[78] Daily Telegraph, 13 Dec 1950, p.19: And Eveleigh Stories

Kingdom, which represented an important development in Australia's abilities as an industrialised nation and a statement of its growth.[79]

Figure 3.25: W.H Armstrong, Chief Mechanical Engineer from 1951 to 1956. Source: NRS-17420-2-3-343/004

Mr C. Cardew (Assistant CME 1955 to 1963)

Con Cardew began his career in NSW Railways in 1924 as a draftsman, 3rd class at the Eveleigh Railway Workshops, working in the CME building. Cardew was highly interested in the possibilities of the steam engine and was ultimately the man behind several important improvements to the designs implemented at Eveleigh. Examples include the 'Cardew Blower Ring', the 'automatic release cylinder drain cock' and the 'Cardew Track Depression Indicator', the latter of which helped to identify holes in the road to be filled by fettlers. These innovations highlight the kind of important work that the CME produced and their potential for widespread use and implementation in the transport system in NSW.[80]

Mr Cardew served as Assistant Chief Mechanical Engineer from 1955 until his retirement in 1963 and ultimately worked in the CME building for close to 40 years, serving under four of its Chief Mechanical Engineers. These included E. E. Lucy, H. Young, W. Armstrong, and finally F. Heard.[81]

[79] Eveleigh Stories, *The Chief Mechanical Engineer*.
[80] Curio Projects, 2022. *Chief Mechanical Engineer's Building CMP* ; Rappaport & Caldis Cook Group, 1997. *Chief Mechanical Engineers CMP: 98*
[81] ibid; Australian Railway Historical Society, 1973. Bulletin No. 432.

Figure 3.26: Mr C.R. Cardew, Assistant Mechanical Engineer, in his office in the CME Building (now Room F6) in 1958. Source: State Archives & Records, NRS-22469-1-5-H580924

Mr W. J. Wait (CME 1966 to 1973)

Mr W. J. Wait served as the Works Manager at Cardiff NSW from at least 1956 [82] before being promoted to the position of Assistant CME from at least 1962.[83] As was the custom, on the retirement of Mr Heard in 1966, Wait was subsequently promoted to CME proper, a role that he would hold for seven years[84]. Mr Wait was the final person to hold the title of Chief Mechanical Engineer before the position was terminated in 1973 and split into the General Manager, Workshops and General Manager, and Mechanical and Electrical Equipment Branch.[85] The CME Office Building in Eveleigh thereafter became known as the office of the General Manager, Workshops.[86]

[82] NSW State Archives*, Portrait - Mr Wait - Works Manager Cardiff,* NRS-22469-1-3-H560198
[83] NSW State Archives, *Portrait of Assistant C.M.E Mr Waite, NRS-22469-1-8-H621131*
[84] NSW State Archives, *W WAIT CHIEF MECHANICAL ENGINEER 11-3-66 TO 30-10-73 ASSOCIATE COMMISSIONER AND DIRECTOR OF ENGINEERING 1-11-73 TO 1976,* NSW, NRS-17420-2-3-343/007
[85] NSW State Archives, Mechanical Branch [Railways] 01-07-1890 to 01-1973, AGY-1193
[86] Godden 1990; Godden 1986 Vol1 Background, p. 13

Figure 3.27: W. Waite, the last Chief Mechanical Engineer from 1966 until the position's termination in 1973. Source: NRS-17420-2-3-343/007

3.4.6. Decline and Closure of CME Building

In 1934, the NSW State Railways began preparations for the construction of a new building to house nearly all the railway administrative staff in a single location in order to unify the various railway branches and departments previously scattered throughout the city.[87] In 1936-37, the Chief Mechanical Engineer and his direct administrative staff were officially relocated from the CME Building to the newly constructed 'Railway House' (later known as Transport House), located on York Street directly above the underground entrance to Wynyard Station.[88] This move signified the beginning of a decline in Eveleigh's prestige within the NSW Railway Mechanical branch.[89]

Despite the relocation of the CME and his staff, the Assistant Chief Mechanical Engineer retained an office in the CME Building until at least 1958.[90] As second-in-command of the entire NSW Railways Mechanical Branch, the Assistant CME was the direct superior of the various Divisional Locomotive Superintendents across NSW and thus still held a tremendous amount of authority and influence.[91] The retention of the Assistant CME in the CME Building highlights that the office was still among the key administrative hubs of the NSW Railways, despite being largely overtaken by workshops like Chullora.

This retained importance would not last forever and, in 1973, the Mechanical Branch of the NSW Railways, which the Chief Mechanical Engineer and his subordinates oversaw, was officially abolished.[92] In June 1974, a new re-organised branch was created, now known as the Workshops Branch, which focused on extensive modernisation of the railway system via the addition of new

[87] Wagga Wagga Express 1934, *250,000 Building,* 26 May 1934: 6.
[8888] The Labor Daily 1936, *Named "Railway House",* 6 March 1936: 10.
[89] National Advocate, *Off Abroad¸* 11 January 1936: 4.
[90] NSW State Archives 2022, *Mr C.R. Cardew, Assistant Mechanical Engineer, in Room 27 C.M.E [Chief Mechanical Engineer] Building,* NRS-22469-1-8-H621237 | NRS-22469-1-5-H580924.
[91] NSW State Archives 2022, *Mechanical Branch [Railways] 01-07-1890 to 01-1973,* AGY-1193.
[92] Ibid.

tools, buildings, machines, and amenities.[93] This coincided with a decision by NSW Railways to begin the closure of the Eveleigh Railway Workshops themselves, indicating a shift in direction by the railway administration as well as the beginning of the end for the CME Building.[94]

By 1980, the most senior position in the new Workshops branch, previously the Chief Mechanical Engineer, was now the *General Manager of Workshops* whom the various individual Railway Workshops around NSW reported to.[95]. However, the decentralised structure of the new branch gave far more autonomy and accountability to each individual workshop as a business unit, meaning the position of General Manager had had far less prestige and practical authority than previous decades.[96] The CME Building in Eveleigh subsequently became known as the office of the *General Manager of Workshops* until at least 1986when the position of General Manager, Workshops was held by Mr G Baird.[97] At this time, the entire ERW were beginning to slowly close down and staff were relocated throughout the railway system. This only further highlighted that the General Manager of Workshops and his engineers were becoming increasingly redundant.[98]

This gradual decline concluded in 1989 when the ERW officially closed with the majority of locomotive and carriage construction and maintenance moving towards an even more decentralised system based on private contractors bidding for tenders.[99] The entire Workshops Branch itself was now redundant and subsequently abolished, leading to the end of the position of General Manager of Workshops.[100]

The CME Building Itself remained in the hands of the State Rail Authority until at least 1997 and was retained as an office building for Railway administration staff before finally being closed sometime in the early to mid-2000s.[101] Some of the building's exterior structures, such as the former drawing office, have since been demolished.[102]

[93] NSW State Archives 2022, *Workshops Branch [I] 01-07-1973 to 01-1980,* AGY-1646.
[94] OCP, 2022. *Eveleigh Railway Workshops Overarching Conservative Management Plan*: 38
[95] NSW State Archives 2022, *Workshops Branch [II],* AGY-2034.
[96] Ibid.
[97] Godden, 1990. *Eveleigh Railway Workshops, Vol1 – Background*:13
[98] Curio Projects, 2022. *LES Non-Aboriginal Heritage Study*: 40
[99] Heritage Group, 1995. *State Projects Eveleigh Railway Yards Locomotive Workshops Conservation Management Plan:* 22
[100] NSW State Archives 2022, *Workshops Branch [II],* AGY-2034.
[101] Paul Rappaport Architects 1997, *CME CMP: 4,* 103, 122 - 223*;* NSW Heritage 2022, *Eveleigh Chief Mechanical Engineers office and movable relics.*
[102] Paul Rappaport Architects 1997, *CME CMP:* 8 ; Angus Donald 2012, *Chief Mechanical Engineer's Office & Scientific Services Building: Statement of Heritage Impact:* 8-18

Figure 3.28: Railway House in 1946, which housed the CME and his staff from 1936 onwards. Source: NSW State Archives - NRS-21573-2-1-PR374_A

3.4.7. Recent History of the CME Building

The CME Building appears to have been abandoned after its closure sometime in the 2000s. Over time, the building's interior and exterior fell into disrepair and degradation as it continued to be left empty and exposed to the elements.[108]

The *Central to Eveleigh Urban Transformation and Transport Program*, starting in 2016, began the task of restoring the exterior of the building, including repainting and repairing the brick walls, balcony, windows, latticework, and connection to utilities. This restoration was finalised in 2017 and allowed for the complete restoration of the exterior of the site, although the interior of the CME remains dilapidated and deteriorating.[109]

In 2021, TfNSW began the task of updating the 2008 Paint Shop Precinct Concept Plan, which had left the CME building as abandoned and unused. This 2021 update included a potential redevelopment of the previously CME Building for commercial use. This redevelopment aims to include further restoration and conservation works, several upgrades of amenities, lighting and security, as well as the removal of any hazardous materials.[110]

4. Physical Analysis

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4. Physical Analysis

This chapter provides a detailed summary and physical analysis of the existing structures and features within the subject site, as well as context and overview of the immediate surroundings, including places of importance essential to the understanding of the physical context of the site.

4.1. North Eveleigh Precinct

The CME Building is located within the North Eveleigh Precinct, which is delineated to the north by Wilson Street and to the south by the railway corridor. North Eveleigh includes a number of extant significant heritage buildings and structures, as well as later and modern structures that occupy the precinct.

Many of the main built items in North Eveleigh of the former ERW are individually identified as heritage items within the State Heritage Listed Eveleigh Workshops. They are as follows:

1. Scientific Services Building No. 1 (Figure 4.1)
2. Telecommunications Equipment Centre (Figure 4.2)
3. Paint Shop (Figure 4.3)
4. Carriage Workshop (known as Carriageworks) (Figure 4.4)
5. Blacksmiths Workshop (Figure 4.5)
6. Clothing Store (Figure 4.6)
7. Chief Mechanical Engineers Building (Figure 4.7), the subject site.

4.1.1. Scientific Services Building No. 1

The Scientific Services Building No. 1, built in 1916, is a two-storey rectangular building made of brick located directly to the west of the CME Building. This 26m long and 17m wide building has a hipped, gabled roof made of terracotta tiles, with a double gable north-south ending in a transverse gable on its northern face. The external brickwork is dark and unadorned with white lintels, timber windows, and an external steel staircase. This building's interior is largely retained and contains original ceilings, arches and darkrooms[103]. Scientific and engineering experiments and testing relating to railway material conditions and chemical reactions were undertaken in this building by the staff, in conjuncture with the engineers of the Chief Mechanical Engineers building.

Figure 4.1: Northwestern facade of the Scientific Services Building No.1. Source: Curio Projects, 2021.

[103] OCP 2002, Eveleigh Carriageworks CMP: 232

4.1.2. Telecommunications Equipment Centre

This rectangular building is located to the south-east of the CME building and is 32m long and 15m wide, fitted with two sawtooth roofs running east to west. The English bonded brickwork, window sills and arched window headings are original, along with the corrugated iron roofing, which is supported by 150/175mm columns with cast-iron downpipes. The interior contains several additions, including WW1 and WW2 Rolls of Honour, a supervisor's desk with a buzzer system, and historical glazed cabinets[104]. The building was responsible for communications and signalling between North and South Eveleigh but was primarily used for communications relating to the wider NSW Railway System.[105]

Figure 4.2: Western facade of the TEC building. Source: Curio Projects, 2021.

4.1.3. Paint Shop

The Paint Shop is located to the west of the Scientific Services Building and the CME Building and is divided into three sections that were built around an original central structure. The original Paint Shop structure, built in 1887, is made of brick with saw tooth roofing and gables, cast iron windows and columns, and timber doorways, and contains eight bays with six pits built into the floor on which carriages would have sat.[106] To the north of this original brick structure is the Paint Shop Extension, or the Suburban Car Workshop, which is a 130m long and 45m wide steel framed structure with corrugated iron cladding and roofing, steel riveted columns and steel skylight louvres, containing five tracks for carriage maintenance.[107] To the south of the original brick structure is the Carriage Lifting Shop, which is a largely open steel structure that once contained a crane to lift carriages off their bogies.[108] The Paint Shop was responsible for adding the final beautification to the carriages constructed in the Carriage Workshop, including paint features on the exterior as well as timber and upholstery details on the carriage.

[104] OCP 2002, Eveleigh Carriageworks CMP: 228
[105] OCP 2002, Eveleigh Carriageworks CMP: 63
[106] OCP 2002, Eveleigh Carriageworks CMP: 222
[107] OCP 2002, Eveleigh Carriageworks CMP: 229
[108] OCP 2002, Eveleigh Carriageworks CMP: 128

Figure 4.3: Eastern facade of the Paint Shop and Suburban Car Workshop. Source: Curio Projects, 2021.

4.1.4. Carriage Workshop (Carriageworks)

Located to the west of the CME Building and directly west of the Paint Shop (with a rail traverser in between), this 90m wide and 180m long building is divided into 10 interior bays with cast iron window frames, wrought iron door handles and hinges, and cast-iron columns supporting the roof trusses.[109] The Carriage Workshop was built in 1887 and was the central part of the northern half of the ERW, being responsible for the construction and maintenance of the wooden railway carriages that the South Eveleigh locomotives engines would pull along the lines. After the ERW's closure in 1988, the Carriage Workshop building was purchased by the NSW Ministry for the Arts in 2002 and was adaptively reused as a contemporary arts and events space in 2003 as part of the Carriageworks Arts Precinct. This reuse would be given the AIA Architecture Award in 2008, awarded to the architecture company responsible for the redevelopment, Tonkin Zulaikha Greer.[110]

Figure 4.4: North facade of the Carriageworks, North Eveleigh. Source: Curio Projects, 2021.

[109] OCP 2002, Eveleigh Carriageworks CMP: 221
[110] Office of Environment and Heritage 2022, 'Eveleigh Railway Workshops'. *New South Wales State Heritage Register*.

4.1.5. Blacksmiths Workshop

The Blacksmiths Workshop, built c.1907-1909 is a one-storey building that is 150 metres long and 20 metres wide, located directly north of the Carriage Workshop building and west of the CME Building, with its northern wall formed by the heritage 1890s retaining wall facing Wilson Street. The steel frame structure is open to the south and has steel roof trusses, a corrugated steel roof, alsynite panels skylights, and a double-sided monitor along its gabled ridge.[111] This building once housed two steam hammers, five electro and pneumatic hammers, one Allen Striker, as well as various hand tools, boilers and forges.[112] Similar to the blacksmith in South Eveleigh, this building was responsible for forging and creating the metal components for the carriages and wagons that would be constructed in the Carriage Workshop. This building is now used as an event and gallery space as part of the Carriageworks arts sub precinct, as well as housing an accessibility rampway on its eastern end.[113]

Figure 4.5: Internal view of Blacksmith Workshops looking towards the west, North Eveleigh. Source: Curio Projects, 2021.

4.1.6. Clothing Store

The Clothing Store, built in 1913 and originally called the General Store, is located west further beyond the Carriage Workshop. This two-story masonry and brickwork building is roughly 65m long and 12m wide, with a corrugated steel roof, gable-ended facades, sandstone windowsills and gable copings, and aluminium windows. Both floors are largely unchanged from their original construction, with an open plan with office areas on the western side and wash areas on the building's eastern end, along with original concrete flooring.[114]

[111] OCP 2002, Eveleigh Carriageworks CMP: 227
[112] OCP 2002, Eveleigh Carriageworks CMP: 137
[113] Office of Environment and Heritage 2022, 'Eveleigh Railway Workshops'. *New South Wales State Heritage Register.*
[114] OCP 2002, Eveleigh Carriageworks CMP: 230

Figure 4.6: Northern facade of the Clothing Store building. Source: Curio Projects, 2021.

4.1.7. Chief Mechanical Engineers Building (CME Building)

The following section provides a summary description of the CME Building's exteriors and interiors. For a detailed description of the building's current condition, reference should be made to the *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works* (Appendix C) and the *Chief Mechanical Engineers Building—Conservation Management Plan*, both prepared by Curio in 2022.

Building Exteriors

The CME Building, the subject site, is a two-storey masonry and brick building (Figure 4.9) that sits to the east of the Scientific Services Building No. 1. The final form of the building includes the original fabric of the 1887, 1900 and 1920 phases (Figure 4.7 and Figure 4.8), all of which is consistent to its Victorian style.

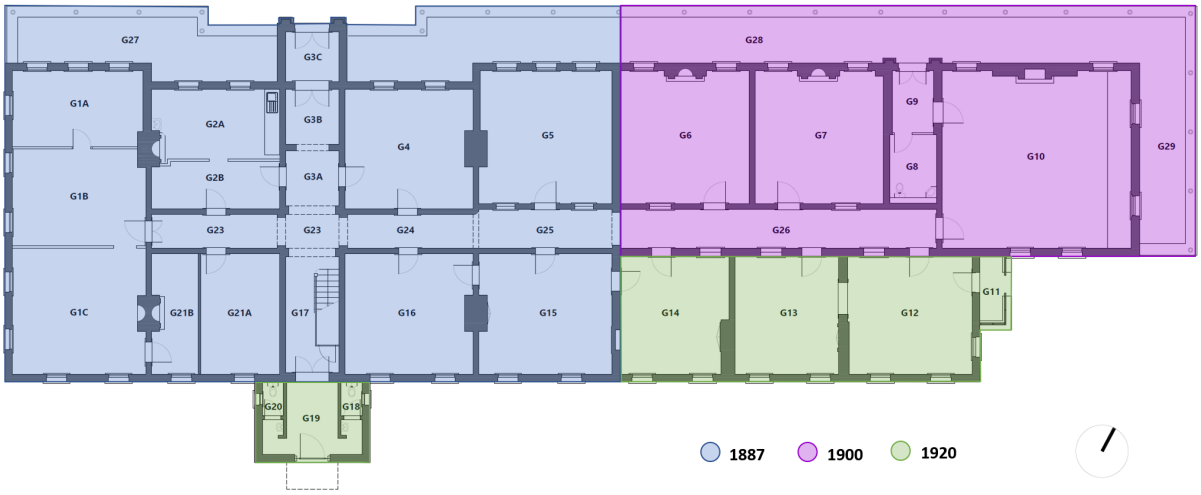


Figure 4.7: Phases of Construction: Ground Floor Plan. Source: Curio Projects, 2022.

Figure 4.8: Phases of Construction: First Floor Plan. Source: Curio Projects, 2022.

The building is 55m long and 12m wide with a neoclassical pediment in the centre facing Wilson Street with the letters 'NSWGR' above the doorway (Figure 4.10). A secondary entry is located further east on the northern façade and provides direct access to the former CME office (Figure 4.11). The building can also be accessed from the southern (rear) façade (Figure 4.12) and from a small vestibule on the southeastern corner (Figure 4.13).

On the First Floor, a balcony runs the north and east lengths of the building with cast-iron columns and decorative iron brackets and balustrade (Figure 4.14). The Ground Floor features a bullnose verandah of the same extent as the balcony above it, comprising decomposed granite flooring with a sandstone edge (Figure 4.15).

The Ground and First Floors also feature timber doors and double-hung sash windows with sandstone sills, although most of them are currently boarded up. The roof is hipped and clad in corrugated iron with brick corbelled chimneys (Figure 4.9). The eaves feature a dentilled cornice[115].

Facing Wilson Street, there is a modern steel picket fence on a concrete plinth extending to the length of the eastern garden (Figure 4.16). Two stone posts, which appear original, support an iron picket gate (Figure 4.10).

To the east of the site, the triangular garden area occupies approximately 375 square metres and is separated from the main building by a security fence (Figure 4.17). The garden still retains what seems to be the original timber flag pole. As discussed in Section 3, the former Victorian garden was part of the 1900 addition and was well-maintained until the 1990s; however, it is currently in poor condition as described by the State Heritage Inventory listing for the site:

> *Once famous for its extensive and elaborate grounds, these have been neglected and comprise chiefly now of open space, unkept grass and a row of mature, formerly-pollarded London or hybrid plane trees (Platanus x hybrida) lining Wilson Street, Redfern.*

[115] NSW Office of Environment and Heritage, State Heritage Inventory Register listing sheet for 'Eveleigh Chief Mechanical Engineers Office'.

Figure 4.9: Chief Mechanical Engineers Building (CME Building) from Wilson Street. Source: Curio, Projects, 2021.

Figure 4.10: Front entry facing Wilson Street showcasing the neoclassical pediment, timber double doors and the northern fence (with likely original stone posts). Source: Curio, 2022.

Figure 4.11: Secondary entry to the building located at the northern façade. The double doors provide access to the former CME Office. Source: Curio, 2022.

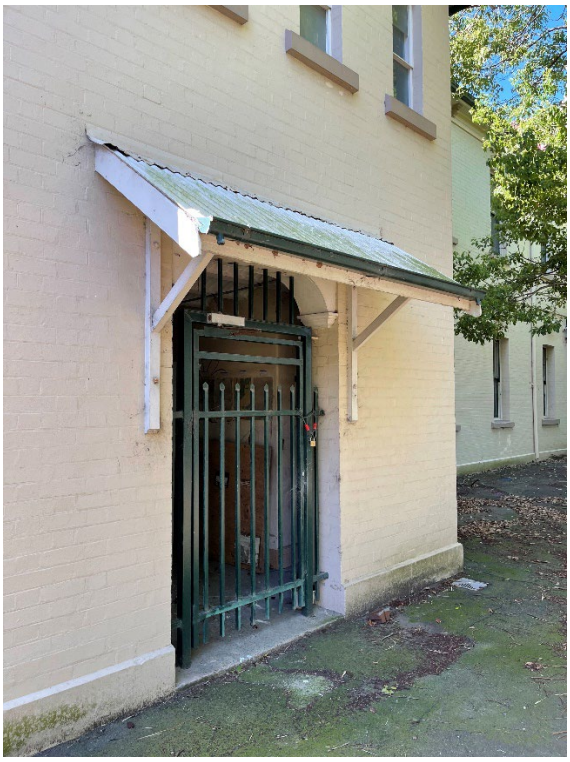


Figure 4.12: Rear entrance to the CME building. Source: Curio, 2022.

Figure 4.13: Small vestibule entryway at the south eastern corner of the building. Source: Curio, 2022.

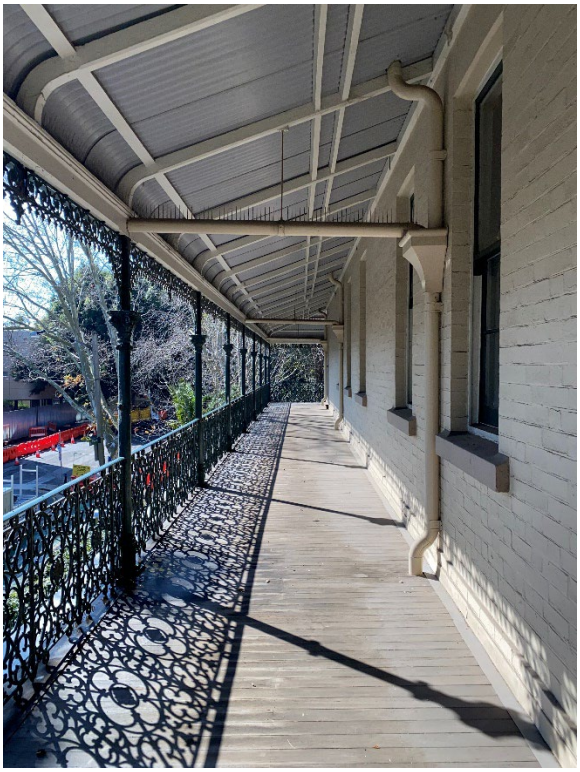


Figure 4.14: First Floor balcony showcasing the cast-iron columns and balustrade. Source: Curio, 2022.

Figure 4.15: Ground Floor verandah showcasing the cast-iron columns and the decomposed granite flooring with sandstone edges. Source: Curio, 2022.

Figure 4.16: Modern picket fence along Wilson Street. Source: Curio, 2022.

Figure 4.17: Current condition of the eastern garden. The CME building and the timber flag pole can be seen at the western end of the garden. Source: Curio, 2022.

Interiors

The building has undergone three main phases in 1887, 1900 and 1920, which preserved the Victorian style. Since then, the building has been altered to accommodate office partitioning and amendments to the ceilings, flooring, skirting, among others . Several original features have been retained and remain on site such as the original 1887 staircase, the 1900s bathrooms and the former CME office built in 1900 (G10)[116] as well as marble mantel pieces, decorative plaster cornices and archways, tessellated tiles to entry and bathrooms, timber panelled doors, cornices and architraves, areas of retained ceilings[117].

The room configuration has also been mostly retained throughout the building although a number of timber partitions have been introduced to subdivide the former Drawing Office (F6) as well as circulation areas and other small rooms (e.g., F3A).

Figure 4.18 to Figure 4.38 illustrate the interior of the CME building and its current deteriorated condition.

For room number reference, please refer to Figure 4.7 and Figure 4.8.

[116] OCP 2002, Eveleigh Carriageworks CMP: 223
[117] NSW Office of Environment and Heritage, State Heritage Inventory Register listing sheet for 'Eveleigh Chief Mechanical Engineers Office'.

Figure 4.18: Main entry foyer (G3). Despite the poor condition of the room, original tessellated tiles, arched timber doors, and skirting details have been retained. Source: Curio, 2022.

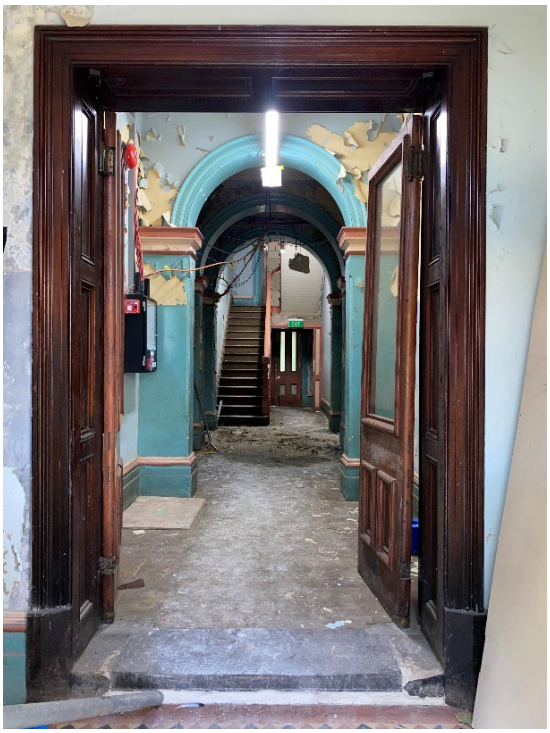


Figure 4.19: View from the main entry foyer to the circulation area (G3B/G3A). The timber double doors, skirting and moulding details remain visible. Source: Curio, 2022.

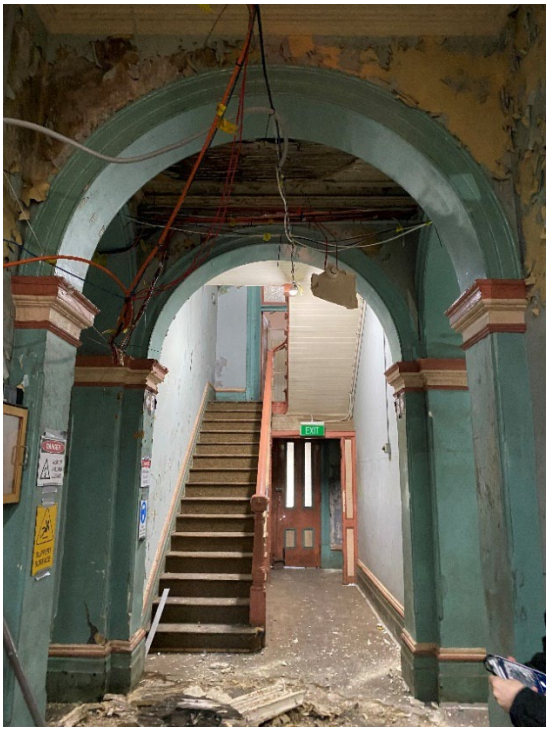


Figure 4.20: View of the original staircase and corridor leading to the rear entry. Poor condition due to water damage can be seen on the ceilings, walls and floors. Source: Curio, 2022.

Figure 4.21: Corridor leading to the former Pay Office (G1). Double doors with pay window have been retained. Poor condition due to water damage can be seen on the ceilings, walls and floors. Source: Curio, 2022.

Figure 4.22: View of the former Pay Office (G1). Modern partitions currently subdivide the space. Source: Curio, 2022.

Figure 4.23: View of typical wall with built-in cabinet. Source: Curio, 2022.

Figure 4.24: Secondary entry lobby (G9) leading to the former CME Office (G10). Original tessellated tiles, double doors, pressed metal ceiling, timber architraves, skirting and moulding details remain visible. Source: Curio, 2022.

Figure 4.25: View of the former CME Toilet (G8). The tessellated tiles continue from the entry lobby (G9) and the two rooms are separated by a timber partition (western panel and frame currently missing). Original fixtures such as the toilet bowl and washbasin have been retained although damaged. Source: Curio, 2022.

Figure 4.26: Former CME Office (G10). Built-in cabinet, safe, and detailed ceilings are unique features within this room and should be retained. Suspension files in the cabinet are made of inferior material and are likely later additions. Source: Curio, 2022.

Figure 4.27: Rear entry lobby (G19) built as part of the 1920 addition and 1887 original double doors that were used as the rear access to the building prior to the addition. Source: Curio, 2022.

Figure 4.28: Existing Ground Floor toilet (G20) at the rear of the site. Source: Curio, 2022.

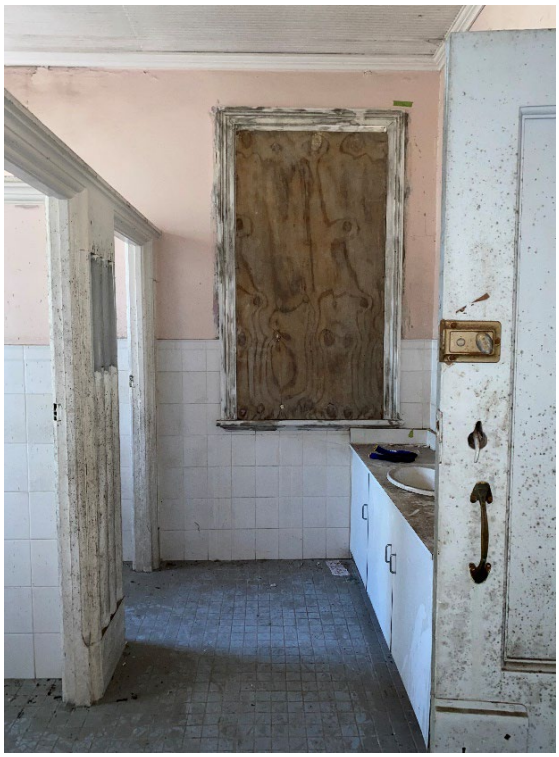


Figure 4.29: Existing female toilets (F15) on the First Floor. The toilets were part of the 1920 addition. Source: Curio, 2022.

Figure 4.30: View from the staircase towards the circulation and enclosed room (F3A). The timber partition was a later addition to the site and is assessed as an intrusive element. Source: Curio, 2022.

Figure 4.31: Room F3A, which has been heavily modified to accommodate a kitchen. Source: Curio, 2022.

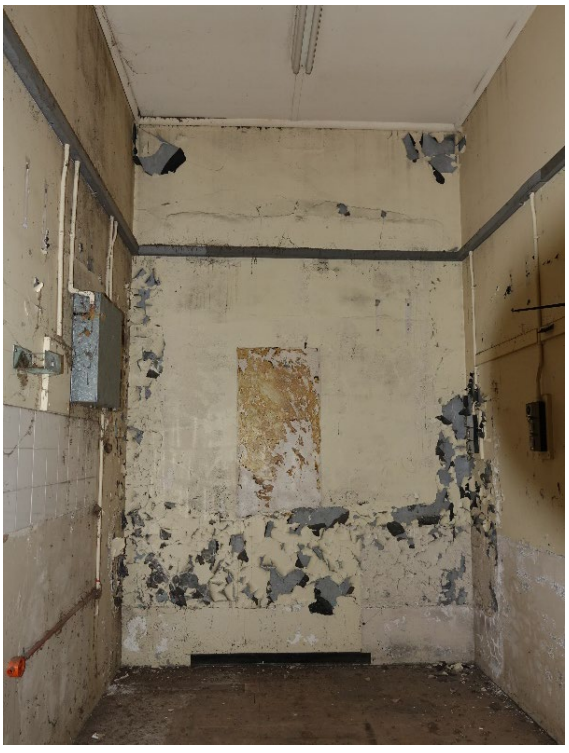


Figure 4.32: Photographic Dark Room (F3B). This room was later modified to accommodate the dark room and, therefore, the original windows on the northern wall have been covered. Source: Curio, 2022.

Figure 4.33: Marble fireplace uncovered in Room F1. Several fireplaces have been covered throughout the building. Source: Curio, 2022.

Figure 4.34: Marble fireplace in Room F7. Source: Curio, 2022.

Figure 4.35: View of Room F1 showing double doors leading to the northwest balcony, timber floors, skirting and detailed ceiling. Source: Curio, 2022.

Figure 4.36: View of Room F5 currently subdivided by a plaster wall. This situation is repeated in other rooms (e.g., G21). Potential original fireplace can be seen in the bottom left corner of the image. Source: Curio, 2022.

Figure 4.37: Modern partition wall dividing Rooms F5 and F6. Source: Curio, 2022.

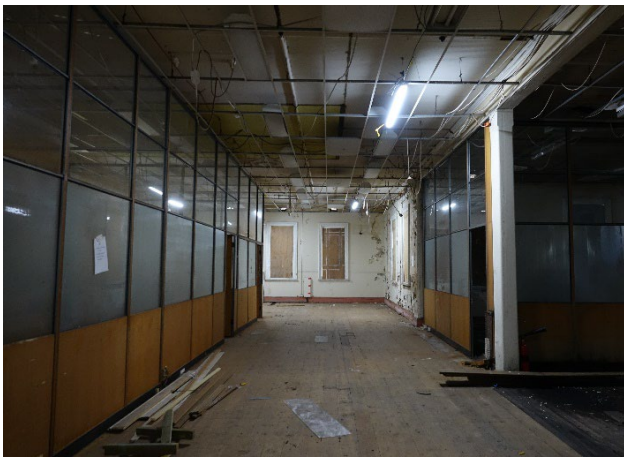


Figure 4.38: View of the former Drawing Office (F6) showing modern partitions subdividing the space. Source: Curio, 2022.

Moveable Heritage

The State Heritage Register listing for the *Eveleigh Chief Mechanical Engineers Office and Moveable Relics* (SHR #01139, gazetted 2/4/19991) lists the following moveable relics:

- Toilet bowl with counterweight seat (AA24)
- Wall mirror timber frame, 0.6/1.0 (AM06)
- Timber plan cabinet, 6 draws, 1.5/0.9/0.9 (PA08)

In December 2012, OHM Consultants conducted a *Moveable Heritage Study* for the CME Building and adjacent Scientific Services Building.[118] It was noted that a number more items were listed on the register at the time yet many could not be located and were likely subject to theft or vandalism as they had not been relocated to Railcorp's Moveable Heritage collection at Eveleigh.[119]

OHM recorded that the self-closing seat of the toilet was absent, the timber cabinet was a large plan and filing cabinet with 6 sections with many drawers, and they could not locate the wall mirror.[120] The three items remaining in the CME Building listing on the SHR register suggest that the additional items were not located and the unlocated 'wall mirror timber frame' remained on the register which Curio believes to be the rectangular mirror located in Room G2A.

The 2012 report[121] noted the following items in the CME Building as moveable heritage:

[118] OHM Consultants, 2012. *Chief Mechanical Engineer's Office and Scientific Services Building Moveable Heritage Study*.
[119] OHM Consultants, 2012: p. 5.
[120] Ibid
[121] OHM Consultants, 2012.

Table 4.1: 2012 OHM Report – Moveable Heritage Items

Item	Room	Description	SHR	Image
Built-in cabinet	G10	Plan drawers of multiple sizes, some for large plans, some for suspension files. The suspension files are made of inferior material and are likely not original to the cabinet.	Y	
Marble fireplace surround	G10	Marble fireplace surround in CME office 1. Shows the standard of fixtures required for the CME as a person of importance in NSW railways. Other fireplaces within the building are considered part of the building and not moveable, and are instead protected via the conservation policies for fabric of high & exceptional significance.	N	
Toilet, washbasin and cistern	G8	Toilet (damaged) washbasin and cistern in private toilet for Chief Mechanical Engineer. According to the listing, the toilet used to feature a self-opening/closing lid, which is now missing. CME building employees constructed the lid.	Y	

OHM Consultants recorded a number of additional items with potential heritage significance within the CME Building which had not been included on the SHR listing. OHM identified items 8-11 (Table 4.2) as providing insights into the methods by which metal objects were tested.[122]

The report noted that all moveable items which were portable and could be stored were removed, wrapped, labelled, numbered and stored in a nominated secure storeroom in the Photography Lab of the Scientific Services Building. The OHM report noted that all the fireplaces in the CME building, excluding that in Room G10, should be protected and managed as part of the building and not moveable heritage.

Table 4.2: 2012 OHM Report – Additional Items with Potential Heritage Significance

Item	Room	Item Name	Description	No. of Items
8	G1	Rail flaw detector	Device for detection flaws in metal. Consists of detector and power supply. Used specifically to	2

[122] OHM Consultants, 2012: p. 110.

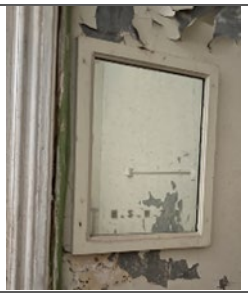
Item	Room	Item Name	Description	No. of Items
			check for flaws in rails, and possibly rail welds. Associated with items 9, 10 and 11.	
9	G4	Broken welded rails	2 pieces of flat-bottomed rail, of differing sizes. Have been welded together but weld has been broken. Possibly used to test bad welds. Associated with items 8, 10 and 11.	2
10	G1	Photo sheets of metal defects	Four posters of pictures of metal defects of various kinds. Also featuring loco components. Associated with items 8, 9 and 11.	4 posters
11	G1	Rail flaw type books	Book showing types of rail weld flaws and sheets for recording flaws. Associated with items 8, 9 and 10.	1 folder, 1 book

On 7 October 2021, Curio conducted a site visit to the CME Building as part of the research for the Non-Aboriginal Heritage Study & Statement of Heritage Impact for the Paint Shop Sub-Precinct. The following moveable items of heritage significance were noted within the site:

- Marble fireplace and surround
- Toilet, washbasin and cistern
- Safe
- Communication station/panel

After being commissioned for the CME Upgrade project, Curio Projects undertook a site visit in August 2022 and, from the moveable heritage items identified by OHM and Curio, could only locate the items described in Table 4.3 within the CME Building. Curio did not have access to the Scientific Services Building where the other moveable items have likely been stored.

Table 4.3: Additional Items of Moveable Heritage Identified by Curio

Item	Room	Description	SHR	Curio Notes	Images
Toilet, washbasin and cistern	G8	Toilet (damaged) washbasin and cistern in private toilet for Chief Mechanical Engineer. Self-opening/closing lid is currently missing.	Y		
Wall mirror timber frame, 0.6/1.0 (AM06)	G2	Rectangular mirror on northern wall of Room G2. White timber frame with 'N.S.W.T.D' etched across the glass.	This item is believed to be the SHR-listed mirror	The mirror is in good condition with minor scratches on the frame and minor tarnishing on the glass. It is secured to the wall via 4 slotted head screws.	

Item	Room	Description	SHR	Curio Notes	Images
Safe	G10	Olive green rectangular safe located in east-west corner of room G10.	N	Olive green safe, cream numbers '1292' painted along the top of the front face. Minor wear and discolourisation evident from a mark beneath a former label. Interior not able to be observed.	

As mentioned above, OHM recommended that the c.1900 marble fireplace surround in Room G10 should be considered as moveable heritage. This fireplace was separately considered from the other fireplaces in the building due to its location in the 1900 CME Office. If this is to be considered as moveable heritage, then it seems unusual to not include c.1887 marble fireplace surrounds within the building as they are representative of the original design and intent for the building.

Other currently covered fireplace surrounds should be further investigated to determine if they date to the 1887, 1900 or 1920 construction phases and to assess their individual significance as part of the historic fabric of the building, not as moveable heritage. In particular, Room G4's should be examined to determine if it dates to the 1887 construction as this room appears to have been the CME's Office from 1887-1900 and would have the same significance as that of the 1900 Room G10 fireplace surround.

4.2. Surrounding Context

4.2.1. South Eveleigh Precinct

The South Eveleigh Precinct takes up what was once the southern side of the wider ERW. Five key heritage items remain within the Southern Eveleigh Precinct curtilage. These include:

- Locomotive Workshop (Figure 4.39)
- Water Tower (Figure 4.40)
- Former Works Managers Office (now The Bell Tower) (Figure 4.41)
- Former New Locomotive Workshop (now National Innovation Centre) (Figure 4.42)
- Large Erecting Shop (Figure 4.43)

Modern buildings on site include the:

- The Foundry Building
- The Axel Building
- Channel 7 Global Television and Pacific Magazines (Media City) Building
- South Eveleigh Community Building
- National Information and Communication Technology Australia Ltd (NICTA)
- Biomedical Research Building
- NSW Transport Management Centre / Sydney Ambulance Centre

Figure 4.39: Locomotive Workshop building. Source: Mirvac 2022, accessed from https://www.mirvac.com/office-and-industrial/office/nsw/locomotive-workshop.

Figure 4.40: Water Tower. Source: Curio Projects, 2022.

Figure 4.41: Former Work Managers Office. Source: Curio Projects, 2022.

Figure 4.42: Former New Locomotive Workshop. Source: Cicada Innovations 2022, accessed from https://www.cicadainnovations.com/about-2

Figure 4.43: Large Erecting Shop. Source: Curio Projects, 2022.

4.3. Neighbourhood Context

North of the subject site is the suburb of Darlington, which is bounded to the north by City Road and Cleveland Street, to the east and south by Wilson Street, and to the west by Golden Grove Street. The latter street gives its name to the Golden Grove Heritage Conservation Area, which is contained predominantly within the current borders of Darlington from Wilson Street up until Darlington Road and Boundary Street. This part of Darlington currently houses a variety of Victorian residential properties historically associated with the working and middle class, including many terrace groups known for their aesthetic value, giving the suburb a unique heritage character.[123]

[123] Heritage NSW 'Golden Grove Conservation Area'

Wilson Street in particular, directly north of the subject site, contains rows of narrow, two-storey row of terraces, with the occasional weatherboard or single-story terraces. Beyond this, Abercrombie Street contains a group of Victorian-era shops and a small number of Federation-era terraces and commercial buildings.[124] In between these two streets, directly north of the subject site, are Shepherds Lane and Ivy Street, which retain their heritage laneways and streetscapes.

Most of northern and central Darlington beyond this area is made up of buildings owned or used by the nearby University of Sydney as part of its Darlington Campus south of City Road. These buildings include the Merewether Building, the Jane Foss Russel Building, the newly built Business School building, and the Cadigal Green Park and surround, as well as the University's southernmost entrance on the corner of Lander and Shepard Street. These buildings have a variety of architectural styles owing to decades of expansion.

Figure 4.44: Wilson Street facing East. The CME building is visible to the left, with heritage terraces to the right. Source: Curio, 2022.

[124] Heritage NSW, Golden Grove Heritage Conservation Area.

Figure 4.45: Detail of Wilson Street Heritage terraces. Source: Curio, 2022.

Figure 4.46: Detail of Wilson Street Heritage terraces. Source: Curio, 2022.

Figure 4.47: Ivy Street facing North, showing the former Foundry to the right. Source: Curio, 2022.

Figure 4.48: Entrance to the University of Sydney on the corner of Lander and Shepard Street, facing Northwest. Source: Curio, 2022.

Figure 4.49: Abercrombie Street facing West towards Darlington. Source: Curio, 2022.

To the east of the subject site, is the suburb of Redfern, bounded by Cleveland Street to the north, South Dowling Street to the east, and Phillip Street to the south. Part of Redfern's western boundary abuts the subject site directly along Little Eveleigh Street and Ivy Lane, before turning north along Abercrombie Street, and south along Lawson Street around Redfern Station and ending at Cornwallis Street on the border of South Eveleigh.

Redfern is divided into two parts by the NSW railway line with Redfern Station marking the border, consisting of a smaller section to the west and a far larger section to the east of the railway. The smaller western part of Redfern overlaps with the Darlington Conservation Area, which in turn abuts the subject site's northeast face. This area, beginning at Little Eveleigh Street and ending at Vine Street, is made up predominantly of groups of heritage terrace houses in a variety of condition levels that are largely indistinct from those in Darlington.

This part of Redfern also houses several community centres and buildings, including those located at 'The Block', bound by Caroline, Eveleigh, Louis, and Vine Streets. This modern complex consists of the entire block and contains a group of apartments, all intended for the area's historic Aboriginal Community. Beyond this area are several more modern apartment complexes running from Vine to Cleveland Street.

The larger eastern section of Redfern contains the Redfern Heritage Conservation Area, which makes up most of the suburb from Renwick to South Dowling Street, bound by Phillip to the south. This part of Redfern is made up of a dense combination of two-story Victorian and Federation-era terraces, cottages, corner shops, pubs, and industrial areas along the suburb's northern boundary of Cleveland Street[125]. Many of Redfern's heritage houses have rear-ended lanes and very narrow allotments.

[125] Redwatch 2005, *National Trust Register Redfern-Waterloo Map*

Figure 4.50: Lawson Street in Darlington, facing east towards Redfern Station. Source: Curio, 2022.

Figure 4.51: Redfern Railway Station facing west towards Darlington. Source: Curio, 2022.

Figure 4.52: Eveleigh Street facing North, showing the Block and its community buildings. Source: Curio, 2022.

Figure 4.53: George Street, Redfern facing North, an example of the heritage terraces in the Redfern Heritage Conservation Area. Source: Curio, 2022

Figure 4.54: Turner Street in Redfern facing West. A number of modern, red-brick apartment blocks are located within the areas of Redfern, not within the RHCA. Source: Curio, 2022.

5. Heritage Significance

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5. Heritage Significance

5.1. Assessing Significance Methodology and Criteria

The Burra Charter Australia (Australia ICOMOS 2013) defines cultural significance as:

> *...aesthetic, historic, scientific, social, or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places, and related objects. Places may have a range of values for different individuals or groups. (Australia ICOMOS 2013: 2).*

The assessment of significance is based on the principles of the Burra Charter (Australia ICOMOS, 2013); the Interpretation and Intangible Cultural Heritage and Place Practice Notes (Australia ICOMOS, 2017); guidelines contained within the NSW Heritage Manual (Heritage Office and DUAP 1996); and the 2001 Assessing Heritage Significance: A NSW Heritage Manual Update – prepared by the former Heritage Branch, NSW Office of Environment and Heritage (government department now known as Heritage NSW).

The Assessing Heritage Significance: a NSW Heritage Manual Update is used to compare the significance of a place with the NSW Heritage assessment criteria, in which a place can meet more than one criterion. Such processes determine the level of significance of a place – either for the local government area, for the State of NSW or broader Australian community. It results in a succinct statement of heritage significance.

For the assessment of local or State significance of an item, the NSW Heritage Guidelines indicate that the item must meet one or more of the following criteria:

> *Criterion A —Historical Evaluation*
>
> *An Item is important in the course or pattern of NSW's cultural or natural history (or the cultural or natural history of the local area)*
>
> *Criterion B— Historical Association*
>
> *An item has strong or special associations with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)*
>
> *Criterion C — Aesthetic Value*
>
> *An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)*
>
> *Criterion D— Social/ Cultural Value*
>
> *An item has strong or special associations with a particular community or cultural group in NSW (or the local area) for social, cultural, or spiritual reason*
>
> *Criterion E— Technical/Research Potential*
>
> *An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)*

Criterion F— Rarity

An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)

Criterion G —Representativeness

An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural and natural environments

5.1.1. CME Building – Assessment of Significance

The following assessment of significance of the CME Building against the NSW heritage criteria has been extracted from the Conservation Management Plan prepared by Curio in 2022 for the subject site.

Criterion (a) – Historical Significance

'Important in the course, or pattern, of NSW' cultural or natural history (or in the cultural or natural history of the local area)'.

- The South Sydney area is culturally significant to First Nations Peoples and is home to the Gadigal people of the Eora nation, who have maintained their connection to Country despite the major impacts brought by colonisation.
- The Chief Mechanical Engineer subject site, within the wider context of the former Eveleigh Railway Workshops (ERW), reflects a key expansion of the ERW for which was the largest railway construction and maintenance workshop in the Southern Hemisphere.
- The building remains as a highly intact example of a late Victorian era railway office of large scale in NSW. The layout reflects additions and alterations made in order to adapt to the growing activities at the ERW. The layout and structure of the building is fundamentally unchanged since the 1920 addition.
- The building was constructed to accommodate the engineers whose designs, research, and technical innovations were pivotal to the historical development of the railway system in NSW. In addition, the engineers had managerial functions within the ERW precinct such as tendering and purchasing materials and the administration of budgetary constraints.
- The ERW site, including the CME Building subject site, was a crucial location in the development of the union movement in NSW which, after many strikes and protests, including the Great Strike of 1917, led to the improvement of working conditions during the early twentieth century.[126]
- Pivotal in the key expansion of the suburbs surrounding the ERW (e.g., Alexandria, Eveleigh, Redfern, etc) due to attracting a wide range of jobs for the population and were developed in direct response to the precinct activities and workers' demands.
- The CME Building was continuously used as administration offices related to the railway from its establishment in 1889 until it was abandoned and left empty during the early 2000s.

[126] GML, 2013. ATP CMP: 89

- The CME Building and Scientific Services Building No.1 are directly linked as each played a role in the functioning of the other throughout the 20th century. An example of this is represented in the CME Building allocating certain rooms for laboratory use and paperwork storage relating to the Scientific Services Buildings and scientific discoveries. Another example is visible through scientific methods that were adopted by the engineers to enforce new designs or systems within NSW railway.

Criterion (b) – Associative Significance

'An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)'.

- The building is associated with leading railway men and engineers whose work significantly contributed to the establishment, development, and operation of the railway historical development in Australia. Such engineers included John Whitton, George Cowdery, William Thow, Edward Ernest Lucy and Con Cardew.
- John Whitton: Appointed 'NSW Railways Engineer-in-chief' in 1856 of the NSW Government Railways between 1856 and 1890. Conceived the idea of the ERW designed by the major railway workshop in NSW. One of the early railway engineers who made a significant contribution to the establishment, development and operation of railways in Australia and NSW. Whitton was responsible for restructuring the rail system which included the resumption of land at Eveleigh and relocation of the old Redfern Workshops to Eveleigh.
- George Cowdery: Engineer for Existing Lines, executed the detailed design at Eveleigh.
- William Thow: First Chief Mechanical Engineer of ERW (1889-1911). First given that title as the position name was changed upon his appointment. Responsible for all the locomotive, wagon and carriage workshops in NSW. Office located in 1887 construction of CME Building and 1900 addition. Thow was focused on the process of the potential for electrification and was present in the earliest conversations from steam to electric locomotives.
- EE Lucy: Assisted in the production of some of the periods most ambition civic projects like the Sydney Harbour Bridge and city's underground railway system. Introduction of mainstream electric trains across the state. Lucy was also responsible for managing the Railways during the collapse of infrastructure transportation during the Great Strike of 1917, managing the effect of the First World War and beginnings of the Great Depression. First Assistant CME under Thow from 1906. CME during the Golden Age period when there were 16,000 men and 26,000,000 miles of track to supervise.
- Cardew: Contributed by improving a number of important designs for steam engines that were implemented at Eveleigh. These included the 'Cardew Blower Ring', automatic release cylinder drain cock'. Cardew Track Depression Indicator'. These innovations are an example of the type of work CME produced which not only could be used at ERW but widespread across NSW. Worked at the CME Building for nearly 40 years.
- The CME Building is associated with the cultural history of the Eveleigh, Redfern and Darlington area.

- The CME Building has associative significance as part of one of a group of buildings constructed in the late nineteenth century for the purposes of the overall function of the Eveleigh Railway Workshops.

Criterion (c) – Aesthetic Significance

'An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)'.

- The CME Building has aesthetic significance as a rare and fine example of a large-scale two storey late Victorian railway office in NSW representing the highest standards of a railway office during its period of construction.
- The CME Building is a prominent building within the ERW site and significant landmark in the Eveleigh/Redfern area. Sitting on the highest area of land within the precinct, the building is an important component of ERW with significant view lines to the entire ERW complex.
- Internally and externally the 1900 and 1920 additions are seamless and consistent with the 1887 building fabric and style which represent the rapid rate of growth of the ERW precinct and the wider NSW railway system.
- The building went through two significant extensions in 1900 and 1920, representing the rapid rate of growth of the ERW precinct and the wider NSW railway system.
- The CME Building is an iconographic symbol of the peak and greatness of the ERW and the railways.
- The building design and detailing represent the highest standards architecturally of a railway office building of the late Victorian period.
- Includes decadent features and elements such as the pressed metal ceilings, marble fireplaces, the original tessellated tile entryway and bespoke cabinetry in the Chief Mechanical Engineer's Head Office.
- The inclusion of a balcony and verandah was not common on two story buildings at the time of their establishment in the late nineteenth century. As the verandah attributed no primary function to the building, but more for aesthetic use.

Criterion (d) – Social Significance

An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons'.

- The ERW precinct, including the CME building, was one of the largest employers in NSW during the late 19th and 20th centuries. The precinct is greatly significant to the former and current railway workers and the local community.
- The growing operation of the ERW site contributed directly to the workforce of NSW planning, design, and expansion of the surrounding suburbs (such as Eveleigh, Alexandria and Redfern, etc) that grew as a repercussion to precinct activities and work demands that the Chief Mechanical Engineer oversaw.

- The ERW site, including the CME Building subject site, was a key location in the development of the union movement in NSW which, after many strikes and protests such as the Great Strike of 1917, led to the improvement of working conditions during the early twentieth century.[127]
- The CME Building and the broader precinct are considerably significant to the former and current railway workers as well as the local community. This included groups involved in the NSW railways and, as a result, the site is home to a number of important and meaningful stories connected with the industrial working environment, a multicultural workplace and social clubs and activities. The precinct today signifies a source of pride to these groups, even though ERW is no longer in operation, as it represents the growth and capacity of Australian industry and the high level of trade and technical skills of the workers.
- The CME Building holds significance to the engineering community for its contribution to the history, development and evolution of engineering in NSW during the nineteenth and twentieth century.
- Opportunities for women to take more active roles in the workplace increased and began at ERW, in particular at the CME Building through administration positions, which is also reflected in the CME Building 1920 additions to include female toilets in the design.
- The CME Building holds social significance for former workers and those families who were employed from generation to generation with a strong identification and pride in the place.
- The CME Building was symbolic, in the past and present, to the workers and surrounding community as the head overarching managerial building of the ERW as an employment centre.

Criterion (e) – Technical/ Research Potential Significance

An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)'

- The CME Building subject site still includes a number of redundant, yet remnant features which allow a clear interpretation of the management and operational processes undertaken within the building and how the building adapted to the change and growth of the ERW over time.
- The building has the potential to yield further substantial information in relation to the registered PAD site located east of the CME Building and on ERW operation and its historical and cultural development through potential historical archaeological resources associated with former phases of historical occupation and use of the site.
- Phases of the railway and expansion of the industrial phenomenon are visible through the 1900 and 1920 addition of the original 1887 structure which were required in order to keep up with the growing industry and potentially provide further evidence into the methods used at the time.

Criterion (f) – Rarity

'An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)'.

[127] GML, 2013. ATP CMP: 89

- The CME is one of the best surviving examples of a late Victorian managerial railway building of such a large scale that is intrinsically related to one of the longest serving and extennsive railway workshop complexes at a national and international scale.
- The CME was the jewel in the crown of the entire ERW complex which provided a pivotal role in the management, oversight and functioning of the ERW and wider NSW railways.
- The CME Building is not common on a state or national level, and it is unusual for it to survive within the context of the remaining railway buildings and wider complex with which it was originally associated.
- The subject site displays rare evidence of a group of engineers that worked for over a century in the CME Building whose work impacted the functioning and growth of the wider NSW railway system.

Criterion (g) – Representativeness

'An item is important in demonstrating the principal characteristics of a class of NSW's

- *Cultural or natural places; or Cultural or natural environments*
- *(or a class of the local area's cultural or natural places; or cultural or natural environments)'*

- The CME Building is a fine representative example of a late Victorian managerial railway building of large scale located within its wider workshop complex.
- The wider ERW, including the CME Building subject site, is representative of the large-scale industrial centre and technical working environment related to railway workshop operations in the nineteenth and twentieth centuries.

5.2. Statement of Significance

5.2.1. ERW

The following Statement of Significance for the overall ERW SHR site has been extracted from the OCP 2022 Overarching CMP updated by Curio:

> *The ERW complex is of exceptional heritage significance to the state of NSW for its major contribution to the establishment, operation and growth of the NSW railways, which was essential to the growth and development of NSW from the late nineteenth century onwards. The operation of the railway workshops and stores at Eveleigh is associated with the phenomenon of railway networks that allowed the unprecedented development of Sydney suburbs and rural NSW at the end of the nineteenth century and the early twentieth century. The Workshops complex is significant as a rare remaining example of a relatively intact, large-scale nineteenth century railway workshops that retains unity of character as well as continued links to railway operations for over one hundred years to this day.*
>
> *The complex is significant as one of only a limited number of such facilities within the country, with individual states within Australia generally having established a single major railway workshop facility for maintenance and also manufacture of rolling stock and engines, supplemented by smaller workshops. As such, the ERW represent one of the largest industrial enterprises in Australia and the large-scale infrastructure demonstrates Government confidence in establishing and expanding rail networks in*

the late nineteenth century. The site retains the ability to demonstrate a range of characteristics that are typical of major railway construction and maintenance workshops in Australia, including the range of building types providing similar functions, aesthetic qualities and comparable history in terms of growth and expansion, involvement in wartime production, subsequent decline and adaptive reuse. There are opportunities to undertake further detailed research to identify potential national values, particularly in the context of the integrity of former railway workshop sites in Australia. Similarly, there are opportunities for further investigation of international railway workshop facilities to clarify the potential significance of the ERW in an international context.

Historically the site is important for its links to an early phase of railway development in NSW, with onsite evidence remaining intact from as early as 1887. Though many structures and items have been removed, the remaining site evidence reads as a living interpretation of the technological, administrative, social and cultural developments in over 100 years of railway operations in NSW, including the major transition from steam to diesel and electric powered train operation. The layout of the extant site elements is also indicative of the functional and administrative arrangements during the period of the site's operation.

The ERW site is associated with the life and work of the early railway engineers John Whitton and George Cowdery, individuals whose life and work made significant contributions to the establishment, development and operation of railways in Australia and NSW. Whitton, Chief Engineer of the NSW Railways between 1856 and 1899, was responsible for the major restructuring of the rail system which resulted in the resumption of land at Eveleigh and the relocation of the old Redfern Workshops (Sydney's first railway yards) to Eveleigh. George Cowdery, Engineer for Existing Lines, executed the detailed design at Eveleigh.

The ERW have considerable aesthetic significance as an industrial landscape formed by the complex of functional buildings and associated infrastructure. Aesthetic and technical significance is demonstrated in the high quality design and construction of the original buildings, which are substantially intact and display finely detailed polychrome brickwork and well-articulated facades that embody the pride of the late Victorian era. The simple, strong functional forms of the workshop buildings have landmark quality, not only as important townscape elements in the Redfern/Eveleigh area, but as part of the visual train journey of thousands of passing commuters. The combination of the southern locomotive sheds at the Australian Technology Park and the former Carriage and Wagon Workshops provide a distinctive landmark in the Sydney landscape and define views to and from the site.

The Workshops are of social value to generations of railway employees past and present as a workplace producing high quality craftsmanship utilising state-of-the-art technology. The place served as a training ground for thousands of apprentices, tradesmen and engineers and was one of the biggest employers in New South Wales. Workers of the ERW centred their social activities on the workplace and social events were organised by and for workers both on the site and beyond. The site also has social value as a heritage icon for current local communities, which is reinforced by ongoing community interest in the place.

The remaining tangible evidence and intangible site values reflect the technological, social and cultural development of the NSW railways, as well as broader important

historical events. The ERW has a strong historical association with union activities and is credited as being pivotal in the Australian Labour Movement, with the formation of the Amalgamated Railway and Tramway Service Association (ARTSA) in 1886. Eveleigh was seminal in many major industrial strikes, the ramifications of which were felt throughout the nation. In addition, several significant figures in the labour movement worked at Eveleigh, including James McGowan, the first Labour Premier of NSW.

The Workshops represent significant research potential for their ability to inform through remaining physical, documentary and oral evidence the functions and operations of a large-scale nineteenth and twentieth century railway workshops. The site also retains an exceptional and rare collection of historically and technically significant heavy machinery, although many items have been removed in the process of modern site development[128].

5.2.2. CME Building

The Statement of Significance prepared by Paul Rappoport Architect for the 1997 CMP has been revised and updated by Curio in order to reflect the changes to the building and any impacts this has had on the statement of significance. The following statement has been extracted from the CME CMP[129] prepared by Curio in 2022:

The Chief Mechanical Engineers Building is of State significance and is a rare surviving example of a late Victorian managerial railway building of large scale that remains within its broader context, the Eveleigh Railway Workshops. It was the key managerial building, 'the jewel in the crown', within the C19th Eveleigh Railway Workshops complex, the largest railway construction and maintenance workshop in the Southern Hemisphere.

The CME Building played an important role in engineering and scientific advancements in the NSW railway network. The site, as part of the ERW complex, made a large contribution to the development of the surrounding area, such as Eveleigh, Redfern, Darlington and Alexandria.

The CME Building has associations with the leading railway men and engineers whose work significantly contributed to the establishment, development, and operation of the railway historical development in Australia (such as John Whitton, George Cowdery, William Thow, Edward Ernest Lucy and Con Cardew).

The historical purpose and function of the Chief Mechanical Engineers Building is visible today through the scale of the structure and it's overarching dominant position at the highest point of the landscape within the ERW. The modifications and additions, particularly the 1900 and 1920 addition, are consistent with the 1887 original construction of the CME Building which represents the expansion and growth of the ERW over the 19th and 20th century which the building directly adapted to due to the increase of work.

[128] OCP 2022 (Curio update) CMP: 95-96
[129] Curio Projects, 2022. CME CMP.

The Chief Mechanical Engineers Building is of State significance as a landmark building within the historical, social, operational and architectural context of the Eveleigh Railway Workshops.

The CME Building site holds social significance to the surrounding community, railway workers, Aboriginal community and engineers past and present.

The wider ERW, including the CME Building subject site, is representative of the large-scale industrial centre and technical working environment related to railway workshop operations in the nineteenth and twentieth centuries.

5.3. Grading of Significance

The grading of significance provides further context for the heritage significance of each element of the site and provides guidance for appropriate heritage management and retention/tolerance for change.

The CME CMP provides the following updated grading of significance of the key elements of the subject site, which are consistent with the gradings of significance in the Overarching CMP prepared by OCP Architects in 2017 and updated by Curio in 2022. An additional criterion, *Neutral Significance,* which is defined as 'modern elements that are required as part of the ongoing use of the site that neither add nor detract from the overall significance of the site' has been included as part of the grading of significance.

EXCEPTIONAL SIGNIFICANCE

Rare or outstanding element directly contributing to an item's local or State significance.

Usually, high degree of undisturbed fabric or attributes that embody heritage significance. Loss or alteration, or incompatible works to it or in its vicinity would greatly diminish its heritage value. Has a high degree of interpretability.

HIGH SIGNIFICANCE

High degree of original or early fabric. Demonstrates a key element of the items' (site's) significance. Alterations do not detract from significance.

Existing disturbance and evidence of change does not detract from its individual or contributory significance. Loss or unsympathetic further disturbance or change of it or in its vicinity would diminish significance.

MODERATE SIGNIFICANCE

Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item (site).

The elements are capable of being interpreted. Loss or unsympathetic further disturbance or change is likely to diminish heritage significance.

LITTLE SIGNIFICANCE

Alterations may detract from significance and may be difficult to interpret.

Includes modifications where, although they indicate the changes in use over time, the actual fabric is not significant.

NEUTRAL SIGNIFICANCE

Modern elements that are required as part of the ongoing use of the site that neither add nor detract from the overall significance of the site.

INTRUSIVE

Elements that, in their present form, damage the item's heritage significance.

This category includes visually intrusive fabric, which obscures the reading of more significant uses and periods of development.

Table 5.1: Grading of Significant Elements

Element Description	Grading of Significance
Exteriors	
Building Envelope (including façade configurations, scale, form and mass)	EXCEPTIONAL
Sash Windows	EXCEPTIONAL
Sandstone Window Sills	EXCEPTIONAL
External Panelled Doors	EXCEPTIONAL
Perimeter Walls	EXCEPTIONAL
Roofscape	HIGH
Chimneys	EXCEPTIONAL
Balcony	EXCEPTIONAL
Cast Iron Balustrade	HIGH
Cast Iron Column	EXCPETIONAL
Verandah	EXCEPTIONAL
Skylights	EXCEPTIONAL
External balcony decorative mouldings	EXCEPTIONAL
Southern Door Awning	HIGH
Eastern Window Awnings	HIGH
Air Vents	EXCEPTIONAL
Lights	MODERATE
Southern Building Gate	INTRUSIVE
Interiors	
Room configuration	EXCEPTIONAL
Floors	HIGH
Ceilings	EXCEPTIONAL
Walls	EXCEPTIONAL
Fireplaces	EXCEPTIONAL
Architraves	EXCEPTIONAL
Cornices	EXCEPTIONAL
Skirting	EXCEPTIONAL
Air Vents	EXCEPTIONAL
Tessellated Tiles	EXCEPTIONAL
Suspended T-Bar System	EXCEPTIONAL

Element Description	Grading of Significance
Partition Walls	INTRUSIVE
Modern Services	INTRUSIVE
Heritage Movable Items (including cabinetry, toilet bowl etc)	EXCEPTIONAL
Surrounding Landscape Elements	
Northern Fence	INTRUSIVE
Sandstone Plinths (abutting the northern gate)	EXCEPTIONAL
Flagpole	HIGH
Eastern Garden	EXCEPTIONAL
Southern Landscape	INTRUSIVE
Northern Garden	MODERATE

6. Proposed Development

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6. Proposed Development

This application seeks consent for the heritage conservation and adaptive reuse of the CME Building, which includes:

- internal and external heritage conservation works to make the building suitable for adaptive reuse, including painting, repairs and refurbishment of the existing building (primarily internally) and installation of services to support future usage for offices or the like;
- building upgrades to ensure compliance with the Building Code of Australia (BCA), including accessibility and fire safety requirements;
- removal of any hazardous building materials;
- minor landscaping works.

The SSDA also proposes the following two easements:

- easement for overhang to cater for the eave and gutter attached to the existing brick building which forms part of the southern boundary and is associated with the Scientific Services Building;
- reciprocal Rights of Way over the existing driveway area between the CME building and the adjoining Scientific Services building to the west.

The proposed architectural drawings and report are presented in Appendices D and E, respectively.

The landscape architecture drawings and report are presented in Appendices F and G, respectively.

6.1. Minor Demolition

Demolition Plans prepared by CCG Architects (Appendix D) detail the extent of minor demolition works proposed. Demolition works generally comprise the removal of modern or intrusive elements and configuration of the space in order to facilitate the establishment of room configurations that support the adaptive reuse of the building.

In summary, the following minor internal and external demolition works are proposed:

- removal of suspended intrusive modern ceilings;
- removal of debris and non-heritage fit-out items (including dividing walls, bathroom fittings and doors);
- elective demolition of timber flooring for repair/replacement, and to facilitate excavation of sub-floor;
- removal of the existing fence to Wilson Street frontage extending to the start of eastern garden;
- selective demolition for structural timber repairs;
- removal of hazardous materials;
- lead paint removal on all internal surfaces;
- demolition of roof sheeting and roof plumbing;
- demolition of the rear enclosure for bin area.

6.2. Proposed building works

The proposed building works comprise a range of building upgrades to improve accessibility, modernise building services and amenities, make good any existing damage to the building, and restore and conserve existing fabric in order to facilitate the adaptive reuse of the CME building. Specifically, in order to facilitate the heritage conservation and adaptive reuse of the CME building, the following works are proposed:

6.2.1. Ground floor

- accessible ramps to be provided to the main CME front entry, 2nd front entry and rear lobby entry;
- automated doors to be installed to the main CME front entry, 2nd front entry and rear lobby entry;
- new internal lift to be provided within Room G4, near the main entrance to provide access to the first floor;
- reinstate the existing stair in Room G17, which is to be updated to meet BCA & DDA requirements;
- existing bathroom facilities in Rooms G18 & G20 are to be retained and refitted. Room G18 is to include 1 male toilet and Room G20 is to include 2 female toilets;
- existing bathroom facilities in Room G8 are proposed to be converted into a new kitchenette;
- new end of journey facilities (change and showers) are to be provided in Room G16, near the rear lobby;
- new service room is to be provided in Room G15, including a fire-rated electrical room;
- fire sprinkler booster assembly is to be provided along the Wilson Street frontage, towards the eastern edge of the site.

6.2.2. First floor

- existing bathroom facilities to be retained and refitted in Room F15. Room F15 to include 3 female toilets;
- new kitchenette is to be provided for building occupants in Room F2;
- new bathroom facilities to be provided in Room F3B. Room F3B is to include 2 male toilets plus urinal;
- new accessible bathrooms and shower to be provided in Room F4B;
- new lift and service shaft to be provided in Room F4;
- new glass screening and make-good and repaint works to eastern and western verandahs.

In addition, works will be undertaken throughout the building where required to make good any existing building damage, conserve existing fabric and provide new services.

6.3. Finishes

The following finishes are proposed:

6.3.1. Walls

- external walls will be patch repaired and repainted only where there are new penetrations or services (e.g. new external lighting);
- original internal walls are generally lime plaster on masonry and will be patch repaired and repainted;
- new walls will be built in accordance with the required specification i.e. fire rated for service rooms etc.

6.3.2. Timber Floors

- existing timber boards on the ground floor to be lifted and stored to allow repair of joists and piers;
- existing boards will be reused where possible, otherwise replaced with appropriate stock to match existing;
- boards will be sealed in accordance with specification requirements or contractors' specific advice to meet the warranty where reuse is to take place.

6.3.3. Tiled floors

- existing tiled floors at entries will be retained and covered by new ramps;
- existing tiled floors in bathrooms to be removed.

6.3.4. Skirtings

- existing skirtings in areas where floorboards are to be removed will be removed, then repaired and replaced, and painted;
- other existing skirtings will be retained, repaired and repainted in situ.

6.3.5. Fireplaces

- fireplace flues will be cleaned;
- where identified, fireplaces are to be repaired, refurbished and/or and reconstructed.

6.3.6. Ceilings

- existing ceilings are of varied materials, including lathe and plaster and ripple iron. These will be retained, repaired and repainted in accordance with the finishes schedule;
- dropped ceiling areas will be constructed in the main ground floor corridor to allow the reticulation of services to serve the first-floor rooms via the ground floor corridor;
- three (3) new ceiling types are proposed. The ceilings are plasterboard construction and will be set, moisture-resistant or fire rated. All new ceilings will be paint-finished.

6.3.7. Joinery – windows and doors

- existing windows, doors and cupboards will be refurbished and repainted to operational order. The intention is to reuse where appropriate and reinstate new items where it is deemed necessary;
- new doors will be painted in accordance with the appropriate manufacturer’s specification;

- existing doors/windows or cabinets with a French polish finish will undertake a process of stripping back and applying a new French polish finish in accordance with specification requirements.

6.4. Landscaping

The primary works within the landscape setting of the CME building comprise:

- new accessible walkway to be provided from Wilson Street to CME building's main entrance;
- new accessible building entry/step ramp to be provided at Wilson Street frontage;
- existing gateway and flanking pillars to be retained and maintained as the main entry to the facility;
- boundary fence to Wilson Street to be replaced;
- loading zone is to be provided near the driveway on Wilson Street;
- existing weed species and tree regrowth to be removed;
- retention of all existing trees, including implementation of tree protection works during construction;
- retention and refurbishment of existing sandstone edge around the ground floor verandah;
- new garden bed (rear of the site) to be provided which is to include raised sandstone edging, with existing asphalt to be removed;
- area around the existing palm tree is to be replenished with topsoil and planted with hardy groundcovers;
- mechanical plant, bin storage and bike rack areas are to be provided to the south of the CME building;
- in-ground water tank to be provided within the south-eastern portion of the site behind the existing CME building.

7. Archaeology

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7. Archaeology

7.1. Historical Archaeology

Information on the Historical Archaeology of the subject site has been summarised below from the *Chief Mechanical Engineers Building—Historical Archaeological Assessment* prepared by Curio (2022). For a full overview of the archaeological background of the subject site, reference should be made to the original report.

7.1.1. Summary of Archaeological Potential in the Study Area

The assessment found that the study area has the following non-Aboriginal potential and significance.

- Phase 1 (1788-c1822: Post-European Arrival)
    - Nil potential to contain archaeological resources associated with Phase 1 occupation. If encountered, these remains are unlikely to reach the threshold of local or State significance.
- Phase 2 (1822-1885: John Chisolm Estate)
    - Nil to low potential to contain archaeological resources associated with Phase 2 occupation. If encountered, these remains are unlikely to reach the threshold of local or State significance.
- Phase 3 (1885-1887: Construction of First Rail Line)
    - Low to Moderate potential to contain archaeological resources associated with Phase 3 occupation. If encountered, these remains may reach the threshold of local significance or may be considered 'works'
- Phase 4 (1885-Early 2000s: Chief Mechanical Engineers Building)
    - Moderate potential to contain archaeological resources associated with Phase 4 occupation. If encountered, these remains are unlikely to reach the threshold of local or State significance.

Overall, the study area has been found to have moderate archaeological potential associated with Phases 3 and Phase 4, however, potential archaeological resources associated with these phases are unlikely to reach the threshold of local or State significance or may be considered 'works' under the Heritage Act, therefore, archaeological sensitivity is considered low. Furthermore, due to the internal restoration and building upgrade focus of the works, only minor localised excavation will be undertaken - further reducing any risk of archaeological impacts.

7.1.2. Archaeological Impact Assessment

Overlay of Proposed Works

Figure 7.1 presents an overlay of the identified archaeological potential against the proposed subsurface impacts.

Figure 7.1: Overlay of proposed subsurface impact against archaeological potential

7.2. Aboriginal Archaeology

Information on the Aboriginal Archaeology of the subject site has been summarised below from the *Chief Mechanical Engineers Building—Aboriginal Due Diligence Assessment* prepared by Curio (2022). For a full overview of the Aboriginal background of the subject site, reference should be made to the original report.

7.2.1. Proposed Development and Potential Impacts

The following questions provide the introductory parameters to establish whether an Aboriginal Due Diligence assessment is required for a project or site. In the case of the subject site, a Due Diligence is required (as provided in the following sub-sections of this report).

Is the proposed activity low impact for which there is a defence in the National Parks and Wildlife Regulation 2019?

No. The proposed works do not meet the threshold of low impact to the subject site.

Will the proposed activity disturb the ground surface?

Yes. The proposed scope of works as presented in Chapter 6 will impact the ground surface. The proposed activities have the potential to cause disturbance of Aboriginal objects, should they be present in the subject site.

7.2.2. Desktop Assessment

Aboriginal Archaeological Predictive Model and Potential

Predictive modelling plays an important role in understanding the remnant archaeological potential of a site, and thus factors into the development of appropriate management recommendations and mitigation strategies. Archaeological predictive modelling integrates information about environmental context, previous historical activities and ground disturbance, and known locations of surrounding sites (excavations and registered AHIMS sites) to assess and predict the nature of archaeology that may be present within the subject site.

For Aboriginal archaeological sites to be present in situ, they require the retention of natural soil profiles prior to 1788. Portions of the subject site that may have the highest potential for natural soils to be present (and corresponding potential for intact Aboriginal archaeological deposits) are areas where the lowest levels of historical development and excavation have been undertaken.

In consideration of all these above factors across the subject site, the following predictive model has been developed:

- Landforms within the Blacktown soil landscape have the potential to contain Aboriginal archaeological deposits, however, this greatly diminishes when urbanisation and development have occurred.
- The most likely site type in the area would be PADs or low-density artefact sites.
- The subject site is not considered to be situated in an area likely to be as favoured for resources as locations closer to the coast, although it would still provide some resources.
- The Blacktown soils in this area are deemed to be shallow, so historical disturbances associated with land clearance and building construction are likely to have impacted any potential subsurface archaeological resources.

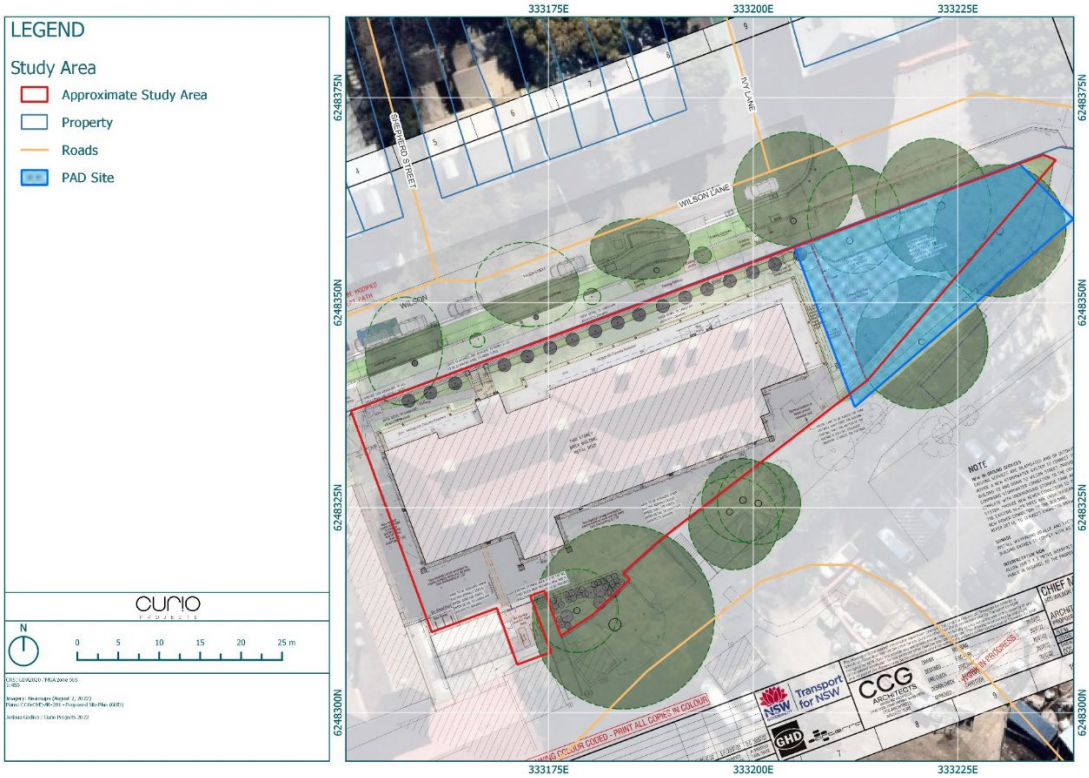

Figure 7.2: Close-up of RNE-PAD01 within the subject site. Source: Curio 2022

7.2.3. Summary of Desktop Assessment

This desktop assessment has concluded that:

- The subject site has one known registered site within its boundary.
- The wider area does not consist of large numbers of previously registered Aboriginal sites, with the closest registered site being a PAD within the boundaries of the subject site, east of the CME subject site.
- PAD and low-density artefact sites are the most common site types within the boundaries of the AHIMS search.
- The subject site is not considered to be situated in an area likely to be favoured for resources used by Aboriginal communities and therefore is less likely to be a place of continuous or high-density use or occupation.
- The site has been subject to varying levels of ground disturbance, significantly reducing archaeological potential.
- Overall, the subject site has low potential to contain subsurface Aboriginal objects, with nil-low potential for any sites within the footprint of the CME Building based on the analysis of the landscape and understanding of the historical disturbances to the site over time. However, the presence of the registered PAD site within the subject site should be recognised and an Aboriginal Cultural Heritage Assessment Report (ACHAR) should be completed prior to any works proposed in the area.

8. Assessment of Heritage Impact

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8. Assessment of Heritage Impact

8.1. Adaptive Reuse of the CME Building

In 2021, the NSW Government started investing in the renewal of the Redfern North Eveleigh Precinct to create a unique mixed-use development. As part of the works, TfNSW revisited and updated the 2008 Paint Shop Sub-Precinct Concept Plan, which included the potential redevelopment of the CME Building. In 2022, TfNSW commissioned a team of consultants, including Curio, to prepare a proposal for the adaptive reuse of the building, including external and internal works to accommodate commercial offices.

The CME building was decommissioned for use 20 years ago and has remained unused and inaccessible since this time. Although the exteriors of the building went through restoration works in 2016-17 as part of the *Central to Eveleigh Urban Transformation and Transport Program*, the interiors remain dilapidated and highly deteriorated.

According to the guidelines described in *New Users for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites* prepared by NSW Heritage Council (now Heritage NSW) and The Royal Institute of Architects:

> *Many of our heritage buildings were built for a use that no longer exists today. If we want to conserve these buildings, then viable new uses must be found that retain and sustain them into the future. Redundant buildings are vulnerable to neglect, decay and eventually demolition.*
>
> *The best way to conserve a heritage building, structure or site is to use it. Adaptation or adaptive reuse offers new uses for old places.*
>
> *The new use needs to be compatible with the building, retain its historic character and conserve significant fabric, but it can still introduce new services, as well as modifications and additions. Each generation contributes to the constantly evolving historic environment in its own way. Architects, building designers and developers are crucial to the outcome of such change*[130].

Therefore, adaptive reuse is an efficient method to ensure heritage places remain relevant and activated, especially for highly significant sites such as the CME Building within the former ERW setting. The significance of a heritage place is significantly and often permanently impacted when that place remains unused, inaccessible and derelict for extended periods of time. The costs to maintain and protect an unused and unoccupied place are often high and not sustainable, especially if it remains inaccessible for extended periods of time. In contrast, the adaptive reuse and revitalisation of heritage places prevent the cumulative impacts of disuse as an activated and occupied heritage place requires frequent maintenance and repairs for day-to-day functionality, dissuades vandalism and is able to manage the risk factors associated with one-off events such as extreme weather situations (storms, fires) and environmental damage (such as damage caused by birds, termites, possums, rats and mice).

Further, the CME Building lends itself to adaptive reuse for commercial and/or community purposes with multiple heritage buildings such as the Locomotive Workshop, the former New Locomotive Workshop (now National Innovation Centre) and the Works Managers Office (now The Bell Tower) already successfully redeveloped to accommodate a range of commercial, retail and community

[130] NSW Heritage Council and The Royal Institute of Architects, 2008. *New Uses for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites*, p. 4

uses. The careful revitalisation and adaptive reuse of the CME create an opportunity for the building to remain relevant and meet contemporary and future users' needs without neglecting the building's heritage values. In addition, the proposed revitalisation and adaptive reuse of the site will help to draw workers and visitors daily, reviving the historical importance of the site and wider ERW as a symbol of Australia's industrial revolution.

Overall, the proposed commercial use is commensurate with the original use of the site as the CME building was originally built to accommodate administrative and design offices. The proposal requires minor to no physical impacts, other than conservation and careful compliance upgrades, to the fabric of the CME to enable the building to be brought back to use again.

The proposal demonstrates best practice in the reuse and activation of the heritage building to retain its longevity and significance without adversely impacting the building's heritage values or physical integrity.

8.2. Building Interiors

8.2.1. General Arrangement

Entries

The layout proposes to continue to utilise the historic primary entry to the CME Building on the northern façade (along Wilson Street) as the main entrance. As part of the process, accessible solutions will be introduced to provide equitable access to all.

Due to the difference in levels between the exteriors, the entry foyer (G3C) and the internal circulation, the floor level of the external footpath and the entry foyer will have to be raised to match the internal circulation, resulting in the original tessellated tiles being covered. Alternative solutions have been studied to avoid the tilework being fully covered, however, any ramping solution would occupy the majority of the room and would still visually cover the majority of the tilework. After a careful evaluation of the alternative solutions, the design team has opted to carefully protect the tessellated tiles and add a raised flooring on top, avoiding any adverse physical impact on the integrity of the original fabric. To help offset the adverse visual impact on the tiles, heritage interpretation initiatives should be developed to celebrate and potentially still show part of the covered fabric, including the possible use of a glass floor over the new raised floor to preserve its memory and significance within the building and allow users and visitors to continue to celebrate it[131]. Alternatively, reproduction tessellated tiles could be relaid as a reconstruction of the original tessellated tile flooring, with a clear interpretative element to explain that the original tessellated tiles remain in situ and that the new tiles are a reproduction of the original patterning.

The tessellated tiles will continue to be fully visible in the eastern foyer (G9) where the entry to the former CME Office (G10) is located. In this situation, as the eastern foyer and the remainder of the interiors have the same finished floor level, the ramp connecting the interior and exterior can be located at the external verandah (see Section 8.3.1 Verandah), avoiding the tessellated tiles to be covered.

Further, all other existing entries, which form part of the 1900 phase, located at the southeast corner (small vestibule) and rear of the site will be fully retained and will continue to provide access to the building.

[131] Curio Projects, 2022. *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building (DRAFT).*

Therefore, the proposed impacts are supported from a heritage perspective as they have been carefully designed to respect the original configurations of the rooms as much as possible, with minimal overall physical or visual impact whilst achieving the necessary BCA, DDA and fire upgrades required.

Rooms configuration

The proposed layout of the Ground and First Floors has been designed to retain the original configuration of the rooms as much as possible, with the development proposing only minor interventions to the heritage fabric of the building, where necessary to ensure compliance with fire and safety, BCA and equitable access (Figure 8.1 and Figure 8.2).

In addition, the proposal also includes the removal of intrusive modern partitions that currently subdivide several rooms (i.e., G1, G2, G21, F1 and F5) in a detracting manner to reconfigure the spaces more positively, and as originally intended.

A limited number of new partitions will be introduced to accommodate the new accessible bathroom (F4B), lift, and electrical room (G15) as well as service risers in Room G4.

The location of these new room partitions has been chosen to reuse existing openings as much as possible. Where the rooms still contain significant features within the building, such as the tessellated tiles, heritage-listed cabinetry and fireplaces, their proposed use is as offices and tea point areas, so that it encourages users to interact with and appreciate the heritage fabric daily, whilst the new services and amenities rooms will be in rooms that no longer present such features.

Additionally, the proposed configuration of the rooms is also consistent with the functionality of the building, having the proposed lift and bathrooms near the original staircase and building entry, so that the common areas can be easily accessed by visitors.

Overall, the proposed layout has been carefully designed to avoid the demolition and visual obstruction of significant heritage fabric and will reinstate and preserve the original room configuration and functionality of the building.

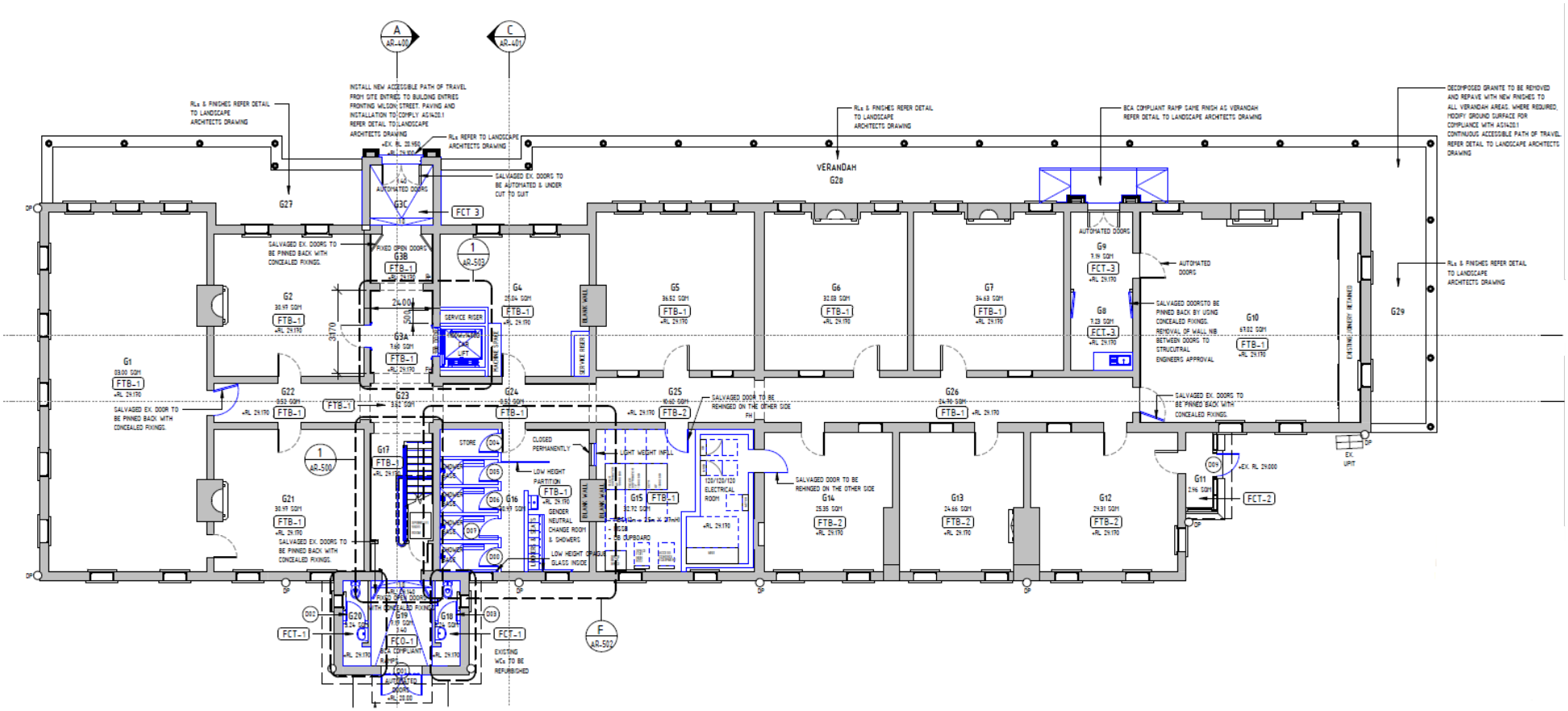


Figure 8.1: Proposed Ground Floor Plan. The proposed layout is consistent with the original general arrangement of the building, proposing minor alterations only. Source: CCG Architects, 2022.

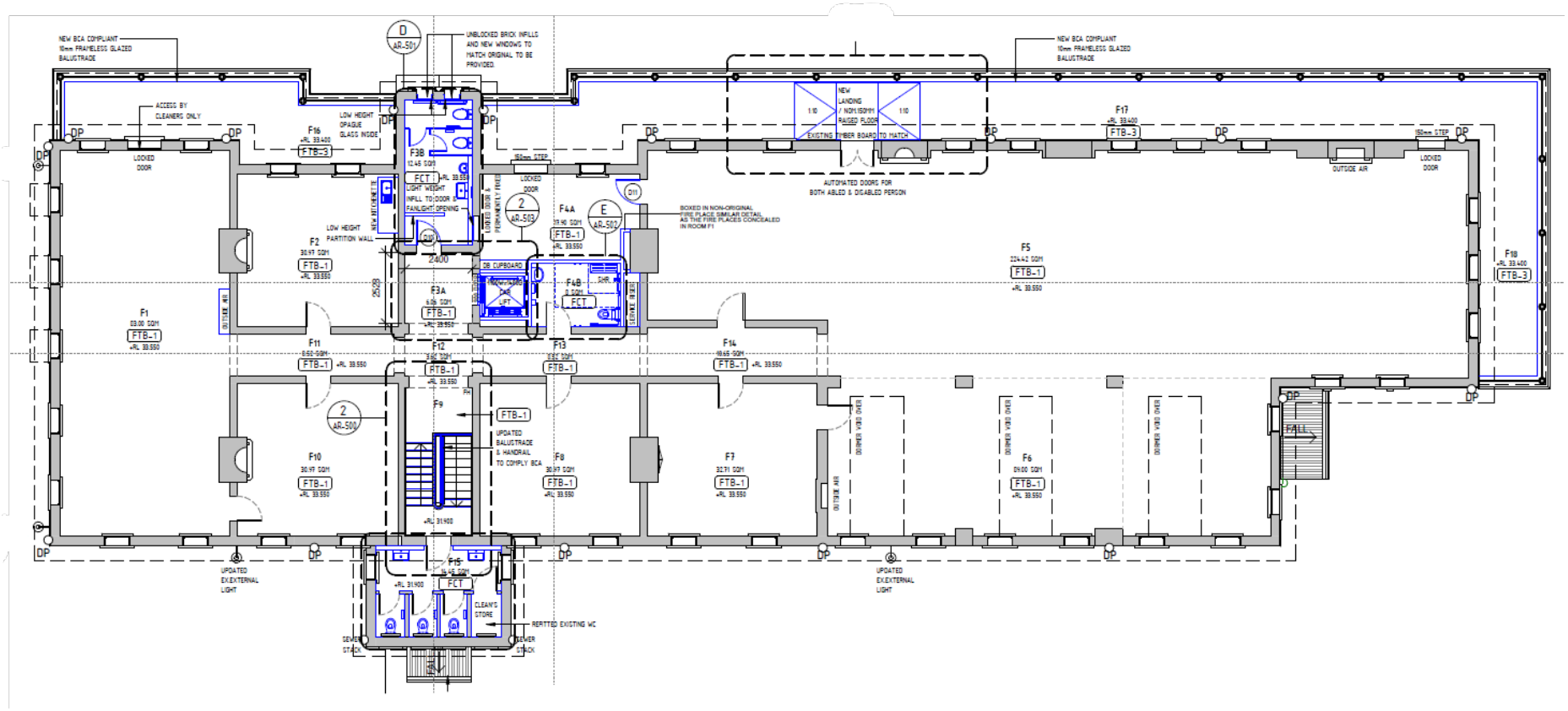


Figure 8.2: Proposed First Floor Plan. The proposed layout is consistent with the original general arrangement of the building, proposing minor alterations only. Source: CCG Architects, 2022.

Amenities

To meet BCA and DDA standards and the requirements of a Class 5 Office building, the proposal has introduced new amenities, including an accessible bathroom and end-of-trip facilities. To minimise impacts on the heritage fabric, the proposed strategy has been to reuse the existing bathrooms and associated penetrations and risers (see Section 8.4 *Services*) to accommodate the new amenities. The male toilets in Rooms G18 and G20 will be upgraded into gender-neutral toilets as they are the only toilets on the Ground Floor. In addition, the female bathroom (F15) located immediately above the ground floor toilets will be refurbished and will continue to be used as a female bathroom.

A new male bathroom will also be added on the First Floor, replacing a room that was previously used as a photographic dark room (F3B). This room has been chosen to house the toilet due to its smaller size and close location to the original stairs and proposed lift, facilitating access for visitors. Additionally, this room was originally designed to house a lavatory in 1887 and since then has been heavily modified to accommodate the former photographic dark room, which resulted in the two northern windows being bricked in and the view to Wilson Street being blocked (see Section 8.2.3 *Openings*). As a result, the new use of the room as the male bathroom is consistent with its original use and will allow the brick infill to be removed and the views unobstructed, whilst still retaining the privacy required for a bathroom amenity.

Further, the new accessible bathroom (F4B) has been strategically positioned near the new First Floor lift to avoid another room being subdivided and to ensure the new bathroom can be easily accessed by users and visitors. Likewise, the proposed end-of-trip facilities will be located in Room G16 due to the proximity to the main circulation area. In addition, Room G16 no longer retains any of the original intricate elements present in other rooms, such as the detailed ceilings or fireplaces.

Finally, Room G8, which used to house the former CME Toilet, will be reused as a tea point area. The existing fixtures are not compliant with current BCA/DDA standards and, therefore, could not be reused. As a result, the room has been redesigned to accommodate the tea point space, encouraging people to interact with the original elements retained (e.g., tessellated tile floors and timber partition) whilst having a break from work.

Overall, the proposed amenities have been carefully designed to reuse the existing penetrations and service risers, avoiding adverse impacts on the heritage fabric of the building. The chosen location for each new room is commensurate with the original layout and will not detract from the significance of the building.

Therefore, the proposed impacts are supported from a heritage perspective and have been designed to have a neutral to positive impact on the overall visual and physical significance of the building.

8.2.2. Vertical Circulation

Lift

The proposal includes the addition of a lift within the building to provide equitable access for its occupants, comply with the requirements of a Class 5 Office building and meet users' expectations. The location of the lift has been carefully chosen and designed to minimise its physical and visual impact on the heritage fabric and significance of the CME building. As a result, multiple locations have been studied by Curio and the design team, including the possibility of having an external or internal lift.

The potential external options studied were primarily focused on the eastern and southern facades as the western façade is bounded by a driveway. The northern and eastern façades are the most

prominent and significant façades of the building when viewed within the setting of the former ERW precinct, and beyond when experienced from the surrounding streets of Darlington.

Due to the aesthetic significance and visibility of the eastern façade, including its proximity to the highly visible eastern garden, combined with the large physical distance to the main entrance (G3C), locating the lift on the eastern façade when examined more closely was not considered a viable solution as the visual impact on the building was too extensive. The southern option has also been considered to have too much of a visual impact as the rear façade features as highly prominent within the North Eveleigh Precinct in the draft 2021 Masterplan for the Paint Shop Sub-Precinct. Locating the lift externally also presents challenges around weather protection of the compliant path of travel and waiting area for the lift, as well as prolonging the distance of travel to get to the lift.

Therefore, given the State significance of the building and its landmark qualities within Darlington and the ERW precinct, the retention and long-term preservation of the intactness and integrity of the external envelope of the CME Building was deemed to be of the highest priority. In addition, the retention of the main (and historic) entrance to the building was considered the optimal heritage outcome in terms of maintaining the building's hierarchy and original design intent. Therefore, the option to include an external lift, rather than an internal lift, was dismissed as having too high a heritage impact. It was determined by Curio, the design team and TfNSW's heritage team, that the placement of the lift internally would result in the least impact on the overall heritage values of the building, including both visual and physical values.

The internal location of the lift has been chosen to minimise the physical and visual impact on the original fabric within the building whilst ensuring functionality for its future operation. Having the lift located internally also reduces the need to introduce a weatherproof portico to the exterior of the building, which would be an additional design requirement to protect users during inclement weather.

The chosen internal central location for the installation of the lift is close to the main entry and original staircase and reuses an existing doorway between the circulation and Room G4. The lift entry will require a minor impact to fabric as the doorway will have to be enlarged to allow enough clearance for wheelchair access. On the First Floor, to avoid another opening along the corridor, the lift entry has been located in Room F3A which has already been largely modified since its construction (see Section 8.2.3 *Openings*).

In addition, the proposed lift has been positioned at the southwest corner of Rooms G4 and F4 in order to reuse the existing internal walls as the lift enclosure and to avoid blocking any views between the exteriors and interiors.

Figure 8.3: The render above shows the proposed lift location on the Ground Floor near the original staircase and northern entry and demonstrates how compatible the location and installation of the lift are with the main entrance of the building and the current internal entry configuration. Source: CCG Architects, 2022.

Further, the model and dimensions of the lift have been chosen to reduce the number of penetrations required to accommodate the new structure whilst still achieving the requirements of a Class 5 Office building. The selection of a platform model lift with a reduced overrun allows the lift to be contained within the building, avoiding penetrations into the roof which would have been visible from the exteriors (Figure 8.4). In addition, the reduced pit size will be fully contained within the existing 300mm subfloor, which will minimise the need for any further ground excavation.

Figure 8.4: Section showing the proposed lift. The chosen model has a reduced lift overrun that will allow the lift to be contained without the building. Source: CCG Architects, 2022.

Overall, the proposed works associated with the installation of the lift have been deemed to have minimal impact on the heritage fabric of the building and the overall spatial arrangement of the interiors of the building, whilst achieving the major positive outcome of providing equitable access to all floors of the building for all user and visitors. The heritage impact associated with the new lift insertion, including the associated penetrations to accommodate the lift, will be minimised by the lift specification, avoiding roof penetrations and the need for below-ground excavation. Further, the chosen internal location will retain the integrity of the building envelope and is consistent with the original layout of the building, being near the original staircase and main entry (i.e., is colocated logically with the primary circulation zones of the building).

Stairs

The original staircase currently does not comply with the relevant safety codes and, therefore, will require a new handrail to be installed on top of the existing one. To minimise the impact on the original fabric and significance of the stairs, the proposed handrail has been designed to be a sympathetic addition to the existing staircase, rather that the removal and replacement of the staircase (Figure 8.5). The chosen bronze finish is consistent with the overall Victorian style of the building and its simple design will contrast with the detailed timber railing. It is readily identifiable as a contemporary addition that will ensure compliance.

Overall, the proposed solution is considered to be appropriate and will not detract from the significance of the original staircase. Fixings to the timber handrail should be limited, concealed and reversible to avoid any detrimental impact on the physical integrity of the staircase.

Figure 8.5: Existing staircase (left) and similar example of the proposed contemporary handrail to be installed on the original staircase (right). Source: CCG Architects, 2022.

Further, the repair and reconstruction of the damaged fabric of the stairs will follow the recommendations described in the *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works* prepared by Curio (2022) to ensure minimal impact on its significance and original fabric.

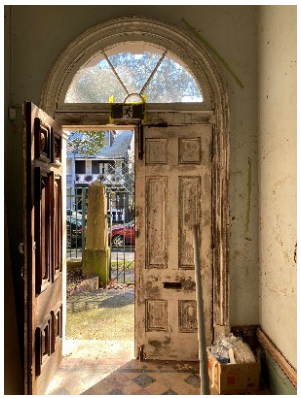
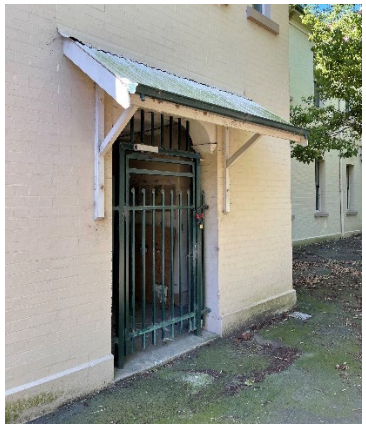
8.2.3. Openings

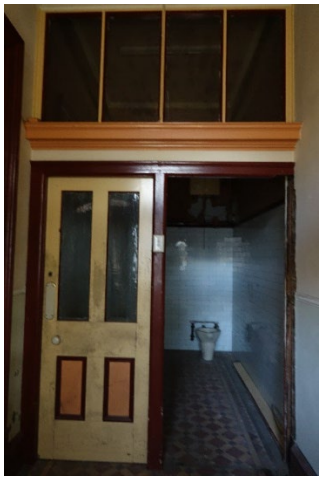
As previously stated, the proposal has been carefully designed to avoid and/or minimise the impact on the original fabric of the CME building. As a result, the existing openings have been reused as much as possible to accommodate the new layout.

Table 9.1 presents the assessment of the potential heritage impact of the proposed new openings or alteration to existing ones.

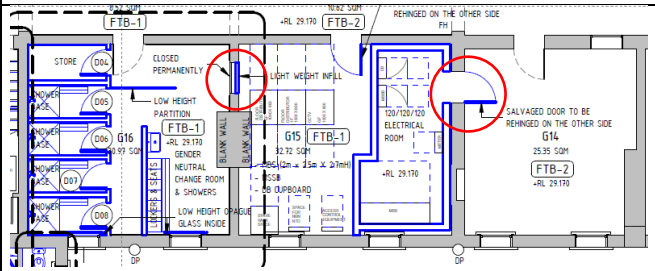
Table 8.1: Proposed alterations to existing openings and new openings.

Opening Location	Image	Proposed Alterations	Assessment of Impact
Existing openings			
Single and double doors Rooms G1/G22, G3B/G3C, G10/G26, G17/G19	 Figure 8.6: Existing doors in Rooms. From top left to bottom right: G1/G22, G3B/GC, G10/G26, and G17/G19.	To comply with current BCA/DDA standards, including the required width along the internal circulation, the opening and closing functionality of the doors will have to be removed. The door leaves will be retained in the same locations and still attached to the jamb but pinned back in an open position instead, in order to comply with the code.	The proposed solution will retain the door leaves in the same locations to allow them to continue to be visible to users and visitors whilst complying with current BCA/DDA requirements. Therefore, the proposed works will have no impact on the visual significance of the original doors. The works are also fully reversible and will not compromise the physical integrity of the doors. Provided the removal and installation of the door leaves are carried out in accordance with the recommendations of the project's nominated heritage consultant, and the new fixings are designed to be reversible, the proposed works will have little to no physical impact on the original fabric of the doors.

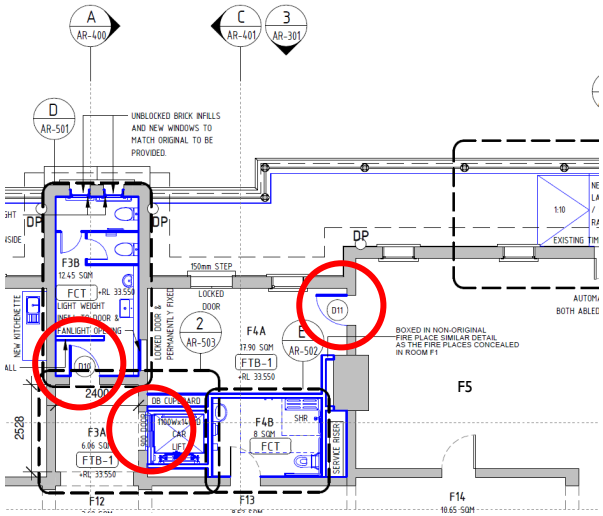
Opening Location	Image	Proposed Alterations	Assessment of Impact
Northern entry double doors Rooms G3C, G9	  Figure 8.7: Entry doors in Rooms G3C (left) and G9 (right).	The front doors on the northern façade will be augmented to provide secure access to the building.	The proposed solution will adapt and retain the historic doors to allow them to continue to be celebrated by users and visitors as highly significant fabric of the CME building. Despite the minor physical impact required to adapt the doors and install the automated security system, the proposed solution will have little to no visual impact on the northern façade configuration and the heritage significance of the site, whilst ensuring controlled, safe access to the building for future users.
Rear Gate	 Figure 8.8: Rear gate.	The rear security gate will be replaced with automated doors to allow controlled and safe access to the building.	The proposed alteration to the rear of the building is consistent with the approach to the northern façade security upgrade as it aims to provide a secure access system to the building. As the existing gate is not original and is considered to be intrusive, visually and physically, its removal and replacement with automated doors are considered to be positive impact, as it will create a more user-friendly entrance that presents as more welcoming than the heavy-set security door

Opening Location	Image	Proposed Alterations	Assessment of Impact
Partition including door Rooms G8/G9	 Figure 8.9: Existing partition between Rooms G8 and G9.	The original timber partition considerably restricts natural light and access to Room G8. As the room is proposed to be reused as a tea point, the existing door will be pinned back in an open position (parallel to the wall) and the central timber post (between the two openings) will be removed to create one large opening.	As the original toilet in Room G8 will no longer be utilised as a toilet but as a tea point, the lack of natural light creates an unwelcoming space that could result in it being underutilised by staff. Therefore, to improve natural light in the room, the existing door leaf will be pinned back in a parallel position to the wall. In addition, the central column between the openings will be removed. It could potentially be reused to replace the western frame that is now missing. Overall, this solution will retain the original fabric of the timber partition in place, proposing minor alterations to the configuration of the doors and middle corridor column (removal of). Therefore, it is considered to have a minor visual impact on its significance. Provided the removal and installation of the door leaf are carried out in accordance with the recommendations of the project-nominated heritage professional the works will have little to no physical impact on the significance of the doorway.

Opening Location	Image	Proposed Alterations	Assessment of Impact
Partition including door Rooms F3A/F12	 Figure 8.10: Existing non-original partition between Rooms F3A and the corridor (F12).	The partition and door currently dividing Room F3A and the corridor will be removed and the open space will accommodate the First Floor lift lobby.	The existing partition and door were a later addition to the site and have been assessed as being a neutral addition, in the CMP. Therefore, their proposed removal will have no physical impact on the overall significance of the building. In addition, the later addition of the partition and door adversely impacts the accessibility of the spaces within the building as they currently interrupt the original open connection between Room 3A and the corridor/ staircase. Therefore, their removal will have a positive impact on the visual and spatial values of the building.
Single Doors Rooms G15 and G16	 Figure 8.11: Door between Rooms G15 and G16 to the left and door between Rooms G14 and G15 to the right.	As Room G15 has been assigned as the Services Room, the eastern door will be replaced by a fire door to comply with the current code. To separate and fire rate Rooms G15 and G16, the existing door between them will remain closed and the G15 side of the door opening will be infilled to comply with the code.	The design team, including TfNSW's heritage team and Curio, have carefully chosen the location of the Services Room to minimise impacts on the heritage fabric of the building, especially due to the Services Room needing to include a physical separation between the Electrical Room and other racks and equipment. In addition, to comply with the current code, these rooms cannot be connected and, therefore, will require separate entry doors (see Section 8.4 *Services*). As Room G15 currently comprises three doors, locating the Services Room within this space would avoid the creation of a new opening on the original wall (Figure 8.11). To comply with the code, the original eastern door will be replaced with a fire door and the door leaf will be reused in a different location where a new opening has been proposed (i.e., F3A/F3B and F4A/F5).

Opening Location	Image	Proposed Alterations	Assessment of Impact
	 Figure 8.12: Proposed layout for Rooms G14, G15 and G16. The west door in Room G15 will be kept closed and infilled, and the east door will be replaced by a fire door.		On the western side, the existing door connecting Rooms G14 and G15 will be kept closed and, to comply with the code, the opening will be infilled with a lightweight material on the G15 side. Overall, the proposed alterations to the openings in Room G15 are fully reversible and do not physically impact the fabric of the original doors. Although they will no longer be visible within G15, room access will be mostly restricted. By reusing the doors in a different, more accessible location, the proposal ensures the original fabric can continue to be appreciated daily. Therefore, the proposal will have a neutral visual impact on the significance of the building.
Bricked in Windows Room F3B	 Figure 8.13: First Floor windows currently bricked in.	The brick infill on the First Floor windows will be removed as Room F3B will no longer be used as a photographic dark room.	Although it is unknown when the front windows were bricked in, it is likely related to the room being previously used as a dark room sometime in the 20th Century. As the existing bricks are not part of the original fabric of the building, their removal will have no physical impact on the heritage fabric —if the works are undertaken carefully to avoid any damage to the retained window elements. In addition, the reinstatement of the openings will restore the original design intent for the windows and the northern façade configuration, opening up view lines to Wilson Street. Therefore, the proposed works will have a positive visual impact on the heritage values of the site.

Opening Location	Image	Proposed Alterations	Assessment of Impact
New openings			
Lift entry Rooms G3A/G4	 Figure 8.14: Proposed lift entry will replace the original door and enlarge opening. Source: CCG Architects, 2022.	To accommodate the lift opening on the Ground Floor, the existing door between Rooms G3A and G4 will be removed and the opening enlarged to comply with current BCA standards.	To minimise the physical impact of creating a new opening into the original walls to accommodate the lift entry, the lift has been strategically positioned to reuse the existing opening between Rooms G3A and G4. Although the existing door will be removed and the opening enlarged to comply with BCA/DDA standards, the removed door will be reused to accommodate the proposed new openings (i.e. F3A/F3B and F4A/F5). New moulding around the enlarged lift opening will be installed to ensure the works are aesthetically consistent with the building's architectural details, whilst the opening size, form and scale will be clear indicators that it consists of a contemporary addition. An arch geometry to the lift opening could also be explored and detailed in the future stage of the design as a contemporary reinterpretation of the original arch, complimenting the arches present in the vestibules (Ground and First Floors). Therefore, the proposed lift entry will have a minor physical and visual impact on the heritage fabric and significance of the building.

Opening Location	Image	Proposed Alterations	Assessment of Impact
Southeast vestibule entry door Room G11	 Figure 8.15: Existing opening at the southeast vestibule	Install a new door within the existing opening to enclose the southeast vestibule.	The small vestibule (Room G11) was introduced as part of the 1920s addition and had originally an entrance door, which has been removed since. The proposal aims to install a new door to enclose the space and, therefore, restore the original room configuration. As the installation of the new door will not remove any significant fabric and could be fully reversible if required, the works will have no physical impact on the heritage fabric of the building. In addition, provided the proposed door design and materiality are sympathetic to the original fabric of the building, the works will have a neutral to positive visual impact on the heritage values of the site.
Single doors and lift opening Rooms F4A/F5, F3B/F4A, F3A (lift)	 Figure 8.16: Proposed door openings and lift entry.	Create a new door opening between Rooms F4A and F5 to allow the northern portion of Room F4A to be accessed. Create a new door opening between Rooms F3A and F3B to allow Room F3B to be accessed as the existing door between Rooms F4A and F3B will be infilled. Create a new opening on the eastern wall of Room F3A to accommodate the lift entry.	The proposed layout configuration has been carefully designed to avoid the creation of new openings. As a result, the proposed doors in Rooms F3A/F3B and F4A/F5 and the lift entry in Room 3A are the only new openings included in the proposal. The proposed opening between Rooms F3A and F3B is consistent with the 1887 original layout of the building, as Room F3B used to be accessed from Room F3A. Therefore, the proposed opening will reinstate the original room configuration and will have a minor physical impact on the original fabric as it will require mostly the demolition of modern infill. The proposed lift entry and F3A/F3B door opening will require the demolition of small sections of the original wall to accommodate them, having a minor physical impact on the heritage fabric of the building. Further, to minimise the visual impact of the openings, the removed doors in Room G15 will be reused, allowing the original door leaves to continue visible to users.

8.2.4. Ceilings

Due to the current condition of the interiors of the building and the high level of water ingress over the years as a result of the building's disuse, the majority of the ceilings have been damaged and require major repairs or replacement. The *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works* prepared by Curio in 2022 (Appendix C) provides general remediation guidelines for each type of ceiling (as quoted below) and includes a room-by-room schedule with specific recommendations for each room to improve their overall condition without adversely impacting the building's significance.

Ceilings in general should have all modern fixtures, fittings, conduits, exposed wires, pipes, and additional layers of non-heritage intrusive fabric removed to return back to the most intact salvageable layer. Where possible, existing fabric should be conserved and repaired in situ. Where accessible, ceiling spaces should be vacuumed to clear the space of dust, debris, and HAZMAT such as lead and asbestos dust, animal droppings and other hazardous contaminants.

Should ceilings need to be temporarily removed for services reticulation or access for invasive structural repairs, they could potentially be reinstalled lower to provide space to conceal new services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents. As noted in the 1997 CMP prepared by Paul Rappaport Architect, "drawings of the original 1887 construction indicate that the original floor to ceiling heights of the offices on the ground floor was 14 feet (4270mm) and 12 feet 6 inches on the first floor (3800mm)". The loss of any height to reinstated ceilings could be less intrusive than exposed services or bulkheads to hide services that cannot be accommodated within the ceiling cavity.

There is a variety of ceiling types within the building. These are listed below and are to be treated as follows:

Lath and plaster with ornate plaster cornice and ceiling rose

This type of ceiling was installed in the original part of the building built in 1887. A fire in 1902 was believed to be the cause for the replacement of damaged lath and plaster with corrugated iron in rooms F1A, F1B, F4 and F8 to match the corrugated iron installed in the 1900 addition ceilings in the extended part of the building.

- *Where intact and not at risk of collapse, complete conservation works to reinstate back to original condition are required. This could be inclusive of patching holes and cracking, reattaching plaster to laths using an injectable product or from behind with a pourable product such as the Westox System and in situ cornice template moulding repairs.*
- *Where unsalvageable or beyond repair, leave any stable remnant fabric in situ and install a modern plasterboard ceiling with a heritage cornice replicated from any remnant heritage cornice or existing documentation from the original build. These ceilings could potentially be installed lower to provide space to conceal services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents.*
- *Decorative plaster ceiling roses should be reinstated with originals where available or with replicated castings of the originals should they be beyond salvage.*

Corrugated iron (Mini Orb style) with timber frame mouldings concealing joints and a timber perimeter cornice

These ceilings were originally installed in the extended sections of the building in 1900. Rooms in the original section of the building later damaged by a fire (assumed) in 1902 were also retrofitted with corrugated iron.

- *Where intact and not at risk of collapse, complete conservation works to reinstate back to original condition. This could be inclusive of patching existing holes, and replacing missing, badly damaged or rusted sections.*
- *Where areas are damaged beyond salvage, replace with salvaged corrugated iron from other rooms of less significance within the building, replace with second hand salvaged material or replace with replicated modern equivalent.*
- *If an entire room is beyond salvage, leave any stable remnant fabric in situ and install a modern ceiling replica of the original ceiling based on existing documentation from the original build or from evidence of remnant fabric. These ceilings could potentially be installed lower to provide space to conceal services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents.*

Tongue-and-groove timber lining boards with timber scotia cornice and part of decorative original plaster cornice below

Further fires at the CME in 1908 saw more fire-damaged ceilings replaced this time with timber tongue-and-groove lining board ceilings although the lower part of original plaster cornices was left in place. These lower-half cornices were left in their original position with a timber scotia moulding installed above between the lining boards and the top of the cornice. It was likely that the lining boards were used for economic reasons.

- *Where intact and not at risk of collapse, complete conservation works to reinstate back to original condition. This could be inclusive of patching existing holes, replacing missing, badly damaged sections and in situ cornice template moulding repairs.*
- *Where areas are damaged beyond salvage, replace with salvaged lining boards from other rooms of less significance within the building, replace with second hand salvaged material or replace with replicated modern equivalent.*
- *If an entire room is beyond salvage, leave any stable remnant fabric in situ and install a modern ceiling replica of the original ceiling based on existing documentation from the original build or from evidence of remnant fabric. These ceilings could potentially be installed lower to provide space to conceal services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents.*

Tongue-and-groove timber lining boards with timber moulding cornice

It is likely that plaster cornices that were damaged during or post the fires were replaced with a timber moulding cornices. These rooms should receive the same treatment as per the above-mentioned tongue-and-groove timber lining boards with timber scotia cornice and part of decorative original plaster cornice.

Suspended T-bar grid ceiling system

These are intrusive elements from the 1970 renovation and should be removed from all areas.

- *Remove suspended T-Bar Grid ceilings. If an existing heritage ceiling exists above, treat as per the recommendations in this list.*

Pressed metal with decorative plaster cornice

These ceilings are only present in rooms G9, G10, G21A and G21B. There are two different patterns of pressed metal: one type in rooms G9 and G10 and the other in Rooms G21A and G21B.

- *Where intact and not at risk of collapse, complete conservation works to reinstate back to original condition. This could be inclusive of patching existing holes, and replacing missing, badly damaged or rusted sections with new fabric replicated to match the existing patterns.*
- *If an entire room is beyond salvage, install a modern plywood ceiling substrate with new pressed metal fabric replicated to match the existing patterns. Should heritage cornices in these rooms need to be replaced due to damage, they are to be replaced with cornices replicated to match the existing heritage cornice. The ceilings in G21A and G21B could potentially be installed lower to provide space to conceal services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents. Ceilings in Room G10 need to be maintained at their original height to reinforce the scale and grandeur of the former CME's Office. Services in Room G10 should be installed from above to maintain the original ceiling in situ.*

Jack arch corrugated iron and I-Beam

These are to be patched and painted. Central beams (Jacks) could have a sympathetic flat over panel installed slightly wider than the original to provide space for up lighting LED strips into the arches and to conceal wiring if required.

Plasterboard with modern Cornice

Remove to facilitate services reticulation and replace with a modern ceiling replica of the original ceiling based on existing documentation from the original build or from evidence of remnant fabric. These ceilings could potentially be installed lower to provide space to conceal services provided that any loss of height does not detract from the overall scale of the rooms or cover necessary ventilation grills or vents.

Ceiling Roses

Ceiling roses should be kept in situ where existing. Rooms that were part of the original 1887 construction that will have ceilings replaced with new modern plasterboard as part of the works should have a replica ceiling rose installed.

8.2.5. Fireplaces

In addition to the visible fireplaces within the building, several fireplaces have been covered, removed or altered, which has directly impacted their significance and physical integrity. The *Condition Report and Schedule of Conservation Works* prepared by Curio (Appendix C) provides general remediation guidelines for the fireplaces (as quoted below) and includes a room-by-room schedule with specific recommendations for each room to improve their overall condition without adversely impacting the building's significance.

- *Generally, intact existing cast iron fireplaces should be conserved and restored. Where missing, they should be replaced with recycled salvaged heritage equivalents of the same age or boarded up. Restored fireplaces should be welded closed or disabled to ensure they cannot be used as functional fireplaces.*
- *Existing mantles should be conserved and restored. Missing mantles should be replaced with second-hand heritage mantles. The type and materiality of replaced mantles should be representative of the room type. The more significant rooms should have marble mantles reinstated whereas the less significant rooms should have more basic timber examples installed.*
- *Hearths should be restored where they are relatively intact. Damaged or bare hearths should be either tiled, overlayed with stone or painted.*

- *Cast iron and other metal componentry should be painted with pot belly black paint.*
- *Chimneys breasts should remain as an expressed feature of a room. In places where services risers are placed beside them, new partition walls beside chimney breasts should sit back at least 50mm to ensure that the chimney breasts are retained as a defined expression into the room and that staff moulded arises on the corners of the breasts are not lost.*
- *Chimney tops should have over-flashing caps installed to ensure the building is protected from water and pest ingress.*
- *Chimneys can be reutilised for service runs within the building where possible.*

8.3. Building Exteriors

8.3.1. Building Envelope

The conservation of the heritage values of the building envelope has been carefully discussed by the design team, TfNSW Heritage Team and Curio. As the scale, bulk, form, and architectural style of the CME building are of exceptional significance and will continue to be the main reference to visitors and community members after the building is occupied, the preservation of the CME external facades is crucial to retain its prominence within the site and along Wilson Street as well as its historical importance and role within the former ERW precinct.

As a result, the proposal has been designed to retain the physical fabric of the building envelope in its entirety without compromise or introduced elements with the exception of the new front ramp, which has been designed to be low-scaled and discretely located at the northwest corner (see Section 8.3.2 *Landscaping*). Alterations that would have required external additions to the envelope (e.g., such as an external rather than internal lift – Section 8.2.2) have been redesigned to be included within the building interiors to avoid any physical and visual interference with the integrity and aesthetic significance of the external fabric of the building. Likewise, no additional openings visible from the exteriors have been created to avoid any impact on the significant articulation and rhythm of the façades that have been so carefully designed and added to over the years.

Verandah

The verandahs on the Ground Floor of the CME building are enclosed by the balconies directly above them and have cast-iron columns equally spaced along their length. In 1887, the year of the building's original phase of construction, no direct access to the verandahs was provided, which indicates that they were built primarily for aesthetic purposes. After the 1900 addition to the site, the creation of a direct entry (G9) access to the CME Office (G10) enabled the eastern side of the northern verandah to be accessed from within the building, while the west side of the northern verandah remained without direct access.

The proposal aims to retain this eastern access along the northern verandah while making it compliant with current BCA and DDA standards to ensure equitable access to the building. As a result, the proposal includes the addition of a ramp and handrail in front of the access door (G9) (Figure 8.17).

Figure 8.17: Illustrative image showcasing the Ground Floor verandah and the proposed ramp and handrail in front of the eastern door along the northern façade. Source: Arterra, 2022.

To minimise the visual impact on the façade's composition, the ramp materiality has been carefully chosen and designed to ensure the ramp is a recessive new element within the aesthetics of the northern façade composition. The ramp will be constructed in a concrete material, consistent with the proposed materiality for the verandah floor. The ramp balustrade has been designed to be minimalist in its design, using transparent material that is consistent in style, and materiality with the proposed glass balustrade proposed to be introduced into the balcony above it (see Balustrade Section below). Overall, the proposed ramp will have no physical impact on the heritage fabric of the building as it will be installed on the new verandah flooring. In addition, as the ramp design is contemporary, recessive and sympathetic, it will have a minor visual impact on the overall aesthetic significance of the northern façade.

Investigations undertaken by Curio[132] concluded that the verandah flooring is composed of a layer of decomposed granite at the surface, followed by a layer of sand deposited on top of the soil. Due to the nature and composition of such materials, the verandah flooring is uneven and, therefore, unsuitable for providing equitable access. The new design proposes to install concrete mix flooring (white cement, river gravel and sand) to the verandah—whilst maintaining the same finished levels—to introduce a durable and compliant material that blends with the historic character of the building and landscaping to the frontage. This will ensure the longevity and accessibility of the verandah. Additionally, the concrete flooring, including its sympathetic colour palette will be a neutral addition to the building's exteriors and the verandah's original sandstone edging.

Balcony

The first-floor balconies are currently non-compliant with the BCA standards as the existing balustrade height is significantly lower than the minimum 1000mm required. In addition, the balconies are not accessible to people with disabilities as the balcony level is lower than the internal floor level. As a result, the proposed SSDA aims to introduce a ramp to provide equitable access and a glass balustrade behind the existing cast iron balustrade to ensure BCA compliance and, therefore, reinstate the useability of the main balcony areas for all users and visitors.

[132] Curio Projects, 2022. *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works.*

The proposed glass balustrade will be installed along the entire length of the northwest and northeast/east balconies, sitting parallel to the existing cast iron balustrades. The glass material has been chosen to ensure views to the building façade are fully retained and the details of the existing cast iron balustrades remain visible and prominent. In addition, the minimal and frameless design of the glass balustrade allows it to be clearly identified as a contemporary addition to the building.

Figure 8.18: Illustrative image of the CME building along Wilson Street. The proposed glass balustrade will sit behind the cast-iron balustrade along the First Floor balconies. Source: CCG Architects, 2022.

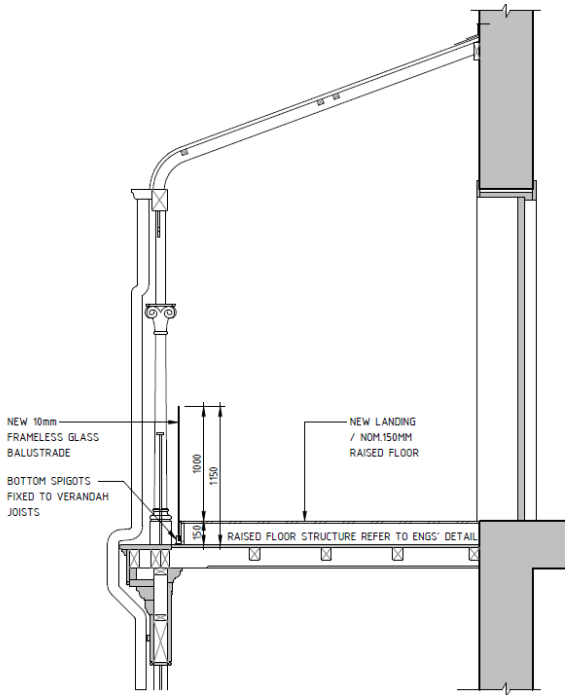


Figure 8.19: Proposed detailed drawing of the glass balustrade. Source: CCG Architects, 2022.

Further, the design team, TfNSW Heritage Team and Curio have also carefully studied several options to minimise the impacts of adding ramps and handrails to the northwest and northeast/east balconies. Due to the significantly smaller size of the northwest balcony, the addition of a sizeable ramp would significantly impact its layout configuration besides requiring the addition of a handrail or a height increase of the glass balustrade for the majority of its length (to allow it to also function as the ramp balustrade), which would directly impact the north façade configuration (Figure 8.20). As

the northeast/east balcony allows for similar views to the northwest balcony and additional east and south views of the ERW precinct, besides being considerably larger, the design team, TfNSW Heritage Team and Curio have opted to provide equitable access only to the northeast/east balcony. This solution will avoid the adverse impact on the northwest balcony and overall northern façade whilst enabling all visitors to have a balcony experience and to appreciate the views towards Wilson Street and the wider ERW precinct.

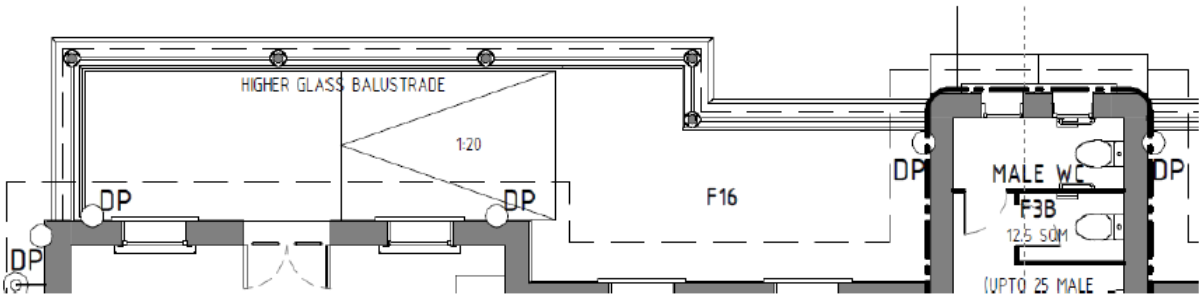


Figure 8.20: Studied option including the installation of a ramp on the northwest balcony. This solution would occupy a considerable size of the entire balcony and, as a result, increase the height of the balustrade even further. Therefore, this solution has been rejected by the design team and Curio and the northwest verandah will not be accessible. Source: CCG Architects, 2022

The width of the proposed ramp on the northeast/east balcony has also been carefully considered by the team. To avoid the installation of another balustrade or handrail to service the ramp (Figure 8.21), the ramp has been extended to the full width of the balcony which enabled the new glass balustrade to also be used as the ramp balustrade (Figure 8.22). Although this solution will result in a height increase of the glass balustrade along the ramp length (to reach the required 1000mm height) (Figure 8.23), it reduces the need for a second balustrade and avoids the creation of a narrow pathway between the ramp and the balcony balustrade (Figure 8.21).

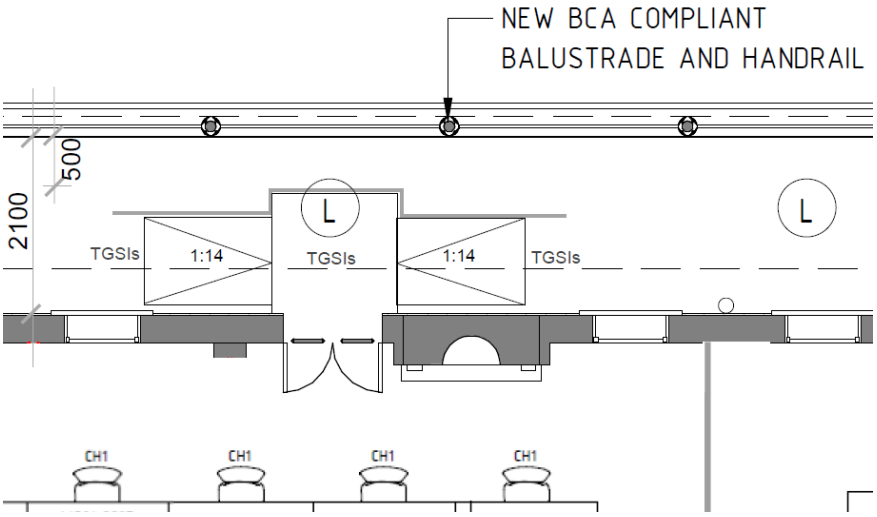


Figure 8.21: Studied option for the balcony ramp. This solution would require the installation of a handrail or balustrade along the length of the ramp and would create a narrow pathway between the proposed glass balustrade and ramp. As a result, this option has been refused by Curio and the design team. Source: CCG Architects, 2022.

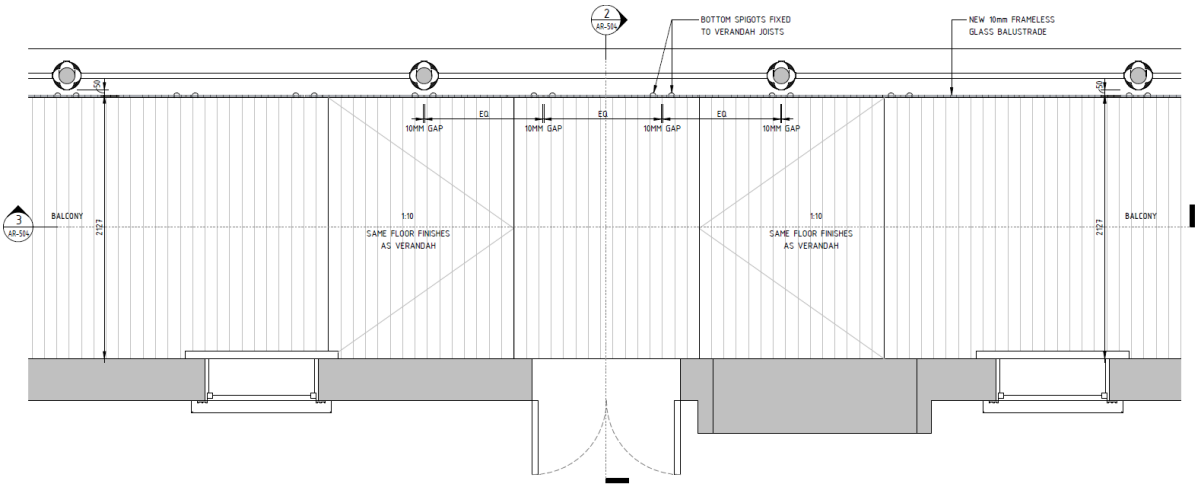


Figure 8.22: Chosen option for the northeast/east balcony ramp. The ramp will be extended to the width of the balcony and the proposed glass balustrade will also be used as the ramp balustrade. Source: CCG Architects, 2022.

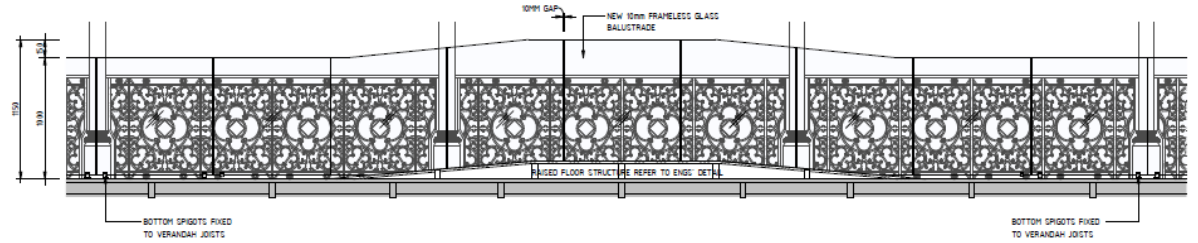


Figure 8.23: Proposed elevation of the proposed glass balustrade showing the height increase due to the ramp. Source: CCG Architects, 2022.

Overall, the alterations to the First Floor balconies have been carefully designed to minimise impacts on the façade composition of the CME building and allow views to Wilson Street and the wider ERW to continue to be appreciated by users and visitors. The proposed works will have a minor heritage impact on the northern façade composition, albeit minimised by the provision of equitable access to the northeast/east balcony and by their recessive and minimal design.

Roof

The existing roof was part of the 2017 restoration works, however, due to adverse weather damage, it is currently in poor condition. The proposal includes remediation works to the roof including the following works:

- remove debris from the roof space;
- clean and repair roof framing where investigative works will deem it necessary to do so;
- new metal deck roof sheeting, flashings (including for chimneys), roof plumbing and ceiling insulation;
- repairs to dormer windows.

Overall, despite the existing roof being a later addition to the building, it has been designed to match the original roof and, therefore, it is a sympathetic insertion within the heritage context of the site. The proposed works will restore the physical integrity of the existing roof, allowing the building to be properly used in the future, and will improve the overall building envelope appearance, having a positive visual impact on the heritage significance of the site.

8.3.2. Landscaping

Overview

The proposal for the landscape works includes the design and implementation of the Wilson Street frontage only (north face). The eastern garden and permanent landscape treatments on the southern and western sides of the CME building will form part of a separate future application.

Overall, the proposed landscape strategy is focused on providing accessible routes to the building and the general repair and 'make good' of the existing landscape surfaces. *Where possible, the raised asphalt surface around the site will be milled to a lower level to allow building sub-floor vents to be revealed. Immediately adjacent to the western and southern sides of the building a narrow gravel border and sub-soil drainage will be installed to allow the building and foundations to breathe.*[133]

The proposed landscape design prepared by Arterra Design has been driven by the current key objectives:

- Retention of significant fabric.
- Providing a landscape treatment that is functional and minimalist and does not draw undue attention to itself or obscure the significant building as well as requires minimal ongoing maintenance — given likely future office use.
- Accommodating accessible circulation around the exterior of the building.
- Accommodating services upgrade including stormwater connection.
- Retention of existing trees across the site as well as street trees along Wilson Street.

Wilson Street Frontage

Accessibility Ramp

The proposed works for the Wilson Street Frontage have been designed to reinforce the northern face of the site as the primary entry to the CME building. To provide equitable access, a concrete ramp will be installed at the northwest end of the site, connecting the street to the entry stairs' upper landing.

The location of this ramp has been carefully studied to minimise impacts on the northern garden area. Initial options assessed included an alignment running from the northeast end of the building to the main entry, however, due to the accentuated slope of Wilson Street and the required BCA/DDA ramp inclination for avoiding handrails, the length of the ramp would occupy a substantial area of the garden, having a major negative visual impact on the northern frontage. As a result, the ramp has been relocated to fit within the western portion of the garden, which is substantially smaller and, therefore, less impactful.

Northern Fence

The existing fence along Wilson Street, excluding the stone posts framing the gate, is not original to the site and was installed in 1997. Figure 3.11, taken at the year of the building's construction, showcases a much lower timber picket fence to the north, which still allowed for clear views to the Ground Floor verandah. Since the building's construction, several boundary treatments were added to the northern façade — including no fence at all —, however, a fence is required for the future use of the building.

[133] Arterra, 2022. *Statement of Landscape Intent – Chief Mechanical Engineers Office, North Eveleigh*, p.2.

The proposal will retain the original stone posts and entry gate and replace the steel picket fence with a 1000mm palisade fence. In addition, the existing concrete plank baluster plinth will also be removed and replaced with a retaining brick wall.

Overall, the existing fence is currently a prominent element along Wilson Street, which detracts from the significance of the building as it is in very poor condition and has a heavy design that does not compliment the original Victorian style of the CME.

In contrast, the proposed fence has been designed to be minimal and recessive so that the CME Building remains the prominent element within the streetscape. The contemporary style of the fence can be easily identified as a later, generally unobtrusive addition. Further, the distance between the fence posts will preserve views through the fence, allowing the Ground Floor fabric to be better appreciated by passersby along Wilson Street.

Figure 8.24: Proposed palisade fence for the northern boundary of Wilson Street. Source: Arterra, 2022.

Planting

Box hedges will be used within the northern garden to define the level changes, which is consistent with the character of the Victorian period building and Wilson Street streetscape. In addition, a row of Camelias spaced 3 metres from each other will be planted, pruned and shaped into small trees with an umbrella form so that they contribute to the canopy cover of the area without overly obstructing views of the building.[134]

Eastern Garden

The proposal aims to remove the eastern security fence currently dividing the eastern garden and the CME Building. The existing fence has been identified as an intrusive item in the CMP[135] as it interrupts the movement routes within the site, restricts access to highly significant areas, and visually interferes with significant view lines throughout, in particular between the CME building and the eastern garden.

[134] Arterra, 2022. *Statement of Landscape Intent – Chief Mechanical Engineers Office, North Eveleigh*, p.1.
[135] Curio Projects, 2022. *Chief Mechanical Engineers Building—Conservation Management Plan.*

Therefore, the removal of the security fence will have a positive physical and visual impact on the heritage values of the site as it will remove intrusive fabric and restore the historical physical and visual connection between the main building and the garden. The views from within Darlington and Little Eveleigh Street will improve as a result of the removal of the security fence and will allow for a better relationship between the building and its prominent streetscape setting.

As previously mentioned, the final landscape design of the eastern garden will be subject to a separate future development proposal, however, minor works are proposed to improve the overall condition of the area. The existing flag pole and sandstone edge around it will be fully retained. Topsoil is to be placed over the existing surface, inside of this edge, and the area is to be planted with small flowering ground covers. Beyond this, small tree saplings and weed species are to be removed by cutting to the base and poisoning. The area is then to be mulched over the existing surface.[136]

Overall, the proposed works on the eastern garden will have a positive heritage impact on the values of the site as it will improve its overall condition and reinstate the original garden purpose, as well as routes and view lines between the CME building and the garden.

Rear

The rear portion of the site will be tidied up, in particular near the access door. A screened area will be introduced at the eastern end of the toilet block to accommodate the mechanical plant (see Section 8.4 *Services*) to avoid any adverse impact on views to the CME building or wider precinct.

Hard asphalt surfaces will be removed and replaced with a small, new garden bed in this area is intended to improve the conditions for the historic *Phoenix canariensis* (Canary Island Date Palm) and *Cinnamomum camphora* (Camphor Laurel).

Overall, the proposal will improve the condition of the rear portion of the site, which will become highly prominent within the North Eveleigh Precinct after the 2021 Masterplan for the Paint Shop Sub-Precinct is implemented. Therefore, the works will have a positive visual impact on the heritage values of the site.

8.4. Services

The proposed services for the CME Building have been carefully designed by GHD in collaboration with Curio, TfNSW, and the design team to minimise visual and physical impacts on the original fabric and significance of the building. GHD has prepared a concept design report for the engineering services (Appendix H) describing the studied options and design choices made for the site.

Air Conditioning System

Several options have been studied for the air conditioning system and the advantages and disadvantages of each system have been discussed in the GHD report. The options studied are:

- Chilled/Heating Water System
- Variable Refrigerant Flow System (VRF)
- Ducted Fan Coil Units (FCU)
- Free-Standing Fan Coil Units (FCU)

One of the biggest disadvantages of the Chilled/Heating Water System that would directly impact the heritage fabric and significance of the building is that the required pipework is substantially larger than refrigerated pipework and, therefore, would likely not fit into the available floor space.

[136] Arterra, 2022. *Statement of Landscape Intent – Chief Mechanical Engineers Office, North Eveleigh.*

Therefore, this option has been discarded. The VRF System has also been rejected as it cannot be used for an underfloor ducted system as the supply air temperature is too cold.

The Ducted FCU System would also directly impact the heritage values of the site as it requires ceiling or wall-mounted cassette units. In addition, as the First Floor floorspace is insufficient to accommodate the ducted FCUs, they would have to be fitted in the roof space which is likely insufficient to accommodate them and the ductwork. The subfloor space on the Ground Floor would also have to be excavated to provide a minimum of 450mm clear space to fit both.

As a result, the chosen solution for the building was the Free-Standing FCU system, which does not require additional roof space or below-ground installation. It utilises floor-standing units instead of ceiling or wall-mounted units and avoids penetrations and fixings to the original fabric or any obstructions to view lines.

> *The provision of individual FCUs in each space will allow the provision of a mixed mode air conditioning system. Mixed mode is not considered a system in itself but an enhancement that can be applied to an air conditioning system to improve energy consumption. A mixed mode system can be defined as a system that utilises either air conditioning to a space to control temperatures and when external conditions are appropriate utilises natural ventilation in lieu of air conditioning to control space temperature. In this building, the FCUs would be arranged to shut down when the windows in the room are open.*[137]

To minimise the impact of having the free-standing FCUs visible within the rooms, the units will be fitted within bespoke joinery, completely hidden to blend in with the future tenancy fit-outs. Therefore, the proposed Free-Standing system is the less intrusive and impactful option to allow for air conditioning within the building.

Services Room

A consolidated Services Room has been included in the proposal to avoid the creation of smaller rooms for different services, which would require a number of original rooms to be subdivided to accommodate them. By assigning one room only, the original layout configuration of the building is retained and any alterations required due to future updates to the legislation will not impact several areas.

Room G15 has been chosen to accommodate the Services Room for two key reasons: the existence of three access doors and the lack of unique details such as fireplaces or detailed ceilings.

The multiple doorways will facilitate the insertion of an Electrical Room within the space as it has to provide separate, fire-rated access to comply with the code. A fire door will replace the original door, which can be reused in a different location where a new opening has been proposed (i.e. F3A/F3B and F4A/F5) (see Section 8.2.3 *Openings*).

Overall, the use of one of the internal rooms to accommodate the Service Room will have an adverse impact, albeit minimised as much as possible by the proposed design and location. The chosen room will take advantage of the original layout configuration and existing openings, avoiding new penetrations into the wall. In addition, as the removed door could be reused within the building—in a more accessible location to users and visitors—, the proposal will ensure it can continue to be

[137] GHD, 2022. CME Building—Concept Design Report – Engineering Services, p. 14.

appreciated on a daily basis. Therefore, the proposal will have a minor physical and visual impact on the significance of the building.

Services Reticulation

In accordance with the recommendations described in the Condition Report and Schedule of Conservation Works prepared by Curio (2022), the ceiling of the Ground Floor corridor will be dropped to allow the reticulation of services to serve the First Floor rooms. The services will then reticulate from the Ground Floor ceiling space into the First Floor rooms using the floor space only. For the Ground Floor rooms, the services will run within the existing subfloor area.

Service risers have been substantially reduced and strategically located throughout the design process to minimise penetrations on the heritage fabric. In addition, the proposed ductwork, pipework, and cable trays will follow the orientation of the floor joists to also reduce penetrations.

Overall, the design of the proposed services has carefully considered the original fabric and significance of the building, minimising impacts on the heritage fabric. The services will be concealed within the floor space areas and risers so that they do not adversely impact views within the building.

Fire Sprinkler System

Although the building is not required to provide a fire sprinkler system, it has been included in this proposal to avoid the addition of new fire stairs. Any potential location to accommodate the stairs would have a major impact on the heritage fabric and significance of the site. The introduction of fire stairs would require large penetrations and obstruction of view lines (if internal) and/or a major visual impact on the building envelope (if external). Therefore, the design team, advised by the TfNSW Heritage Team and Curio, has opted to install a fire sprinkler system instead.

The location and installation of the sprinklers within each room should follow the guidelines and recommendations of the *Condition Report and Schedule of Conservation Works* prepared by Curio to minimise heritage impacts to the detailed ceilings, respecting the original ceiling gridlines.

Further, a fire sprinkler booster will be installed within the retaining wall of the proposed north fence to be as recessive as possible whilst being operational and easily accessible to the fire brigade. In addition, an alarm valve is proposed to be installed under the stair access as the current location is not compliant with the BCA.

Overall, the proposed fire sprinkler system is considered an appropriate solution that will help to substantially minimise the visual and physical impacts associated with the addition of the fire stairs. Provided the detailed design of the system is developed in consideration of the Curio report, the works will be minimal and recessive, and will not detract from the significance of the ceilings or the building.

Stormwater Tank

The proposed stormwater tank will be located at the southeast corner of the site, offset from the CME Building and below ground to avoid physical impact on the original footings and visual impact on significant view lines, respectively.

The archaeological impact associated with the tank has been detailed in Section 7.

Mechanical Plant

The mechanical plant is proposed to be located at the southwest corner of the site, adjacent to the toilet block, replacing the existing shelter structure. The area is currently enclosed by corrugated iron panels and fence, which will be replaced with a 1.8-metre timber fence to help conceal the A/C condensers and other equipment.

The location of the plant has been selected to avoid the creation of a second volume at the rear of the site, especially considering that this part of the site will become highly prominent within the North Eveleigh Precinct after the 2021 Masterplan for the Paintshop Sub-Precinct is implemented. Therefore, the mechanical plant will replace the existing shelter structure—which does not contribute to the significance of the site—, improving its overall appearance with a more sympathetic enclosure.

Further, the proposed plant will be connected to the CME Building through one consolidated trench for all services, minimising excavation works and impacts on the existing mature trees.

Overall, the mechanical plant will have a neutral to positive visual impact on the significance of the site as it will improve the overall appearance of the southern portion of the site whilst allowing the plant and equipment to be concealed and protected. For the assessment of the potential archaeological impacts, refer to Section 8 and the Historical Archaeological Assessment prepared by Curio (2022).

8.5. Moveable Heritage Items

As discussed in Section 4.1.7, a number of moveable heritage items have been identified by the S170 Register, SHR, OHM Consultants and Curio. The proposal aims to retain in place the built-in cabinet and safe in Room G10 to preserve the former CME Office as one of the most significant and intact rooms within the building, including opportunities for interpretive displays as per the HIP.

The toilet and washbasin in Room G8 are proposed to be removed as they cannot be reused as they do not comply with current BCA/DDA standards. As a result, these items, along with other items identified as having significance such as the mirror, have been incorporated into the Heritage Interpretation Plan for the CME Building (Curio, 2022) to ensure they continue to be acknowledged, understood and, where possible celebrated.

8.6. Materiality and Lighting

Materiality

Detailed internal fit-out and finishes will be subject to a separate application after the future tenant is identified. Therefore, this proposal focuses on the general materiality of the building only, proposing existing finishes and colour palettes of the interiors and exteriors of the CME Building to be retained. Damaged finishes and materials (e.g., timber flooring, walls, etc.) will be restored and, where there are not sufficient original materials to reinstate the area, *rooms of higher significance and in key view lines should be prioritised. Extra required fabric should be sourced from second-hand yards and heritage building material recyclers to best match with the original*.[138]

Although subject to future detail, the new bathrooms and end-of-trip facilities will be designed to be minimal and contemporary additions, proposing compatible contemporary streamlined finishes such as concrete and timber and neutral colour palettes (Figure 8.25).

Rooms that have been used as bathrooms since their construction (i.e., G18, G20 and F15) are proposed to be refitted and refurbished but will still interpret and retain their original character. As a result, the proposed finishes, colours, and materials have been carefully selected based on the existing finishes, colour palettes, materiality and design solutions such as the half-tiled walls. The refurbishment of these bathrooms will be installed as a contemporary reinterpretation of the original design (Figure 8.26).

[138] Curio Projects, 2022. *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works.*

Figure 8.25: Reference images of the materiality of the new bathrooms and end-of-trip facilities. Source: CCG Architects, 2022.

Figure 8.26: Original bathrooms (G18 and F15) to the left and centre and reference image of the intended look and feel for these rooms to the right. Source: CCG Architects, 2022.

Overall, the proposed materiality for the CME building will retain existing finishes, materials, and colour palettes with the intention to restore and reconstruct the damaged materials. The new materiality proposed will be limited to new bathrooms and end-of-trip facilities and, where original toilets are to be replaced, the chosen materiality will be based on the existing finishes as a contemporary reinterpretation of the original character of the rooms. Therefore, the proposed materiality is assessed as having a neutral to positive impact on the overall significance of the building.

Lighting

There is currently minimal to no external lighting within the subject site apart from a few wall-mounted lighting installed along the southern and western facades. Although subject to future detail and specification, the proposed lighting strategy for the site includes the following:

- Inground luminaires and ground-mounted projectors to highlight the existing heritage columns at the front entry.
- External wall washers to accent the northern façade,
- LED strip lighting to highlight details including the tympanum above entry areas.

Overall, the proposed lighting strategy aims to highlight the original features of the façade, attracting the attention of passersby to the CME building. Therefore, it is anticipated to have an overall positive impact on the heritage values of the site.

It is recommended that the detailed design of the proposed lighting, including model, style and colour temperature, be developed in close consultation with the nominated project heritage specialist prior to installation.

8.7. Conservation and Restoration of Significant Fabric

Due to the current condition of the building interiors, TfNSW has commissioned Curio to prepare a *Physical Condition and Schedule of Conservation Works* (Appendix C) to guide the restoration and conservation works to be undertaken.

This report provides clear guidelines and recommendations to avoid adverse impacts on the heritage fabric of the building, including impacts associated with repairs and/or replacement of materials, that could potentially detract from its significance. The report has been prepared in accordance with the principles of The Burra Charter and other heritage guidelines to ensure a sensible and respectful outcome for the building and its heritage values.

Therefore, provided during the construction phase the *Physical Condition and Schedule of Conservation Works* must be implemented, closely followed and respected, so that the conservation and restoration works once complete will have a major positive impact on the conservation, longevity and readability of building when it is occupied once again.

8.8. Potential Archaeological Impacts

8.8.1. Historical Archaeology

The potential historical archaeological resources of the subject site have been assessed in Curio, 2022, *Chief Mechanical Engineers Building Historical Archaeological Assessment (HAA).*

The HAA identified a low to moderate potential for archaeological resources associated with the historical phase of the first rail line construction (1885- 1887), with the potential archaeological resource potentially reaching the threshold of local heritage significance. The HHA identified a moderate potential for archaeological resources associated with the historical phases of the CME building itself (1885 to early 2000s), with this resource unlikely to meet the threshold of local heritage significance.

The HAA recommended archaeological monitoring of the subsurface works under a s139(4) excavation permit exemption prior to the commencement of any ground-disturbing works on site.

8.8.2. Aboriginal Archaeology and Cultural Heritage Values

Based on the assessment of Aboriginal cultural heritage in Section 7 above, as well as the proposed plans presented in Appendices D and F, there are unlikely to be impacts on Aboriginal cultural heritage values (intangible heritage) within the subject site as part of this scope of works. The subsurface impacts are proposed in the area of Aboriginal archaeological potential RNE-PAD001 (as identified in Artefact 2022), therefore, an Aboriginal Cultural Heritage Assessment Report (ACHAR) with a programme of archaeological test excavations is required to be prepared in accordance with relevant Heritage NSW statutory guidelines.

8.9. Heritage Interpretation

A Heritage Interpretation Plan (HIP) has been prepared for the CME Building and its key objectives are to:

1. Articulate an interpretive vision for the Chief Mechanical Engineers Building in alignment with the overarching Heritage Interpretation Strategy for the RNE Paint Shop sub-precinct.

2. Outline the proposed interpretive process for the study area.

3. Identify constraints and opportunities that may impact the implementation of interpretation.

4. Identify and summarise the key interpretive themes and storylines for the study area.

5. Develop a set of interpretive recommendations to be further developed.

The adaptive reuse of the building has provided an opportunity for the building's history to be thoughtfully considered, both now and in the future. The CME building is presently geographically and thematically disconnected from the wider Eveleigh Railway Workshops (ERW) site and there is an opportunity to implement engaging interpretive strategies to aid the reconnection of the CME Building to both the Paint Shop sub-precinct and wider Redfern North Eveleigh Precinct.

The key themes and storylines developed as part of this process form a strong basis for developing interpretation that is relevant to the history of the study area. In particular, there is an opportunity to create meaningful interpretation that not only celebrates the significance of the CME Building and its relationship to the surrounding area, but also the scientific and mechanical advances alongside its historic relationship as part of the ERW and their role in the Sydney Rail Network.

The key CME themes identified are:

- Vision and Vantage – Under a Watchful Eye
- From train of thought to fruition

8.10. Assessment Against the Overarching CMP Policies

The Overarching CMP prepared by OCP and updated by Curio in 2022 includes several relevant policies and guidelines for the ERW precinct. Although the CME Building does not sit within the ERW curtilage listed on the SHR, the subject site was historically part of the ERW precinct and, therefore, the policies and guidelines included in the Overarching CMP are applicable to the site.

Overall, the proposal is commensurate with the conservation policies for the former ERW and considered appropriate within the heritage context of the site and wider precinct.

Appendix B presents a full assessment of the proposed works against the relevant policies.

8.11. Assessment Against the CME CMP Policies

The CMP prepared by Curio for the CME building in 2022 includes several policies regarding the conservation of the building's heritage significance, its proper management and future use, among others.

Overall, the proposal is commensurate with the conservation policies described in CME CMP and considered appropriate within the heritage context of the CME Building and wider precinct.

Appendix B presents a full assessment of the proposed works against the CMP policies.

8.12. Summary of Heritage Impact

Table 9.2 presents a summarised assessment of the potential heritage impacts associated with the CME Building upgrade proposal.

Table 8.2: Summary of the heritage impact associated with the proposal.

Proposed Alterations	Summary of Heritage Impact
Adaptive reuse of the building	Positive impact The CME building has been underutilised and inaccessible to the public for the past 20 years, which has led to its complete neglect and decay. Despite the efforts to improve its exteriors in 2017, the interiors remain deteriorated and unoccupied. The proposed adaptive reuse of the site creates an opportunity for the CME building to remain relevant and meet contemporary and future users' needs. The proposed commercial use for office purposes is consistent with the original use of the site, which housed administrative and design offices related to the ERW's daily activities. The proposal also offers the opportunity to return the CME building to be a key strategic location within the ERW and will help to activate the northern face of the site, bringing people to occupy the site and appreciate its heritage significance and fabric.
Building Interiors • General arrangement • Amenities • Stairs and Lift • Openings • Fireplaces	Minor to moderate impact Overall, the proposed alterations to the building interiors have been carefully studied to minimise adverse impacts to the original fabric and significant view lines whilst ensuring new amenities and accessible solutions are respectfully inserted to allow the operation of future tenants and compliance with current standards. Therefore, the minor to moderate impacts associated with the introduction of the lifts, amenities, and openings are necessary and appropriate to allow the building to be adaptively reused in the future.
Building Exteriors • Envelope • Balcony and Verandah	Minor impact The proposed alterations to the building envelope aim to retain the original elements and architectural composition of the facades whilst improving their overall condition and implementing recessive and minimal solutions to provide equitable and safe access to future users and visitors.
Landscape • Wilson Street frontage • Eastern garden • Rear	Positive impact The proposed landscape works will improve the overall condition of the external areas of the building and restore original routes and obstructed view lines throughout the site (e.g. Wilson Street & CME Building, eastern garden & CME Building, North Eveleigh & CME Building). The accessibility solutions implemented will help to reinstate the northern frontage as the primary entry to the building and attract more visitors to the site by providing an egalitarian experience to all. Therefore, the works will have a positive impact on the heritage values of the site.
Services	Minor impact The proposed services have been carefully designed to reuse the existing Ground Floor underfloor and roof space to run the ductwork, pipework, and cable trays while taking into consideration the orientation of the timber joists and existing penetrations. The only service running within the First Floor floorspace will be the sprinklers.

Proposed Alterations	Summary of Heritage Impact
	New rooms, enclosed areas and the stormwater tank have been strategically located to minimise impacts and avoid alterations to the original layout, fabric and significant viewlines. The proposed fire sprinkler system has been introduced to avoid the need for fire stairs, which would significantly impact the heritage significance and fabric of the building. Therefore, the proposed works are necessary for the future use and operation of the site and will have a minor impact on the building.
Materiality and lighting	Neutral to positive impact The proposed materiality for the CME building will retain the existing finishes, materials and colours, and restore the integrity of the damaged materials. Proposed new materiality will be limited to new bathrooms and end-of-trip facilities and, where original toilets are to be replaced, the chosen materiality will be based on the existing finishes as a contemporary reinterpretation of the original rooms. Therefore, the proposed materiality is assessed as having a neutral to positive impact on the overall significance of the building. Proposed lighting is anticipated to have a positive visual impact as it will help highlight the original features of the façade, attracting the attention of passersby to the CME building.
Moveable Heritage Items	Positive impact The retained elements within the former CME Office will allow users and visitors to have an understanding of how the room was used and configurated in the past. The removed elements have been incorporated into the Heritage Interpretation Plan for the building, ensuring they continue to be celebrated. Therefore, the proposal will have a positive impact on the heritage values of the site.
Conservation and Restoration Works	Positive impact The Condition Report and Schedule of Conservation Works provide clear guidelines and recommendations to avoid adverse impacts on the heritage fabric of the building that could potentially detract from its significance. Therefore, provided that during the construction phase the report is closely followed and respected, the conservation and restoration works have the potential to have a major positive impact on the building, allowing the interiors of the building to be occupied once again and appreciated on a daily basis.
Heritage Interpretation	Positive impact The adaptive reuse of the building has provided an opportunity for the building's history to be thoughtfully considered, both now and in the future. Engaging and meaningful interpretive initiatives will be developed and implemented to aid the reconnection of the CME Building to both the Paint Shop sub-precinct and the wider Redfern North Eveleigh Precinct.

Proposed Alterations	Summary of Heritage Impact
	In addition, the interpretation solutions will help to activate the site, attracting visitors to explore the precinct upon arrival and learn about the unique stories of the CME Building and former ERW. Therefore, the heritage interpretation strategy will have a positive impact on the heritage values of the site.

9. Conclusions and Recommendations

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9.1. Conclusions

This Statement of Heritage Impact has assessed the proposed adaptive reuse and revitalisation of the CME in the context of the landmark heritage values of the CME Building within its streetscape setting and within the precinct of the former ERW.

As discussed throughout this report, the CME building has been underutilised and inaccessible to the public for the past 20 years, which has led to its neglect and decay. Despite the efforts to improve its exteriors in 2017, the interiors have remained in a highly deteriorated and unoccupied state for at least 20 years.

The proposed adaptive reuse and revitalisation of the site creates an opportunity for the CME building to remain relevant within the Darlington community and the former ERW, whilst meeting contemporary and future users' needs. The proposed commercial use for office purposes is consistent with the original use of the site, which housed administrative and design offices related to the ERW's daily activities.

Throughout the design process, Curio and the Transport for NSW Heritage Team have provided extensive heritage input and advice to assist in the development of a final design that has sensitively considered the heritage context and values of the site, both internally and externally.

Overall, the proposal has been well considered with respect to the heritage items, fabric, values, and overall significance of the site and wider precinct. The proposal introduces carefully considered design elements such as the lift and new amenities as well as proposes the restoration and conservation of the significant fabric retained.

Materiality and lighting have also been carefully designed to be neutral and/or recessive additions to the site. Although subject to further detail, it is anticipated that they will help to highlight the original fabric of the building whilst being easily identifiable as contemporary insertions.

Further, the proposal offers the opportunity to return the CME building as a key landmark location within the ERW, helping to activate and celebrate the precinct. The building upgrade and interpretation initiatives will attract visitors to the site, encouraging them to interact with and celebrate the heritage values of the building for the first time in more than 20 years.

Therefore, the proposal is assessed to have an overall positive heritage impact on the fabric and significance of the CME Building and is strongly supported on heritage grounds.

9.2. Recommendations

9.2.1. Built Heritage

- The CME CMP prepared by Curio should be used as the principal document to guide the conservation and management of the CME Building.
- All works with the potential to have an impact on the heritage significance of the site should be overseen by a qualified heritage specialist with proven experience and qualifications in the field of heritage conservation.
- All works with the potential to have an impact on the heritage significance of the site should be undertaken by a qualified tradespeople with proven experience and qualifications in the field of heritage conservation, including a heritage carpenter/joiner to restore the original staircase.

- The restoration and conservation works proposed for the CME Building should follow the guidelines and recommendations provided by *the Condition Report and Schedule of Conservation Works* prepared by Curio Projects, 2022, (Appendix C) to avoid adverse impacts on the heritage fabric of the building that could potentially detract from its significance.
- Existing fireplaces currently covered by modern fabric should be incorporated into the proposed design as much as possible to allow visitors and users to celebrate their historical fabric.
- Proposed doors to be pinned back in an open position should be carefully installed utilising sympathetic and fully reversible fixing methodologies.
- Where possible, material salvaged from the proposed demolition works should be reused either to repair sections of existing fabric in poor/damaged condition; and/or to incorporate original material into the design of the new interpretation initiatives where appropriate.
- The design and materiality for the new bathrooms and end-of-trip facilities should be developed in consultation with a qualified heritage specialist to ensure they will consist of a sympathetic insertion within the heritage context of the CME Building.
- The detailed design of the proposed lighting, including model, style and colour temperature, should be developed in close consultation with a qualified heritage specialist to ensure it highlights the original fabric of the building without any adverse impact on its integrity or significant view lines.
- The heritage interpretation strategy for the site includes meaningful initiatives to celebrate the history of the site and the few remaining moveable heritage items, particularly the ones proposed to be removed (e.g., mirror, toilet bowl, washbasin).

9.2.2. Historical Archaeology

In accordance with the above conclusions, the following recommendations are made:

- Archaeological Monitoring

  As subsurface excavations are proposed in areas assessed as having moderate and low-moderate potential to contain archaeological resources that may contain historical and research significance at a local level, it is recommended that archaeological management in the form of monitoring be carried out under a *s139(4) excavation permit exception*.

  a. *s139(4) excavation permit exception*. A s139(4) excavation permit exception allows for archaeological test excavations under Exception 2(d) or monitoring under Exception 2(e) to confirm the presence of significant archaeological resources. However, it does not permit the removal of, or impact to, archaeological 'relics' of local or State significance as defined by the Heritage Act. Impacts to 'relics' are only permitted under a *s140 excavation permit* (see below). While no application is required for a *s139(4) excavation exception;* an Archaeological Research Design (ARD), Archaeological Work Method Statement and Unexpected Finds Procedure must be prepared prior to works commencing and used to guide the archaeological program. Investigations must be carried out by a qualified archaeologist.

  b. Should unexpected relics be identified over the course of the works, works will cease immediately and Heritage NSW will be notified, in accordance with the Unexpected Finds Procedure.

- Additional Works

  Should any additional impacts to the proposed scope outlined in Section 6 be proposed, an addendum to this report will be required to assess the impacts.

9.2.3. Aboriginal Archaeology

- The subject site has one known registered Potential Aboriginal Deposit (PAD) within its boundary.
- As subsurface impacts are proposed in the area of the Aboriginal archaeological potential RNE-PAD001 (as identified in Artefact 2022), an Aboriginal Cultural Heritage Assessment Report (ACHAR) with a programme of archaeological test excavations is recommended in accordance with relevant Heritage NSW statutory guidelines prior to the commencement of any construction works within the area identified as PAD001.

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Appendix A

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Appendix A

AHIMS Search

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : CME

Client Service ID : 706164

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2597	Wynyard St Midden	GDA	56	333469	6247920	Open site	Not a Site	Shell : -, Artefact : -	Midden	102494,102763,102765
	Contact	**Recorders**	Mr.D Coe					**Permits**		
45-6-3899	ES-PAD-2018-01	GDA	56	334251	6247993	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Tse Siang Lim					**Permits**	4818	
45-6-2822	USYD: Central	AGD	56	332750	6248550	Open site	Valid	Artefact : -		100302,102494,102763,102765
	Contact	**Recorders**	Jo McDonald Cultural Heritage Management see GML					**Permits**	2554	
45-6-3848	244 Cleveland Street	GDA	56	334070	6248750	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Comber Consultants Pty Limited,Ms.Veronica Norman					**Permits**		
45-6-4050	RNE-PAD01	GDA	56	333218	6248353	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Artefact - Cultural Heritage Management - Pyrmont,Mr.Michael Lever					**Permits**		
45-6-2745	University of Sydney Law Building PAD	AGD	56	332350	6248740	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102201,102494,102763,102765
	Contact	**Recorders**	Doctor.Jo McDonald					**Permits**	2153,2320,2443	
45-6-2767	Tent Embassy	AGD	56	332680	6248680	Open site	Valid	Aboriginal Resource and Gathering : 1		102494,102763,102765
	Contact T Russell	**Recorders**	Bill Lord					**Permits**		

Appendix B

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Appendix B

Assessment of the proposal against the Overarching CMP Policies.

Overarching CMP Policy	Policy Description	Assessment/Comment
Overarching Policy 1. Retention of Significance	*The Statement of Significance for the Eveleigh Railway Workshops site contained in this Overarching CMP (...) should be adopted as the basis for its heritage management. All decisions should consider and seek to retain the values identified in this Statement of Significance.*	**Met.** The Statement of Significance for the ERW provided by the 2022 Overarching CMP as well as the site-specific Statement of Significance for the CME Building provided by the 2022 CME CMP have been adopted as the basis for heritage management of the subject site and wider precinct, and the concept design of the present proposal.
Overarching Policy 2. State Heritage Register Boundary	*An appropriate State Heritage Register boundary for the Eveleigh Railway Workshops site must be retained to ensure that the heritage significance of the whole complex is considered when planning for future changes.* *Any future proposal to amend the State Heritage Register boundary should ensure that elements, spaces and values of Moderate or greater significance are incorporated, as identified in:* *- the Statement of Significance for Eveleigh Railway Workshops (...);* *- Gradings of Significance (...); and* *- detailed assessments undertaken in reports for individual precincts of the site.*	**Met.** The proposal does not include any alterations to the SHR boundary of the Eveleigh Railway Workshops.
Overarching Policy 3. SHR Listing	*The various SHR listings for the Eveleigh Railway Workshops should be updated to reflect revised site context and recent findings, including as documented in reports for individual precincts of the site, to facilitate a holistic approach to management.*	**Met.** The Statement of Significance, Assessment of Significance against the NSW Criteria, and the Grading of Significance of the CME Building presented in this report (Chapter 5) are based on the 2022 CME CMP prepared by Curio. This CMP has revised and updated information supporting the assessment of heritage significance of the site provided by the previous 1997 CMP (Paul Rappoport Architect & Caldis Cook Group), considering the changes that have occurred since 1997.
Overarching Policy 4. Further Research	*Further research should be undertaken in the future to provide greater understanding of the values that contribute to the*	**Met.** Extensive additional research undertaken with respect to the ERW from 2015 to date for South Eveleigh, Redfern Station and North Eveleigh

Overarching CMP Policy	Policy Description	Assessment/Comment
	significance of the Eveleigh Railway Workshops, with consideration for the identification of potential national values.	has not revealed any additional information or research that would alter or impact the existing established levels of significance for the site.
Overarching Policy 5. Heritage Management of the Operational Rail Precinct	*A CMP should be developed for the Operational Rail Precinct, including the former Macdonaldtown Gas Works and Stabling Yards, prior to any major proposals which could impact on heritage significance. This should be developed in accordance with this Overarching CMP.*	Not applicable.
Overarching Policy 6. Early Advice	*Ensure that appropriate heritage professionals are involved at an early stage for major works proposed to any part of the Eveleigh Railway Workshops site, including to address relevant heritage opportunities and constraints relating to proposals, prior to design work commencing.*	Met. TfNSW, on behalf of TAHE, has commissioned Curio as the heritage consultant to provide specialist heritage input and advice to the proposed design and prepare all relevant heritage documentation as part of the SSD proposal. Curio has also been the principal heritage consultant for the southern portion of the former ERW (South Eveleigh) and has been involved in the Redfern North Eveleigh precinct renewal project.
Overarching Policy 7. Collaboration	*New design and conservation teams should work together from initial stages through design concepts, design development and construction.*	Met. The design team and consultants, including Curio, have been working collaboratively to ensure the proposed design will be a sympathetic addition to the heritage context of the site and wider precinct, retaining the original, significant fabric and heritage values of the building.
Overarching Policy 8. Authority Consultation	*For major development proposals and for overall site masterplans for any part of the Eveleigh Railway Workshops site, incorporate appropriate consultation with authorities during the concept design and design development stages so that any relevant stakeholders' concerns can be addressed.*	Met. The CME building proposal has been discussed and reviewed by several key stakeholders to date, including the DPE, Heritage NSW, City of Sydney Council, the Greater Cities Commission (GCC) and Government Architect NSW (GANSW) as well as other key stakeholders including but not limited to Aboriginal stakeholders and the local community. Comments, suggestions and concerns have been discussed and addressed to ensure the proposal is respectful and appropriate. Ongoing consultation will continue throughout the next phases of the project.
Overarching Policy 9. Ownership	*If any part of the Eveleigh Railway Workshops site, including the identified precincts and any smaller areas within these, passes from public ownership or its use changes, appropriate heritage covenants and/or a heritage conservation agreement should be placed on land titles where there are identified heritage assets in perpetuity to ensure the adequate maintenance of the heritage assets and the provision of public access where appropriate.*	Noted.

Overarching CMP Policy	Policy Description	Assessment/Comment
Overarching Policy 10. Obligations and Opportunities of Ownership	*The obligations of and opportunities for future owners in relation to heritage conservation should be clearly defined. Relevant heritage management documents, including Conservation Management Plans, Heritage Assessments, and this Overarching CMP, should be included affecting any part of the Eveleigh Railway Workshops site.*	Met. The proposed design for the CME Building has been developed to be fully aligned with the obligations, opportunities, and constraints identified in the 2022 CME CMP, the 2022 Overarching CMP and its addendum prepared by Curio[139], as well as other relevant heritage documentation, such as the Burra Charter and the NSW Heritage Manual.
Overarching Policy 11. Management Framework	*The Overarching CMP and individual precinct CMPs must be adopted by land owners and managers as the basis for the effective management of the significant heritage values of the Eveleigh Railway Workshops site. Any change of ownership must be planned and well managed to ensure the item's significance is conserved. An effective management structure must be prepared to include identification of management roles and responsibilities, the role of specialist consultants, and identify how future site users will be made fully aware of their responsibilities to ensure that the principles, policies and guidelines are integrated fully into the ongoing conservation and management of the place.*	Met. All relevant heritage documentation, including the 2022 CME Building CMP and the 2022 Overarching CMP, has been utilised as a basis for the development of the proposal and will be used for the future management of the site and its heritage values.
Overarching Policy 12. Management of Precincts	*The management structure implemented for areas under separate ownership within the Eveleigh Railway Workshops site should integrate conservation work, new development and ongoing maintenance and management of their respective sites with demonstrated consideration for their context as part of the Eveleigh Railway Workshops complex where applicable.*	Met. The 2022 CME CMP provides specific policies and guidelines to ensure the management structure for the CME building is consistent with the ERW precinct, taking into consideration the relationship between the two, including visual sightlines, physical connection/access, historical background and others, to ensure the CME Building remains connected and cohesive with the wider ERW precinct.
Overarching Policy 13. Coordination	*Establish measures to coordinate management objectives between different owners and managers of any part of the Eveleigh Railway Workshops site in the context of the collective heritage conservation and management of the whole site. Attendance at regular meetings between the various representatives should be implemented at minimum.*	Noted.

[139] Curio Projects, 2022. *Overarching Opportunities & Constraints - ERW*. Prepared for Transport for NSW.

Overarching CMP Policy	Policy Description	Assessment/Comment
Overarching Policy 14. Eveleigh Railway Workshops	*Within the individual precincts of the Eveleigh Railway Workshops, promote the idea that these are part of the wider Eveleigh Railway Workshops complex via coordinated management initiatives relating to heritage conservation, adaptation, signage and wayfinding, interpretation, urban design elements, landscape, views and vistas and physical site links. Initiatives should be developed in collaboration with managers and owners of the individual precincts to ensure that a consistent approach is taken.*	Met. The proposal has been developed considering the design principles of the draft 2021 Masterplan for the Paint Shop Sub-Precinct in order to ensure a consistent approach is implemented throughout the Redfern North Eveleigh precinct and wider ERW. Heritage interpretation, wayfinding signage, and public art, among others, will be designed taking into consideration the work that has been prepared for the adjacent buildings and wider precinct.
Overarching Policy 15. Best Conservation Practice	*Ensure that conservation, maintenance and new work within the Eveleigh Railway Workshops site is undertaken in accordance with current conservation and planning methodologies.*	Met. The proposal has been developed in accordance with best practice heritage management principles and guidelines of the relevant heritage documentation, including the Burra Charter and the NSW Heritage Manual.
Overarching Policy 16. Adoption of Overarching CMP and Precinct Specific Heritage Management Documents	*The conservation policies set out in this Overarching CMP, and related precinct documents, must be adopted by owners, managers and site users as a guide to future conservation and development of the place.*	Met. The conservation policies set out in the 2022 CME CMP and 2022 Overarching CMP have been adopted as a guide to the heritage management of the CME Building and the design development of this proposal. In addition, this assessment of the proposal against the CMP policies has been prepared to ensure the appropriate redevelopment of the site and future conservation of its heritage values.
Overarching Policy 17. Review of Conservation Management Plans	*Conservation Management Plans, including the individual precinct Conservation Management Plans, must be reviewed and updated within five years to remain relevant to ongoing change and use of the place, and statutory compliance. A review of these documents should also be undertaken after significant changes to the property.*	Met. The conservation policies set out in the 2022 Overarching CMP and the 2022 CME CMP have been adopted as a guide to the heritage management of the CME building and the design development of the present proposal. In addition, this assessment of the proposal against the CMP policies has been prepared to ensure an appropriate redevelopment of the site and the future conservation of its heritage values.
Overarching Policy 18. Recording of Maintenance and Change	*Undertake detailed recording of the site components, spaces, fabric and features before, during and after any works including archival photographic records and measured drawings in accordance with NSW Heritage Division guidelines.*	Not applicable at this stage. However, prior to any construction works commencing, a detailed archival recording of the CME building and its site components, spaces, fabric and features should be undertaken. The works during the construction stage and after completion should also be included in the archival photographic recording document as well as the measured drawings in accordance with the Heritage NSW guidelines.
Overarching Policy 19.1. Moveable Heritage	*The management of items of moveable heritage within the Eveleigh Railway Workshops should be coordinated across the various site precincts and items must be managed in accordance with:*	Met. The 2022 Heritage Interpretation Plan (HIP) prepared for the site proposes the heritage moveable collection identified in the SHR, S170, CME

Overarching CMP Policy	Policy Description	Assessment/Comment
	- Moveable Heritage Principles, NSW Heritage Office (now Heritage NSW, Department of Premier & Cabinet) and the Ministry of Arts, 2000; *- Object in their Place, NSW Heritage Office (now Heritage NSW, Department of Premier & Cabinet) 1999; and* *- Policies and recommendations for items of moveable heritage contained within the individual precinct-specific CMPs and heritage assessment.*	CMP and OHM Consultants report are incorporated as part of meaningful and innovative interpretative solutions to be installed within the site.
Overarching Policy 19.2. Moveable Heritage Survey & Registers	*Current surveys and production and/or update of moveable heritage collection registers should be undertaken for all precincts with a relevant moveable heritage collection, to ensure the documentation of moveable heritage items across the entire Eveleigh Railway Workshops site are current and able to be managed accordingly. The relevant SHR listings should be updated with current details regarding the nature and location of moveable heritage collections across all precincts.*	Met. Curio has assessed the available documentation addressing the CME site heritage moveable collection and has undertaken site inspections to identify the items on site and assess their current condition and location. Curio did not have access to the Scientific Services Building where items of the collection have likely been stored as noted in the OHM Consultants report.
Overarching Policy 20. Archaeology	*The archaeological (including Aboriginal and/or European/ historical) potential of parts of the Eveleigh Railway Workshops site should be managed and conserved in accordance with:* *- the archaeological provisions of the NSW Heritage Act 1977;* *- National Parks & Wildlife Act 1974; and* *- policies and recommendations for archaeology contained within the individual precinct-specific CMPs and heritage assessment.*	Met. Curio undertook and consulted relevant heritage assessments in accordance with the NSW Heritage Act 1977 and National Parks & Wildlife Act 1974 to assess historical and Aboriginal archaeological potential. Policies and recommendations for archaeology, such as the 2022 Overarching CMP, 2022 CME CMP and other relevant heritage documentation were also drawn upon to guide Curio's heritage assessment process.
Overarching Policy 21. Future Use	*Any future use of the Eveleigh Railway Workshops site or part thereof must respect the cultural significance of the place and its association as part of a larger railway precinct. Appropriate future uses should be determined by site owners and managers with consideration for the following criteria:* *- sympathetic to the significance of the overall site and the configuration of existing buildings;* *- sympathetic to the industrial character of the place;* *- sympathetic to established uses within the locality;* *- utilise traditional entry points and circulation routes as a priority over new circulation routes and entry points;*	Met. The proposed adaptive reuse of the CME building is commensurate with the heritage values and significance of the site and wider precinct. The proposal demonstrates best practice in the reuse and activation of the heritage building to retain its longevity and significance without adversely impacting the building's heritage values or physical integrity.

Overarching CMP Policy	Policy Description	Assessment/Comment
	- do not result in unacceptable levels of wear and tear on extant fabric to be retained.	
Overarching Policy 22. Future Work	*The site should be considered holistically when planning future works, including open space areas, buildings, extant structures and site elements. Future work should be planned with demonstrated consideration for the significant heritage qualities of the whole Eveleigh Railway Workshops site, in addition to that of its individual components and the surrounding heritage conservation areas.*	Met. The proposal has been developed as part of the extended vision for the Redfern North Eveleigh precinct as the cultural significance of the CME Building is deeply connected to the wider ERW. As a result, the design choices, future use, public domain improvements, interpretation and public art initiatives, among others, are all consistent with the work developed throughout the ERW in addition to being expanded upon to ensure the unique and specific history of the CME Building are also represented.
Overarching Policy 23. Symbiotic Relationships	*Maintain a symbiotic relationship between all parts of the Eveleigh Railway Workshops site when introducing new elements. For example, the design of boundary fencing or other elements situated on the site boundaries, planning layouts, signage, materials and plantings, should reflect that the individual precincts are part of a larger site.*	Met. The CME Building proposal has been developed to be consistent with the wider ERW, in particular to the Redfern North Eveleigh Precinct. As a result, the design choices have been made to ensure new insertions within the site are carefully designed as well as sympathetic, recessive and neutral in relation to the heritage fabric and background of the ERW.
Overarching Policy 24. Maintain and Develop Public Access	*Management objectives for future use and development should:* *- encourage uses and/or opportunities to facilitate public visitation and interpretation of the whole Eveleigh Railway Workshops site and its elements, where viable, within the limits of security required for operation of the site and physical security; and* *- maintain and develop visual and pedestrian connections between the individual precincts of the Eveleigh Railway Workshops site based on the major historical vistas, access points and cultural significance of the place.*	Met. TfNSW, on behalf of TAHE, has commissioned Curio to prepare a Heritage Interpretation Plan for the CME Building to create opportunities to encourage community engagement, including walking tours, exhibition spaces, and public art as well as digital and online products.
Overarching Policy 25. Public Domain	*Public domain areas should be consistent across the whole site i.e. they should be designed and managed with demonstrated consideration for their interrelationship with other public domain areas throughout the Eveleigh Railway Workshops site to facilitate coherent presentation and linkages throughout the wider site.*	Met. The proposal has been developed considering the heritage values and future character of the ERW, in particular the Redfern North Eveleigh Precinct and the draft 2021 Masterplan for the Paint Shop Sub-Precinct.

Overarching CMP Policy	Policy Description	Assessment/Comment
	Future design of the public domain areas should be sympathetic and respond to the industrial character of the site.	
Overarching Policy 26. Funding Public Domain Works	*Obtain and allocate necessary funding for public domain works, for example via developer contributions or other grant funding to be identified.*	Not applicable.
Overarching Policy 27. Coordinated Approach to Interpretation	*The individual precincts within the site should be interpreted as part of a major railway workshop facility and the approach should be consistent in terms of form and scale across the entire Eveleigh Railway Workshops site. Interpretation of the Eveleigh Railway Workshops site should interpret the historic use and layout of the site and also its links to the surrounding context.*	Met. The proposal has been carefully developed considering the heritage background of the site and historical context of the ERW precinct to ensure the building's adaptive reuse is consistent, cohesive, and respectful of the site's and precinct's heritage significance.
Overarching Policy 28. Associations	*The coordinated approach to interpretation for the Eveleigh Railway Workshops site should convey a coherent story about how the place operated, in particular addressing the functional layout of the workshops, yards, sheds and general stores etc. that enabled the various divisions to communicate, in the manner of a production line, yet operate without interference. The general planning and layout of rails contributes to this interpretation.*	Met. As the CME Building sits within the Redfern North Eveleigh precinct and was an integral part of the working life at the Eveleigh Railway Workshop, the Heritage Interpretation Plan for the site has been developed to ensure the relevant history that links the site to the precinct is aligned. However, the themes for this HIP have been expanded upon to ensure the unique and specific stories of the CME Building are also told.
Overarching Policy 29. Review of Interpretation	*The interpretative media and strategy that is implemented in the future should be reviewed at maximum five year intervals as part of the management and maintenance of the site and its individual precincts, including to check for condition/vandalism, upgrading of content and location etc. The need to establish a funding mechanism over time to provide for coordinated ongoing maintenance and upgrading of interpretive media should be considered by all site managers/owners in a collaborative manner.*	Noted.
Overarching Policy 30. Funding Interpretation	*Obtain and allocate necessary funding for interpretation, for example via developer contributions or other grant funding to be identified.*	Met. The design development, fabrication, and installation of interpretation products within the CME site will be part of the detailed design stage and will be funded by TAHE. The interpretation products will be further developed and detailed as per the Heritage Interpretation Plan for the site prepared by Curio and submitted as part of this proposal.

Overarching CMP Policy	Policy Description	Assessment/Comment
Overarching Policy 31. Appropriate Expertise and Skills	*Skilled conservation professionals, including but not limited to conservation architects, archaeologists, builders and engineers, should be engaged to advise on, document and/or implement conservation and upgrading work and future development proposals for heritage assets on any part of the Eveleigh Railway Workshops site.*	Met. TAHE has commissioned highly experienced, specialist consultants to develop the CME Building upgrade project. Curio has been involved with various redevelopment projects within the former ERW, including South Eveleigh and Redfern North Eveleigh, as the principal heritage advisor since 2015 and has a deep understanding of the heritage significance and values of the precinct. Curio has been providing key specialist heritage and archaeological advice throughout the pre- and post-SSD stages of all developments in the broader precinct, and has developed physical heritage interpretative installations, exhibitions, cultural heritage and digital products displayed throughout the precinct. Along with Curio, TAHE has commissioned other highly experienced consultants that have been involved with other heritage projects across NSW to ensure the project development and future management of the CME site adheres to best practice.
Overarching Policy 32. Community Participation	*Ensure that adaptive reuse, interpretation and new development on any part of the Eveleigh Railway Workshops site includes meaningful community consultation. Provide opportunities to involve railway interest groups and other interested community groups and individuals in the development of proposals for the site as appropriate, and as identified in the individual conservation planning documents for each site.*	Met. Consultation meetings to present and discuss the proposal have been carried out with the key stakeholders including but not limited to Aboriginal stakeholders and the local community.

Assessment of the Proposal against the CME CMP Policies.

CME CMP Policy	Policy Description	Assessment/Comment
1. Conservation Planning		
Policy 1.1 Documentation & Updated Listings	*The present CMP should be used as the principal document to guide the conservation and management of the CME Building.* *This CMP should be adopted by TAHE and TfNSW.* *The SHR listing for the Chief Mechanical Engineers Building should be updated by Heritage NSW to reflect the findings of this CMP and the updated CMP prepared by OCP Architects and updated by Curio in 2022 (Eveleigh Railway Workshops Overarching Conservation Management Plan).*	Met. The 2022 CME CMP has been used as the principal document to guide the proposal.
Policy 1.2 Relevant Documentation	*Other relevant documentation prepared for the ERW site should be consulted in combination with this CMP, including:* • *S170 Heritage and Conservation Register;* • *Eveleigh Railway Workshops Overarching Conservation Management Plan prepared by OCP Architects and updated by Curio in 2022.* • *Eveleigh Workshops Management Plan for Moveable Items and Social History 1996 (or as revised);* • *Redfern North Eveleigh—Precinct Renewal Paint Shop Sub-Precinct: Heritage Interpretation Strategy prepared by Curio in 2022;* • *Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works prepared by Curio in 2022;* • *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building prepared by Curio in 2022.* *In the event of any inconsistencies, this CMP should prevail.* *Heritage and planning aspects of future documents should be prepared to be consistent with this CMP.*	Met. All mentioned documents have been considered during the development of the proposal and have contributed to the concept design.
Policy 1.3 Selling or Leasing the CME Building	*In the event the building is sold or leased on a long-term basis, adequate provisions should be included within the sale/lease contracts to ensure the conservation and maintenance of heritage assets on the site is carried out in accordance with this CMP. A copy of the CMP should be included as part of the sale/lease contract.*	Noted.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 1.4 Updates to this CMP	*This CMP should be reviewed by the owner and a qualified heritage specialist every five years.* *Specific policies within the CMP should be reviewed and updated in light of new circumstances, including changes to the management or ownership of the site and include recorded works (Policy 1.6) subsequent to the issue date.*	Noted.
Policy 1.5 Tenancy Guidelines	*In the event the building is leased to single or multiple tenants, a handbook should be prepared by the owner, in close consultation with a qualified heritage specialist, to provide guidelines for future tenants. The handbook should include directions to ensure any future fit-out consists of a sympathetic and respectful insertion within the building, providing appropriate design specifications and/or references such as colour schemes, materiality, style, fixing methodologies, etc.*	Not applicable to this stage. However, a Tenancy Guideline Handbook will be developed prior to the building being leased to single or multiple tenants.
Policy 1.6 Approvals	*All proposals involving the CME Building are subject to the provisions of the NSW Heritage Act 1977 and should be assessed against the conservation policies of this CMP.* *A Statement of Heritage Impact (SoHI) should be prepared by a qualified heritage specialist to assess the works with the potential to have an impact on the heritage significance of the CME building, including works not permitted under the Standard Exemptions, and propose appropriate mitigation measures if necessary.* *A Photographic Archival Recording should be prepared for alterations to elements of moderate or above significance (as per Section 6 of this CMP), in accordance with Heritage NSW guidelines.* *Note: See Guidelines for Photographic Recording of Heritage Sites, Buildings, Structures and Moveable Items (1998), prepared by the Heritage Office.*	Met. The present table has been introduced to this Statement of Heritage Impact to assess the proposal against the 2022 CME CMP conservation policies.
Policy 1.7 Standard Exemptions	*Maintenance works, cleaning, and minor repairs should be undertaken in compliance with the Standard Exemptions under Section 57(2) of the Heritage Act. Any works that are not compliant with the Standard Exemptions are subject to the standard approval pathways.* *The CME Building is not subject to any site-specific exemptions.*	Noted.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 1.8 Unexpected Finds	*The management of unexpected and unforeseen finds, including survival of early building fabric or any relevant unknown information, should comply with the policies in this CMP and be assessed prior to making decisions about its future management.*	Noted.
2. Conserving Heritage Significance		
Policy 2.1 SHR Listing	*The CME Building and the moveable heritage items listed on the SHR are of State heritage significance and should be conserved and protected as well as be central to all future decisions about the place including its interpretation.*	Met. The proposal will retain and conserve the heritage fabric and significance of the CME Building and its moveable collection, restoring its physical integrity and promoting its future use in interpretation initiatives so that the site can remain relevant, activated and appreciated by users and visitors.
Policy 2.2 Burra Charter	*Conservation of the CME Building and the moveable heritage items should be in accordance with the definitions and principles of The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013.*	Met. The proposal has been developed in careful consideration of the definitions and principles of The Burra Charter.
Policy 2.3 Heritage Movable Items	*An audit of all SHR moveable heritage items and items identified as significant on the Chief Mechanical Engineer's Office and Scientific Services Building—Moveable Heritage Survey (OHM Consultants, 2012) should be undertaken and suitably documented.* *Moveable heritage items should be managed carefully to protect their physical integrity. Where possible, the items should be incorporated into the heritage interpretation strategy for the site to ensure they are fully appreciated by users and visitors.*	Met. Curio has assessed the available documentation addressing the CME site heritage moveable collection and has undertaken site inspections to identify the items on site and assess their current condition and location. Curio did not have access to the Scientific Services Building where items of the collection have likely been stored as noted in the OHM Consultants report. For further detail refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
Policy 2.4 Qualified Professionals	*All works with the potential to have an impact on the heritage significance of the site should be carried out and overseen by suitably qualified consultants and tradespersons with proven experience and qualifications in the field of heritage conservation.*	Met. TfNSW, on behalf of TAHE, has commissioned Curio as the heritage consultant to provide specialist heritage input and advice to the proposed design and prepare all relevant heritage documentation to assist with the SSD proposal. Curio has been the principal heritage consultant for the southern portion of the former ERW (South Eveleigh) and has also been involved in the Redfern North Eveleigh precinct renewal project.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 2.5 **Impact on Significant Elements**	*Adverse impacts on the significance of the site and its components should only be permitted where:* • *enables the recovery of aspects of greater significance;* • *collaborates to improve or ensure the security and viability of the place;* • *no feasible alternative is viable (e.g., safety, compliance, legal requirements);* • *adequate recording of the item, area, or other relevant aspects has been undertaken;* • *full assessment of alternative options has been undertaken to minimise adverse impacts.* *The Significance Assessment presented in this report (Section 6 Significance) should be used as a reference to identify the degree of contribution of individual elements to the significance of the CME when considering potential impacts of any proposed works. However, the potential heritage impact on the element should not be assessed in isolation. Any assessment should adopt a holistic approach, considering the cumulative impacts on the entire site and wider precinct.*	Met. The proposal has been developed to minimise adverse impact on the original elements within the site, carefully assessing multiple options, whilst ensuring the works are compliant with current standards. The proposal will have an overall positive impact on the heritage significance of the site and its components as it will restore the building's physical integrity, promote its adaptive reuse and activation and implement innovative and meaningful interpretation initiatives to bring to life the history of the site.
Policy 2.6 **People & Communities**	*The social significance of the CME Building to the local and Aboriginal community, former workers and the NSW railways community should be acknowledged. Community interest provides a valuable resource for understanding the interpretation of the significance of the place.*	Met. The Heritage Interpretation Plan prepared by Curio in 2022 for the CME Building incorporates strategies and themes that will highlight the social significance of the site to the local and Aboriginal community, as well as for the former workers and NSW railways community. Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
Policy 2.7 **Aboriginal Cultural Heritage**	*Any future site work relating to Aboriginal Cultural Heritage should refer to the Connecting with Country Framework written in 2022 by Balarinji for the RNE Precinct and relevant legislation as outlined in Section 5 Archaeology.* *Any physical impact across or abutting the registered AHIMS site (PAD -001) located in the gardens east of the CME Building, will require an ACHAR and Aboriginal community consultation prior to any works.* *Any future site works or initiatives relating to Aboriginal cultural heritage and significance should be consulted with the Aboriginal stakeholders.*	Met. TfNSW and Ethos Urban advised Curio that the 2022 report prepared by Artefact Heritage (*Redfern North Eveleigh Precinct Renewal Project Aboriginal Heritage Study— Paint Shop Sub-Precinct*) has comprehensively assessed the study area regarding Aboriginal cultural heritage and therefore fulfills this SEAR. An Aboriginal Due Diligence report (*Chief Mechanical Engineers Building—Aboriginal Due Diligence Assessment*) has been prepared by Curio and includes an overview of the identified Aboriginal cultural values of the study area, a summary of the

CME CMP Policy	Policy Description	Assessment/Comment
		previous Aboriginal cultural heritage assessments to date, the findings and recommendations of Artefact 2022 and details of a meeting with Project RAPs to provide a Project update.
Policy 2.8 Historical Archaeology	*Any future works requiring excavation and/or below ground impacts should be proceeded by a historical archaeological assessment, specific to the location and nature of the proposed impact.* *Where archaeological assessment determines that archaeological investigation of a potential historical archaeological resource is required within the CME Building subject site, archaeological investigation should be guided by a Historical Archaeological Research Design (ARD) and will require excavation permits in accordance with the NSW Heritage Act 1977 and a Section 60 Excavation Permit.* *All historical archaeological excavations undertaken within the site should be carried out under the supervision of an Excavation Director who meets the Heritage NSW criteria for directing archaeological excavations of local and/or State significance (depending on the nature of the potential archaeological resource being investigated).*	**Met.** TfNSW, on behalf of TAHE, has commissioned Curio to prepare a Historical Archaeological Assessment to assess the potential archaeological impact. Please refer to *Chief Mechanical Engineers Building Historical Archaeological Assessment.*
Policy 2.9 Significant Visual Connections	*Significant visual connections and specific views within the site, to and from the former ERW precinct should not be obscured, in particular view lines from the former Chief Mechanical Engineer Office (G10) and Drawing Office (F6) to the wider precinct.* *If significant views are required for the essential operation and/or adaptive reuse of the site and precinct, mitigative measures should be developed and undertaken, including implementing interpretive solutions to help offset the visual impact.*	**Met.** The proposal has been developed taking into consideration the relationship between the subject site and the ERW, including visual sightlines and the visual and physical connection/access to ensure the CME Building remains connected and cohesive with the wider precinct. No significant view lines within the site as well as to and from the ERW precinct will be obstructed by the proposed works.
3. Management of the Chief Mechanical Engineers Building		
Policy 3.1 Connection with the ERW	*Management of heritage significance must also consider the adjacent SHR curtilage for the ERW, as the CME Building historically forms part of the precinct.* *The relationships between the two sites, including visual sightlines, physical connection/access, historical background and others, should be conserved and highlighted where possible, to ensure the CME Building remains connected and cohesive with the wider ERW precinct.*	**Met.** The CME Building proposal has been developed to be consistent with the wider ERW, in particular to the Redfern North Eveleigh Precinct. As a result, the design choices have been made to ensure new insertions within the site are carefully inserted within the site as well as sympathetic, recessive and neutral in relation to the heritage fabric and background of the ERW.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 3.2 **Maintenance, Repair and/or Reconstruction**	*Maintenance of the CME Building should be carried out regularly to monitor the physical condition and integrity of the significant fabric.* *Where necessary, significant fabric should be replaced or repaired on a like-for-like basis. Removal of original fabric should only take place where it has deteriorated to a condition beyond feasible retention. In this case, a representative sample of the original fabric should be recorded, catalogued, stored on site, and interpreted where appropriate.*	Noted. Maintenance, repair and reconstruction works will be undertaken based on available evidence to reinstate the physical integrity of the heritage fabric. A Heritage Asset Management Strategy will be prepared and implemented to guide the ongoing monitoring and maintenance of significant fabric in the post-development operational phase.
Policy 3.3 **Fire Safety**	*A BCA consultant must be engaged to ensure the CME building is adapted to meet current BCA standards with minimal impact on its heritage fabric. If required, a sprinkler system (preferred option) and/or a second fire staircase should be installed to ensure fire safety for the occupants of the building.*	Met. TfNSW, on behalf of TAHE, has commissioned a BCA consultant during the design development stage to ensure the current standards are met. After careful consideration of the potential impacts associated with the addition of a second fire staircase, the design team, advised by Curio and TfNSW, has opted to install a sprinkler system instead to ensure fire safety for all building occupants.
Policy 3.4 **Air Conditioning System**	*An optimised air conditioning system should be installed throughout the CME building to replace any gas heaters, ceiling fans, window and/or wall mounted air conditioners.* *Any ductwork, pipework, cable work, or condenser units associated with the air conditioning system must be concealed appropriately.*	Met. All gas heaters, wall and window mounted units and ceiling fans will be removed as part of the proposal. Several air conditioning systems have been considered in order to minimise adverse impacts on the building fabric and significant view lines. The chosen option, a Free-Standing FCU system, does not require additional roof space or below-ground installation. It utilises floor-standing units instead of ceiling or wall-mounted units and avoids penetrations and fixings to the original fabric or any obstructions to view lines.
Policy 3.5 **Ceiling**	*The suspended T-bar grid ceilings are intrusive and should be removed.* *Where possible, original lathe and plaster ceilings should be conserved and restored, including decorative cornices and ceiling roses. Where not possible, ceilings should be reconstructed based on available evidence.*	Met. The proposal includes the removal of the intrusive suspended T-bar grid ceilings and the reconstruction and/or restoration of the original ceilings.
Policy 3.6 **Roof**	*Repair works to the existing roof should be carried out.*	Met. The proposal will restore the physical integrity of the existing roof, allowing the building to be properly used in the

CME CMP Policy	Policy Description	Assessment/Comment
	Thermal upgrades should be considered to improve the efficiency of the roof without compromising the original fabric left and without having any additional visual impact on the CME Building when viewed from the surrounding precincts.	future, and will improve the overall building envelope appearance.
Policy 3.7 Colours and Treatments	*Further investigation should be carried out to determine the original surface colours and treatments of internal and external surfaces.* *The results of the investigation should be taken into consideration when developing sympathetic colour schemes and treatments for future use of the site, including the preparation of the tenancy guidelines for future fit-outs within the building.*	Noted. To be undertaken as part of the detailed design stage.
Policy 3.8 Flooring	*Original timber flooring should be retained in situ, patched, polished and overcoated.* *Where replacement is necessary, additional timber should be sourced from second hand yards and heritage building material recyclers, and chosen to best match the original timber.*	Met. The proposal will retain, restore and reconstruct the original timber flooring.
Policy 3.9 Verandah	*Further investigation should be carried out to determine the original paving material from the verandah. The paving should be either restored/reconstructed or replaced with a sympathetic and durable material consistent with the architectural style of the building.*	Met. Investigations undertaken by Curio have concluded that the verandah original flooring is uneven and unsuitable for providing equitable access. Therefore, the proposal will install a more appropriate material to ensure the longevity and accessibility of the verandah whilst being sympathetic to the original sandstone edging and overall building materiality.
Policy 3.10 Balcony	*The balcony balustrade, columns, and filigree should be repaired and properly maintained as required. Alternative solutions should be investigated to meet the required BCA standards regarding the safety of the balustrade (e.g., height, climbability, etc.) without adversely impacting the item's significance or the façade composition.*	Met. The integrity of the balconies and their original components will be fully retained and restored. To comply with the minimum height required by the BCA and avoid physical and visual impacts on the original fabric of the building, a compliant glass balustrade will be installed behind the cast-iron balustrade. The materiality and design of the proposed balustrade will be transparent and recessive to minimise any visual impacts on the façade composition.
Policy 3.11 Intrusive Fabric	*Remove any intrusive fabric within the building, including modern fixtures (e.g., sinks, laboratory equipment) and cabinetry, unless the items are considered appropriate for reuse as part of the heritage interpretation strategy for the site as physical evidence of the historical evolution of the CME Building.*	Met. The proposal includes the removal of intrusive fabric, including fixtures and cabinetry.

CME CMP Policy	Policy Description	Assessment/Comment
	Refer to Section 9 Inventory Sheets for the grading of significance of such items.	
Policy 3.12 Building Envelope	*Retain the original fabric and character of the CME Building envelope, including form, shape, scale, bulk and massing, as well as the façade composition, rhythm and articulation.* *Intervention to the envelope should be minimal and not detract from the significance of the site.* *Intrusive and/or detracting fabric should be removed unless it is considered appropriate for reuse as part of the heritage interpretation strategy for the site as physical evidence of the historical evolution of the CME Building.* *Refer to Section 9 Inventory Sheets for the grading of significance of the existing fabric.*	Met. The proposal will fully retain the building envelope, only introducing glass balustrades to the First Floor balconies to comply with the minimum height required by the BCA. The materiality and design of the proposed balustrade will be transparent and recessive to minimise any visual impacts on the façade composition.
Policy 3.13 Site Frontage	*Re-establish the historical importance of Wilson Street as the primary access to the site.* *Re-establish the main entry (G3) to the CME Building as the historical, primary entrance to the building.* *Promote equitable access to the northern entries (G3 and G8) to ensure the building is adequately adapted and can be fully appreciated by all users and visitors.*	Met. The proposed works for the Wilson Street Frontage have been designed to reinforce and re-establish the northern face of the site as the primary entry to the CME building as well as to promote equitable access to the site.
Policy 3.14 Site Rear	*Improve the usability of the rear portion of the site to strengthen its relationship with the wider ERW precinct. Options to incorporate the rear portion of the site into the precinct landscape design are encouraged to reinstate the importance of the CME Building within the precinct.* *Intrusive and/or detracting fabric should be removed.* *Viewscape between the site and the wider precinct should be retained, in particular view lines from the former Chief Mechanical Engineer Office (G10) and Drawing Office (F6), to improve the relationship between the CME building and the wider ERW.*	Met. The proposal will improve the overall condition and appearance of the rear portion of the site, which will become highly prominent within the North Eveleigh Precinct after the 2021 Masterplan for the Paint Shop Sub-Precinct is implemented. In addition, significant view lines between the site and the wider precinct will remain unobstructed.
Policy 3.15 Garden	*A qualified landscape design specialist should be engaged to develop a restoration plan for the eastern Victorian garden based as much as possible on available evidence. If insufficient evidence is available, an Indigenous garden should be considered.* *Mature, native species should be maintained whilst weeds and intrusive planting be removed. The historic flagpole should be retained, restored, and properly structured to ensure safety and its longevity on site. The garden must be frequently maintained to retain its prestigious appearance.*	Noted. The final landscape design of the eastern garden will be subject to a separate future development proposal; however, minor works are proposed to improve the overall condition of the area.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 3.16 **Fence**	*Remove any intrusive modern fabric that detracts from the significance of the site, including the existing security fence. Alternative methods should be implemented to achieve security without impacting the movement routes around the site and the wider ERW precinct.* *The existing northern fence (excluding the two stone posts) consists of a modern addition, is currently in poor condition, and is not commensurate with the architectural style of the CME Building. The fence should be replaced with a more appropriate design and scale, sympathetic to the architectural style of the building and visually permeable to allow views of the CME building.*	Met. The eastern fence separating the CME building and the eastern garden will be fully removed in order to restore the movement routes within the site. In addition, the northern fence will be replaced by a contemporary, minimal palisade fence. Its low height and distance between the fence posts will preserve views through the fence, allowing the building to be appreciated by passers-by along Wilson Street.
Policy 3.17 **Fireplaces**	*Original fireplaces should be retained and, where possible, fully uncovered.* *Where original elements such as the mantles have been removed or damaged, they should be reconstructed based on available evidence.*	Met. The proposal includes the existing fireplaces to be retained, restored, and/or uncovered.
Policy 3.18 **Openings**	*All original windows and doors should be retained and/or restored to their original condition if necessary.* *Any openings that need to be modified to meet current BCA standards should retain their architraves and the removed door leaves should be reused or reinterpreted (e.g., doors could be fixed parallel to the wall in an open position).*	Met. Original doors and windows have been predominantly retained as part of the proposal. The proposal only intends to replace two original doors which can be fully reused to accommodate the new openings within the building. In circulation areas, the door leaves will be pinned back in an open position to meet the BCA requirements and allow users to appreciate the original fabric in situ.
Policy 3.19 **Skylights & Dormer Accretions**	*The skylights and dormer accretions in the former Drawing Office (Room F6) should be retained and remain visible and unobstructed.*	Met. The skylights and dormer accretions will be fully retained and, where necessary, repaired. The proposed layout will also retain clear views to the elements, allowing users to appreciate them.
Policy 3.20 **Fixing Methodologies & Reversibility of New Fabric**	*New fabric to be installed within the site must utilise sympathetic and fully reversible methodologies to protect the physical integrity of the fabric and reinstate its original condition if required. Acceptable methodologies include bracing, and clamping, among others.* *A qualified heritage consultant must be commissioned to provide advice and input into the chosen fixing methodologies.*	Met. The design team, advised by Curio, has developed and specified sympathetic and fully reversible methodologies to ensure minimal impact and the protection of the integrity of the original fabric.
Policy 3.21	*New fit-outs within the buildings should propose sympathetic and contemporary additions to the interiors, proposing neutral elements that do not detract from the*	Not applicable at this stage.

CME CMP Policy	Policy Description	Assessment/Comment
New Tenancy Fit-outs	*building's significance or permanently impact the original fabric. These include new partitions, lighting, wayfinding signage, joinery, furniture, soft furnishing (e.g., blinds/curtains), fixtures, and finishes, among others.*	
Policy 3.22 Accessibility	*Where possible, the building should incorporate accessibility solutions to promote equitable access to all users and visitors in accordance with the latest BCA/DDA standards.*	Met. The proposal includes accessibility solutions throughout the site to ensure all visitors can experience the CME Building equally, including an accessible ramp to the northern garden, ramps to the front and rear doors and balcony, and the insertion of a lift.
Policy 3.23 Cyclical Maintenance Plan	*After reconstruction and repair works are undertaken to restore the building's interior and exterior, a Cyclical Maintenance Plan should be prepared to ensure the physical integrity of the CME building is preserved and properly managed.*	Noted.
4. Adaptive Reuse Opportunities		
Policy 4.1 Conserving Heritage Values	*Future use of the CME Building should continue to embrace the heritage values of the site and wider ERW through the adaptive reuse of its heritage fabric, including the moveable heritage items.* *Proposals for adaptive reuse should respond to the architectural character and historical evolution of the CME building without mimicking or replicating its original fabric. Where visible, new works should consist of contemporary yet minimal/recessive insertions to allow the original and new fabrics to be clearly distinguishable.*	Met. The proposed adaptive reuse of the CME building is commensurate with the heritage values and significance of the site and wider precinct. The proposal demonstrates best practice in the reuse and activation of the heritage building to retain its longevity and significance without adversely impacting the building's heritage values or physical integrity. In addition, new works have been designed to be sympathetic, recessive and contemporary insertions within the building to highlight the original architectural character of the building and allow the original and new fabric to be clearly distinguishable.
Policy 4.2 Potential Heritage Impact	*Proposals for adaptive reuse should be carefully developed to minimise potential heritage impacts on the subject site and wider ERW. The design, scale, form, bulk, and materiality of the new fabric should be recessive and sympathetic to the original fabric and significance of the subject site, also retaining/conserving significant view lines within and into the site.*	Met. The proposal has been developed to be a sympathetic and recessive insertion within the heritage context of the CME Building and ERW precinct without adversely impacting any significant view lines within and into the site.

CME CMP Policy	Policy Description	Assessment/Comment
Policy 4.3 **Communication of Heritage Values**	*Future use of the CME Building should promote active communication of the heritage values of the site and the wider ERW.* *Uses that will collaborate to increase public access should also be considered and encouraged.*	Met. The 2022 CME HIP includes a variety of innovative and meaningful interpretation initiatives to promote active communication of the heritage values of the site and wider precinct, helping to engage and attract users and visitors. Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
5. Heritage Interpretation		
Policy 5.1 **Heritage Interpretation Plan**	*A Heritage Interpretation Plan should be prepared for the CME Building to assist with enhancing user and visitor appreciation and understanding of the history and heritage significance of the site and wider ERW precinct.* *Interpretation on site and within the building should be compliant with the policies within this CMP and executed in accordance with the Heritage Interpretation Plan 2022.*	Met. TfNSW, on behalf of TAHE, has commissioned Curio to prepare a Heritage Interpretation Plan for the site to highlight and inform users and visitors about the history and heritage significance of the site and wider precinct. Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
Policy 5.2 **Consistency with RNE Heritage Interpretation Plan**	*Interpretation of the CME Building should be coordinated with the interpretation of the entire ERW precinct, especially with the Redfern North Eveleigh—Precinct Renewal Paint Shop Sub-Precinct: Heritage Interpretation Strategy. Consistency across the precinct will help communicate the historical links between the different places that comprised the former ERW.*	Met. The CME HIP prepared by Curio has been developed with careful consideration of the Redfern North Eveleigh Heritage Interpretation Strategy to ensure consistency between the subject site and the wider precinct. Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
Policy 5.3 **Tangible and Intangible Values**	*All interpretation initiatives should address both tangible and intangible values of the site, including Aboriginal and historical archaeology, buildings and structures, heritage moveable collection, function and use, natural and cultural landscape and the people associated with the site and wider ERW precinct.*	Met. The 2022 CME HIP includes various interpretation initiatives to address both tangible and intangible values of the site and wider precinct. Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
Policy 5.4 **Innovation, Efficiency and Engagement**	*All interpretation initiatives should seek to communicate with a wide variety of people through a range of innovative, efficient, and engaging solutions and communication methods, responsive to the needs of potential audiences within the local and wider community.*	Met. The 2022 CME HIP includes a variety of innovative and meaningful interpretation products to help engage and attract users and visitors to the site, including walking tours, exhibition spaces, and public art as well as digital and online products.

CME CMP Policy	Policy Description	Assessment/Comment
		Please refer to *Redfern North Eveleigh Precinct Renewal Project - Heritage Interpretation Plan: Chief Mechanical Engineers Building*.
6. Community Involvement & Consultation		
Policy 6.1 Community Involvement	*Regular consultation with the local community and interested groups regarding changes, new works and/or new plans should become part of the future planning for the place.*	**Met.** Consultation meetings to present and discuss the proposal have been carried out with key stakeholders including but not limited to Aboriginal stakeholders and the local community.
Policy 6.2 Community Access to the Site	*Community interest should be engaged as a resource for the conservation and interpretation of the CME Building site and its significant components. Scheduled activities to allow access to visitors to the site, including the interiors of the building, should be encouraged.*	**Met.** The 2022 CME HIP includes multiple opportunities to encourage community engagement with the subject site, including walking tours, exhibition spaces, and public art as well as digital and online products.

Appendix C

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Appendix C

Chief Mechanical Engineers Building—Condition Report and Schedule of Conservation Works

Prepared by Curio in 2022.

Appendix D

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Appendix D

Chief Mechanical Engineers Building—Architectural SSDA Submission

Prepared by CCG Architects in 2022.

Appendix E

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Appendix E

Architectural Design Report—Chief Mechanical Engineers Building

Prepared by CCG Architects in November 2022.

ARCHITECTS
PLANNERS
URBAN DESIGN
INTERIOR DESIGN
HERITAGE
PROJECT PLANNERS
BUILDING AUDITORS

CCG ARCHITECTS

ARCHITECTURAL DESIGN REPORT

CHIEF MECHANICAL ENGINEER'S(CME) BUILDING

November 2022

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Issue	Description	Date	Author	Checked	Authorised
A	Preliminary SSDA Issue	07/11/2022	DC	LH	DC
B	SSDA Issue	11/11/2022	EP	LH	DC

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1. INTRODUCTION

1.1 Project Background

The Chief Mechanical Engineer's (CME) Building in Eveleigh has been vacant for about 20 years; having previously been occupied by the then-State Rail Authority (SRA) and its predecessor organisations. Since 1997 it has declined into dilapidation and disrepair. Urban Growth has taken some responsibility for the building and arranged some urgent exterior repairs and repainting to the exterior some 4 years ago.

The building is a place of State significance and is listed on the State Heritage Register (no. 01139).

As part of the Redfern North and Eveleigh redevelopment works, this CME building has been targeted for improvement and for leasing to a third party.

Transport for NSW (TfNSW) have taken charge of the works, and have tendered the project for a design team to be formed to undertake optioneering, design development, and ultimately tender documents for the building's adaptive re-use as a lease office building.

This project commenced in August 2022, and will progress to early 2023, along with a State Significant Development Application (SSDA) to be lodged in late 2022.

1.2 Project Team

TfNSW have developed a consultancy team for this project and are managing this project internally, as part of the broader Redfern North Eveleigh precinct works. The design team includes:

Architect:	CCG Architects
Services	GHD Engineers
Structural	GHD Engineers
BCA/DDA	Design Confidence
Heritage	Curio
Planning	Ethos
Landscaping	Arterra

1.3 Authorship

This report has been written by CCG, and reviewed by the project team and officers of TfNSW.

1.4 Report Purpose

This report is a brief summary of the design process and the options which have been considered, rejected, adapted, and settled upon.

The building and its context present a number of serious design challenges, most pressingly, the exceptional cultural significance of the place and the need to protect its fabric. Design has been driven by the *Burra Charter* requirements for *adaptation* to a *compatible use* (articles 1.9 and 1.11), and a specialized heritage firm (Curio) have guided, and are responsible for, heritage-related design decisions.

Design has focused on bringing the condition of the building to a tolerable state from its current state of neglect, and amending its failure to meet existing legal standards and contemporary expectations for access. In particular, design challenges have included:

- Immediate and urgent conservation work to stem deterioration caused by neglect,
- Providing equitable access from street level into the building, without steps,
- Compliance with fire and other emergency standards,
- Introduction of an elevator into the building, the result of a TfNSW requirement, and
- General adaptive reuse of the office spaces for generic requirements of a future tenant.

The Chief Mechanical Engineer is a State listed heritage building of high significant and as such it requires the professional design team of personnel skilled in heritage type projects.
The core design process included:

- Review of concept design previously established based on 7 objectives for Good Design including heritage conservation management plan and NSW Government planning design guides such as Explanation of Intended Effect Paint Shop Sub Precinct and Draft paint Shop Sub Precinct Design Guide and relevant future proposals of surround.
- Review and confirm local council code controls related to the site.
- Detail site investigation and analysis of the site and its surrounds to determine site condition, constraints and opportunities in the delivery, evaluation and implementation of good design.
- Produce initial spatial planning based on constraints and opportunities established including in-depth analysis of the users requirements, BCA & DDA compliances and functional spatial characteristic of CME building as new modern office.
- Based on 7 objectives for Good Design, prepare Concept design options by identifying the different alternatives and weighing the pros & cons for critical decision making.
- Liaison with SDRP design review panels and their review & feedback, develop and prepare preferred concept design into final schematic suitable for SSDA submission.

2. REDFERN NORTH EVELEIGH PRECINCT RENEWAL

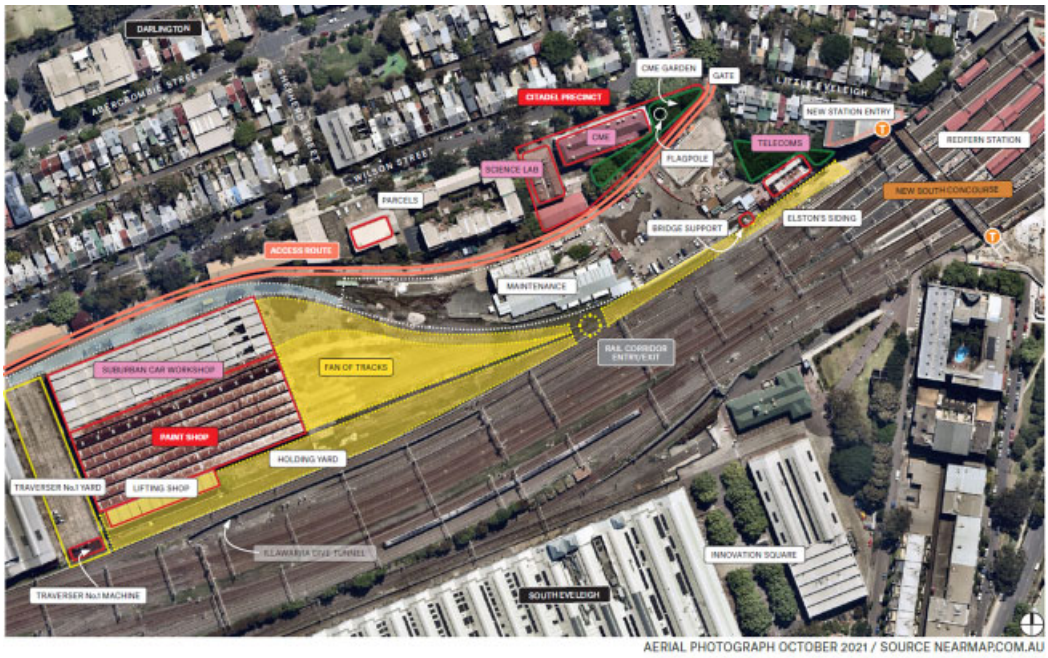


Photo 1: Aerial photo of the precinct and key areas for work.

The Redfern North Eveleigh (RNE) Precinct is a large area to the west of Redfern Railway Station and to the north of the permanent way/rail corridor. The Precinct is an aggregation of various buildings remnant from the area's use throughout the 19th and 20th centuries, as a major site of railway manufacture, maintenance, and design. The Suburban Car and Paint workshops, and Maintenance buildings, are evidence of physical maintenance work, just as the Chief Mechanical Engineers' Building, the Science Lab and Parcels buildings are remaining evidence of the design and administration of NSW Railways from its early history.

These form a culturally significant precinct which is to be heavily developed to accommodate large commercial and residential private development.

A number of strategic planning documents exist to guide the development of this place, including a Strategic Vision and Master Plan.

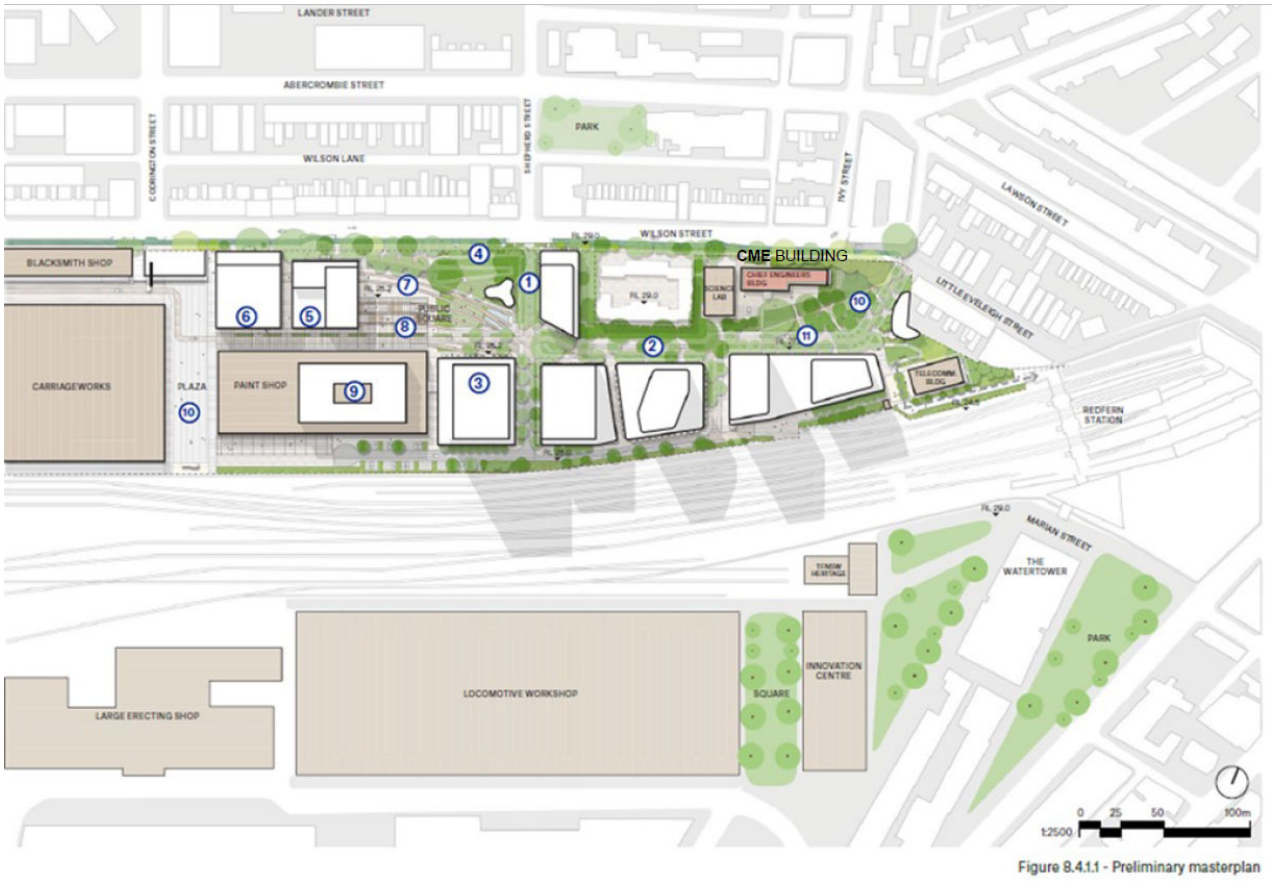


Figure 8.4.1.1 - Preliminary masterplan

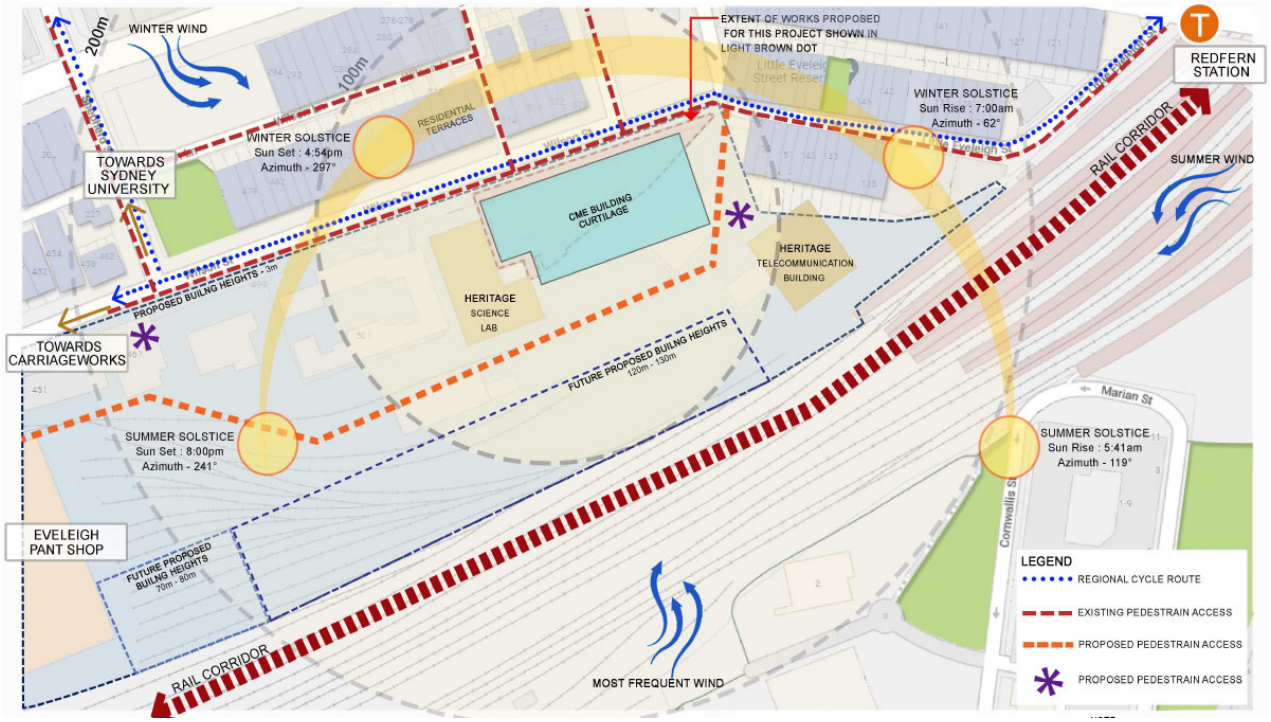
Photo 2: Current Master plan of the precinct.

The CME building will be a key structure within this new precinct, and its street presentation and historical connections to the site make it a unique structure.

The new life of a leased office building in the future will be key to the building's survival and longer term maintenance.

2.1 CME Building

The Site is known as the Chief Mechanical Engineer's (CME) Building. The Chief Mechanical Engineer's Building is located at the eastern end of North Eveleigh on Wilson Street North Eveleigh which is only three kilometers south west of Sydney CBD and just metres from the inner city station of Redfern. It's primary address is 505 Wilson Street, Redfern, NSW 2043. From its deliberate position on the highest ground within the Eveleigh Precinct there is strong visual connection of open view to entire Eveleigh Railway Workshops from rear elevation on South whereas the front elevation of the building faces a leafy suburban residential terraces predominantly single & low density residential. Refer detail to Site analysis plan below;



It is within the Local Government Area of Sydney, within Cumberland County. The legal description of the Site is part of Lot 5 in DP 1175706. The CME is a state significant heritage property asset.

The overall Site of the Eveleigh Railway Workshops engenders high community interest and has a significant profile in the area. The interests of the community and efforts of local volunteers has created a strong sense of ownership and social investment by the community. TAHE intends to lodge a State Significant Development (SSD) application for the work, noting that the Site is located within a State Significant Precinct under SEPP (State Significant Precincts) 2005.

The following table is a summary of the site and building description:

Owner	Transport Asset Holding Entity
State Heritage Listing No:	5014147 (01139)
Legal Reference	Part Lot 5 in DP 11757
Planning Pathway	State Significant Development (under SEPP – State Significant Precinct, 2005)
Proposed Use	Commercial * Subject to Planning confirmation
Gross Floor area	1300 m2 over two floors * Subject to Final Survey

Proposal	Complete building renovation / refurbishment of a significant State Heritage building; • Heritage Refurbishment Works • BCA, DDA and Life Safety upgrades • Hazardous material removal and remediation • Modern kitchenette, breakout areas and amenities • Base building lighting, communications and security upgrades • Air-conditioning

2.2 Design Excellence Pathways

The Heads of consideration of design excellence identified in accordance with Clause 6.21(C) of the Sydney LEP, are generally for a new development building. For this application for an adaptive re-use of an existing and state listed Heritage item, those heads of consideration are not necessarily applicable. By utilising the SEARs as guiding points, the following items are addressed as best suits and supports this application

Our design approach is to create better places and experiences through:

- High standard of architectural design solutions, materials and detailing that are appropriate for CME context, budget and TfNSW's project aspirations through Good design in accordance with the seven objectives for good design in Better Placed;
  Better Fit l Better Performance l Better for Community l Better for People l Better Working l Better value l Better Look & Feel
- Achieving appropriated interfaces at ground level between the building and the Wilson Street public domain placing emphasis on human experience rather than only the pragmatic qualities via excellence and integration of landscape design.

- Generating new forms, methods and interpretations that complement existing heritage fabric improving the everyday interaction with the building.
- Concentration on how office spaces can enhance our well-being instead of reducing architecture to a mere style or an emphasis on technology. Liaison with ESD special consultant seeking to transcend conventional ideas, rules and relationships to achieve safe, comfortable and welcoming feel office environment. Furthermore, without compromising the heritage significance of the CME items, provide improved sustainable design incorporating solar access to allow natural day lights, green space, natural ventilation, visual and acoustic privacy, noise, and necessary work focused amenities and break out spaces at multi locations to improve in an employee's experience at work.

2.3 Project Objectives

Transport for NSW have arranged for a property manager to invite, from the market, options for use which would suit possible tenants. This project will currently allow to improve the building to a 'warm shell' (internal improvements, provision of amenities, and services) ready for a tenant to occupy and undertake their own internal fit-out.

It is not the objective of this project to speculate on possible and specific user requirements, but to provide a shell for future tenant fitout and then occupation.

Design principle	Project application
Retention and improvement of street presentation and location	Reinstated building facades with new front fence & garden works
Safe, easy and egalitarian access to building entry, to and within the building	Wheelchair accessible walkway from Wilson St. to CME main entry incl. new lift running over two levels and accessible amenities provded through out the CME building.
Discreet introduction of new services throughout.	Consolidated service reticulation approach by utilizing existing floor void spaces with existing service's routes salvaged and reused. Designated internal service room to house all indoor service requirements incl. outdoor mechanical plants proposed inside existing WC block shed area retained. In general services proposed where visible are optimized and reduced in size such as fire sprinkler booster assembly along Wilson St.
Design including passive surveillance	Achieved through maximizing visibility through creation of clear sight lines, effective lighting to discourage crime and anti-social behavior.
Sufficient capacity for new tenancy with suitable spaces for lease	BCA persons per m^2 used to calculate occupancy rate & sanitary facilities required.

2.4 Scope of Works

The design team has been engaged to provide warm shell space/ base building works only, for a single tenant, and fit out will be carried out by future tenant with adaptive reuse scope.
The following is a summary of works, which are described in detail in architectural and services drawings:

Ground floor

- Internal
  - Accessible ramps to main CME front entry, 2nd front entry and rear lobby entry with automated doors
  - Internal lift in G4 near main entry
  - Reinstated existing stair in G17 to be updated to meet BCA & DDA compliances.
  - Existing WCs room G18 & G20 are to be retained and refitted
  - Existing WC in room G8 converted into new kitchenette.
  - New changing room & showers in room G16 near rear lobby
  - New service room in G15 including 120/120/120 fire rated electrical room
- External (Refer detail to service engineers, landscape architect's and traffic engineer's drawings and design statements)
  - New garden and fence works.
  - New garden works on East of CME building.
  - New accessible walkway from Wilson St to CME main entrance.
  - Regraded and repaved Verandah on north and external area on west, south and east.
  - Fire sprinkler booster assembly along the Wilson St. frontage on east.

- Mechanical plant, bin storage and bike rack area on south
- In-ground water tank on eastern south.
- Loading area near driveway on Wilson St. as interim measure.

1st floor

- Internal
  - Existing WCs retained and refitted in room F15
  - New kitchenette in room F2
  - New WC in room F3B
  - New accessible WC in room F4B
  - New lift and service shaft in room F4
- External
  - Accessible ramp on 1st floor verandah on East
  - and new glass screening to both 1st floor verandah on west and east to meet BCA. Only make good & repaint works proposed along the 1st floor verandah's

A finishes schedule has been drawn up which details the internal lining finishes room-by-room. Some of these rooms require '100% new' new finishes, where internal lining materials are damaged non-original or unsalvageable.

- G1 - 100% new cornice and ceiling
- G3A - 100% new ceiling
- G4 - 100% new ceiling
- G5 - 100% new flooring
- G8 - 100% new ceiling
- G11 - 100% new flooring and skirting
- G18 & G20 - 100% new flooring & skirting (only refitted to match original finishes)
- G25 - 100% new cornice
- G26 - 100% new cornice
- F3A - 100% new flooring, skirting & ceiling (converting existing wet area to lift lobby)
- F3B & F4B - 100% new flooring, wall tiles & moisture resistance ceiling (min. works for new wet area)
- F15 - 100% new flooring, wall tiles. Refitted works only and extent to match existing

Most of the remainder of the existing finishes and original colour palettes internally and externally will be retained, and/or restored as they are. Reinstated to match existing fabrics and colours will only be undertaken if an element is in unsalvageable condition (as indicated above, as 100% new, if they are non-original and unsalvageable).

In order to reduce heritage impact to the building fabric to minimum, carefully selected new finishes and materials, based on the existing finishes and extent in the similar rooms are proposed, but only where necessary: for example, in the new male WC, accessible WC on first floor, and the shower area in the changing room on ground, all for water proofing purposes. The extent and details will be formulated similar to the existing WCs extant on ground and mezzanine levels.

2.5 Design Compliance

The building design is the result of an ongoing process with a number of changes in its brief. The design brief has been modified a number of times, for inclusion of new and unanticipated items such as:

- Gender neutral changing, and end-of-trip facilities
- Introduction of a lift (not required for BCA or DDA) included as TfNSW request
- Green star rating and the associated requirements
- BCA and DDA requirements for Class 5 Office building
- Extent of front garden and fence works incl. new garden on east

2.6 Design Issues

The following were identified as a range of design issues that have been challenged during the course of the project.

2.7 Accessibility

TfNSW and the design team were required to provide wheelchair access upgrades throughout the CME building, including new front 1:20 walkways from Wilson Street to the CME building entrance, internal front and rear lobby ramps, and ramp to upper and ground floor verandahs, to overcome existing small steps. Since the first floor verandah is an exceptionally significant element of the CME building, it is proposed to provide equitable access to the verandah area for everyone, beyond the requirements of DDA. Existing verandah entries will be used, with localised ramp to one location to serve the main first floor verandah. Currently there is nominal of 150mm one step difference in level between interior of the first floor and external verandah.

In terms of alternative type of ramps considered to minimise the visual impact/ streetscape from Wilson Street following 2 options have been explored:

Option 1: Smallest/ shortest ramp further away from the 1st floor verandah edge
This smallest ramp option was initially investigated, which allowed the new ramp to be set back, away from the edge of the first floor verandah. However, being the smallest and shortest compliant ramp, it triggered other required elements, such as tactile ground surface indicators (TGSIs) and handrails, which would have become more physically intrusive, and visible from Wilson Street. Also, due to the constraint of the narrowness of the existing verandah, it would have left inadequate space on the outside of the ramp for both abled and disabled people to walk around.

Alternatively, a single side ramp outside room F4 was considered as a design, but it would have been more visible, being over and next to the main entrance, and would potentially have involved access through two rooms. This verandah entrance was not viable.

In relation to the small front verandah to the west, there is only a single entry available to access the verandah, and due to the spatial constraint for new landing on the outside, and its visibility from Wilson Street, a design decision was made not to provide ramp access here.

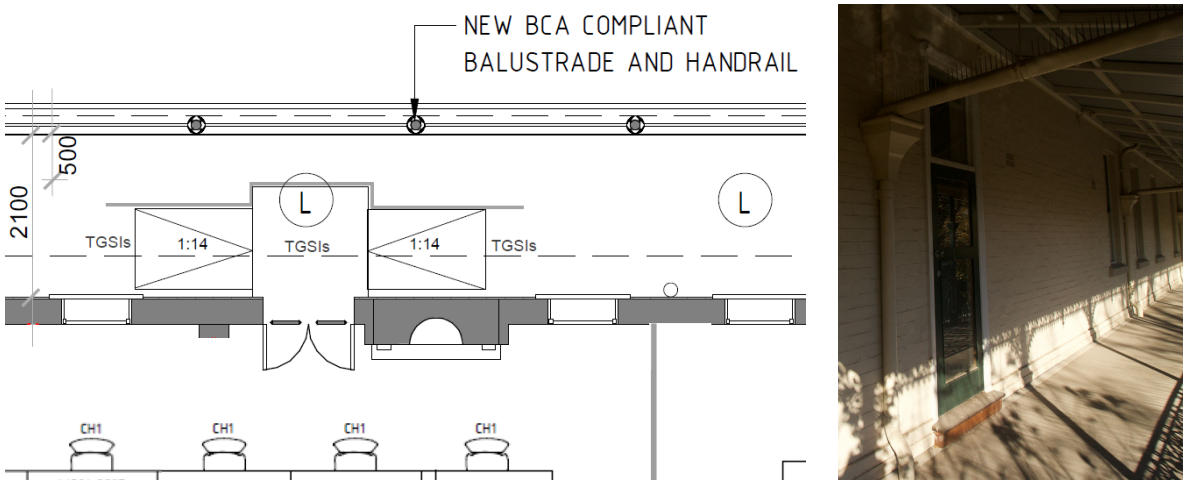


Figure 01. main verandah on East. Smallest ramp option explored in one localised location to overcome existing 1 step.

Option 2 (Preferred): A **more discreet ramp option, without handrails or top-and-bottom TGSIs that would have detracted from the impressive Northern elevation of the building.**

A localised 1:10 sloped ramp, that stops short, away from the existing balustrade, is proposed in the same wooden floorboard material as the existing verandah, to blend in with consistent finishes throughout the first floor verandah.

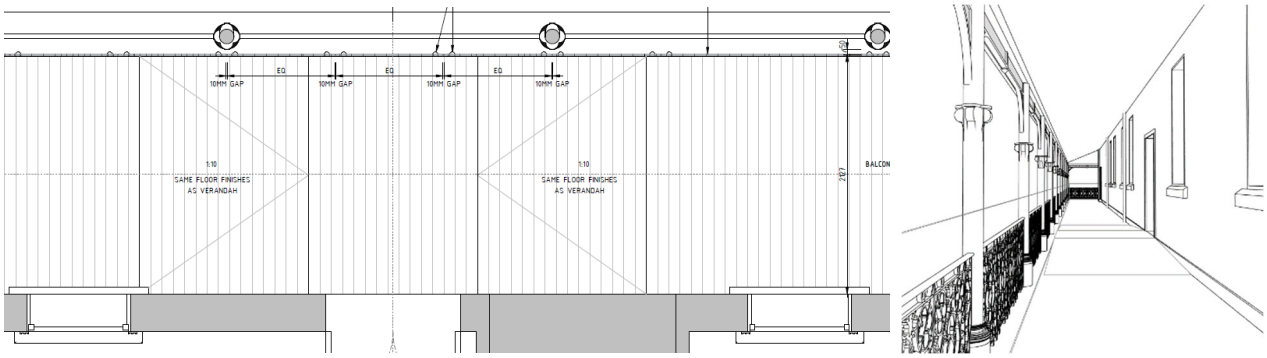


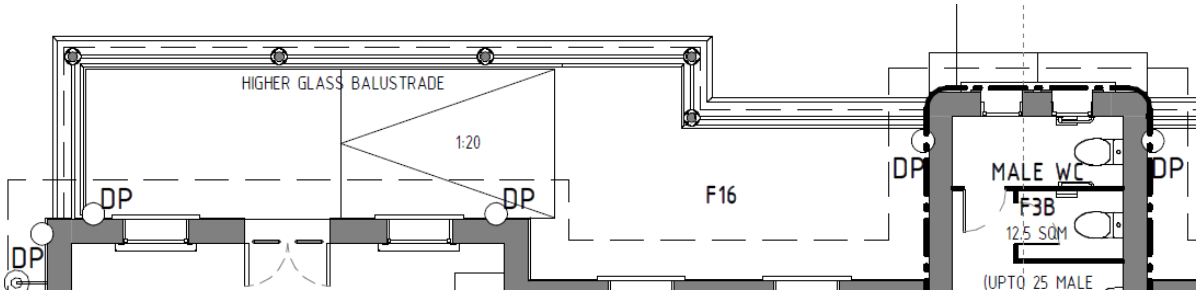
Figure 02. 1:10 walkway without handrails or TGSIs extended to new glass balustrade (Option 2)

From streetscape point of view, the proposed 1:10 gradient ramp gives less visibility from Wilson Street, and not requiring handrails or TGSIs. A design decision was made to extend the single-step high landing to a new glass balustrade screening, sitting behind the existing lattice ironwork balustrade, which is approximately 450mm away from the verandah edge, to mitigate the visibility of this proposed 1:10 ramp and landing. A minimum gap of 150mm (min. to clear the posts as well) between the existing and new balustrades has been provided, for maintenance and cleaning purposes.

For visual discretion the small elevation portion of the single-step high landing (approx. 150mm) will match the heritage green of the existing lattice ironwork.

Figure 03. Localised 1:10 ramp on the main 1st floor verandah on East located well away from the verandah edge - approx. 450mm, discrete and not visible from the street level.

In relation to the small first floor verandah to the west, due to space constraints (with only one access door currently available to the verandah on west), the proposed landing on the outside would have had to be extended to the west. This option was not viable from streetscape point of view and omitted, as the new extended landing would have been visible from the north west corner of the CME.



Discarded ramp option considered on 1st floor verandah on west.

Figure 04. Localised 1:10 ramp on the small first floor verandah on West was eliminated, due to the spatial constraints and excessive visual impact from Wilson Street. This will be only accessible to cleaners and for maintenance.

Lift location & type

It was our design decision to provide a lift to fulfill a modern office environment in addition to the exiting internal stairs. Also, it promotes and encourages equal opportunity for everyone to get access throughout the CME building over 2 levels. A lift was not needed for compliance with BCA/DDA, however for amenity and to enable leasing, TfNSW agreed during the design phase to include a lift.

A range of alternative locations for the positioning of a new lift were explored by the design team. These options are outlined below.

Option 1: External lift arrangement:

As depicted in the sketch below, an external lift on the western side of the rear lobby was explored as the most discrete positioning of the lift. It is tucked in behind the rear lobby on ground and WC on the first floor, to mitigate the visual impact on the South elevation, and to be less intrusive to the views from the future public space to the south, including community pavilion proposed to the east as part of a longer-term Master Plan. This location had minimal physical intrusion on original fabric, and would have involved removing only small extents of walls and windows.

As the location of the CME building is a prominent location at the highest point in the Eveleigh precinct, the entire south elevation can be visible from the public space to the south. A new external lift introduced to the heritage significant South elevation of CME building did not align with the future reorientation of the building towards the public space to the south. It would have had excessive visual impact on this aspect.

Spatial constraints prevent an external lift along the existing driveway to the west.

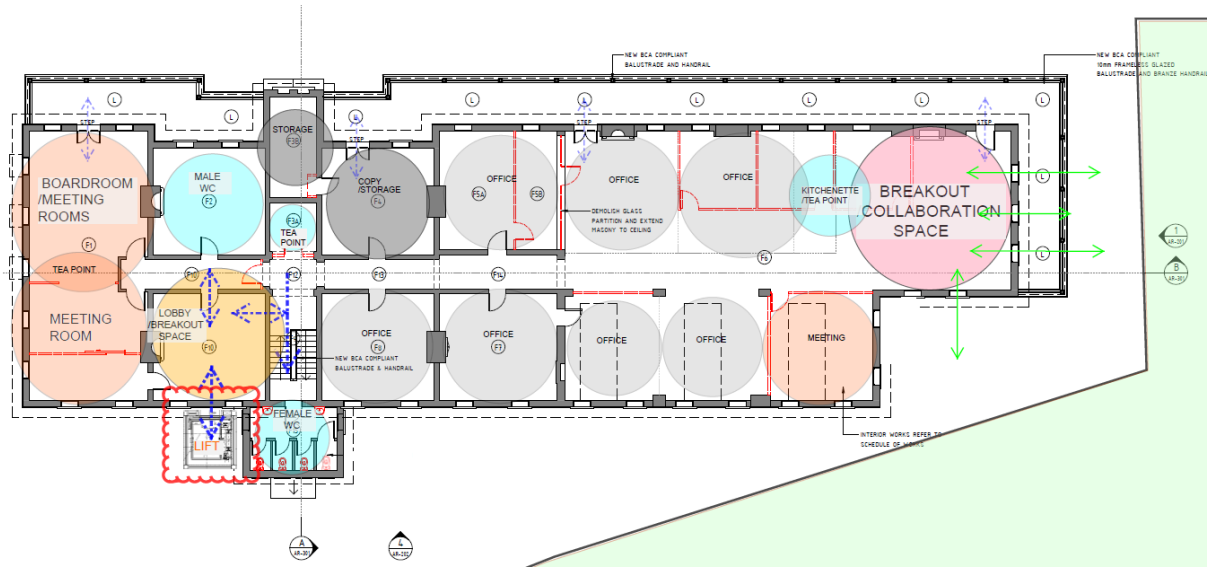


Figure 05. New lift option 1 attached to south elevation externally clouded in red

Option 2: Internal lift arrangement: (PREFERRED)

Since the CME has highly significant façades in prominent and accessible locations, other options were explored to locate the lift internally. Of the rooms adjacent to the main entrance and existing stairs, one space did not have an original fire surround with minimum impact imposed to the internal heritage fabric, and this was agreed by stakeholders and consultants to have the least impact on original fabric moving forward for new lift. Two rooms near rear lobby directly adjacent to the existing stairs been excluded for potential positioning of new lift due to the insufficient circulation space in the existing corridors.

This is a relatively small sized lift car, with a size of 1100mm (width) x 1400mm (depth), which satisfies BCA & DDA compliances. Compared to the alternative considered this lift is less invasive with a small footprint, a shallow pit, and minimised headroom. This option also enables the position of the lift to be closer to the main entrance than a lift with a larger car. This lift option will be readily seen by visitors on entry, providing a strong welcoming element.

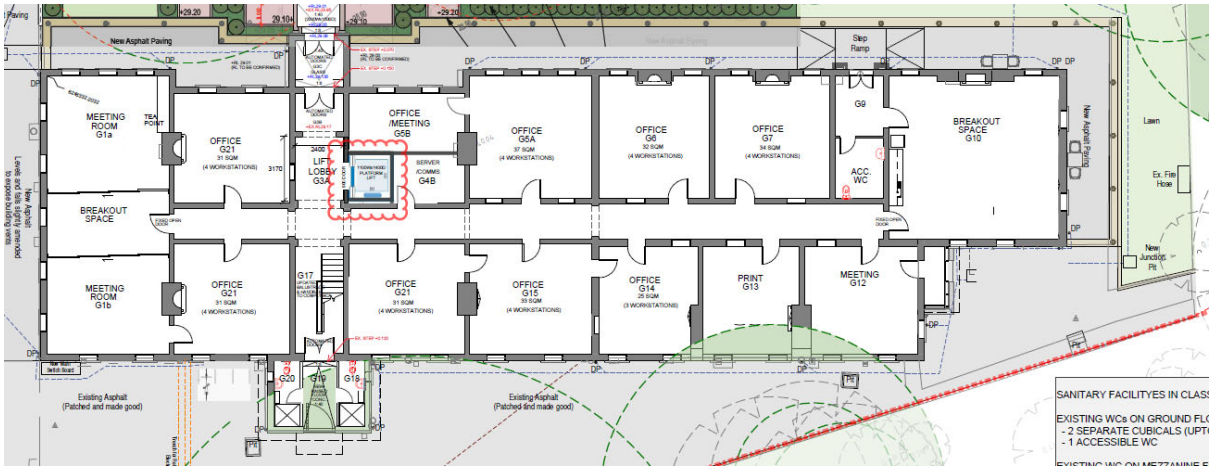


Figure 06. Internal lift near CME main entry clouded in red.

First floor balustrade

To meet BCA compliance requirements, the balustrade must be at least 1m in height and have no gaps greater than 125mm. Climbability of elements is a concern, since the fall to the ground is greater than 4m. A performance solution to BCA was not supported for these safety reasons.

To be able to address BCA issues raised above, and alternative materials other than glass were considered in response to SDRP's feedback, such as a tensile mesh barrier, with apertures no bigger that 125mm, and light weight transparent perspex screen sheeting to prevent someone putting their foot into the gaps of the balustrade lattice. However, from the anti climbability, cleaning maintenance and safety point of views, and especially considering the current poor condition and integrity of existing lattice ironwork balustrade, frameless glass screening, with revised detail designs addressing the issues of cleaning, reflection, and the integration of the original balustrade was far better solution for longevity.

Figure 07. Perspex screening and tensile mesh barriers inferior in cleaning & maintenance and structural point of views and lack of integration with the original balustrade

CCG have proposed a consistent height of 1000mm frameless glass screening behind the existing balustrade with a gap of 150mm for cleaning and maintenance purposes. (1150mm H only where new landings is proposed to comply with BCA). In relation to integration with the original balustrade in foreground, with new frameless glass screen being transparent, the heritage element in foreground and beyond, the glass screening remains intact, and the latticework visible as the dominant significant element. Also from the safety point of view, it can withstand the required load if someone was to lean or fall against it too. In response to SDRP design review panels comment on reflection and cleaning properties of glass, anti reflective and self cleaning glass coatings can be applied to assist the maintenance cleaning regime which uses daylight and rain to break down and wash away organic dirt.

Figure 08. Detail of frameless glass screen behind the existing lattice ironworks balustrade.

In relation to the base fixing of frameless glass, spigots can be fixed to the existing verandah joists to take this load, positioned approximately 450mm away from the edge of the verandah, behind the existing lattice ironworks, to reduce visibility from street level. Darker colour finishes to the bottom fixing spigot are proposed, to blend in behind the existing lattice ironworks balustrade. A top rail has been omitted, to further reduce visibility, since it is structurally not required.

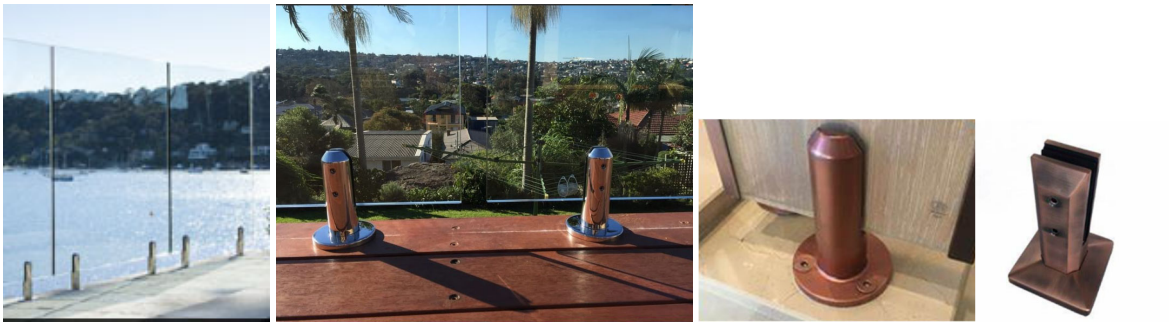


Figure 09. Frameless glass screen behind existing lattice ironworks balustrade

In terms of glass material on façade, as depicted in the photos below, glass is not a foreign material on the northern elevation of the CME building, and these excessively large external glass windows over two levels are one of feature on CME building façade for ample amounts of natural day light, cross ventilation and strong visual connection to outside.


Figure 10. Lots of large glass windows on north façade over two levels.

New wheelchair accessible walkway from Wilson Street.

In response to the SDRP design review panel's comment, alternative options for more discrete entry ramp was developed. A 1:20 wheelchair accessible walkway has been relocated from the prominent proposed location at the front of the building, to the west next to the existing driveway. The scale and bulk of the ramp has been further reduced to a minimum to address and responds to the residential context andstreetscape. Detail is in the landscape architects' drawings.

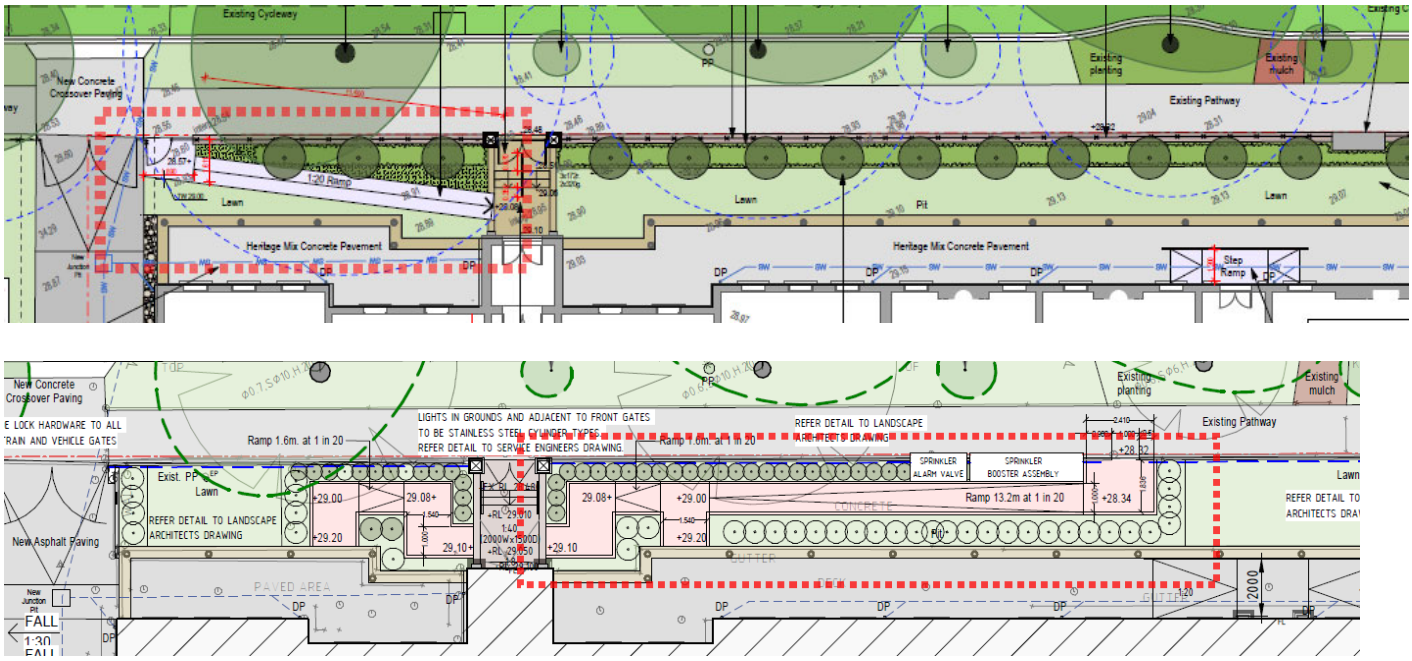


Figure 11. Alternative location options for the entry ramp explored.

2.8 Services

Servicing strategy developed to maintain heritage integrity aesthetic of CME building internally and externally. Overall, our service strategy was to identify and use existing services already available on site consolidating new services into salvaged services route to minimise heritage impact to the building and surrounds.

Bathrooms and amenities

New WCs are introduced to meet BCA & DDA compliances for a Class 5 Office building in addition to existing WCs refurbished;

Occupancy rate using persons per m^2 D1.13 of the BCA.
Ground Floor: 50
First Floor: 56
Total: 106

Currently the existing WCs are located in room G8 on ground to the east, and G18 & G20 on the outside in the rear lobby, whereas room F15 on the mezzanine level is the only WC available for the upper floor. As a result, existing rooms G18 & 20 on ground will refurbished as self-contained WCs, and by utilising existing services available in room G2, new male and accessible toilets will be introduced on the first floor, near the new centralised lift lobby, with consolidated service risers without impact on significant and

original heritage fabric, such as the original chimney breast. The existing WC in room F15, on the mezzanine level, will be refitted into a new female toilet. WC layouts are based on the floor joist layouts. Existing large interior rooms, such as G1 & G10 on ground, and F1 on the first floor, will be refurbished without any new dividing doors, as collaboration spaces, since the existing plan already includes a large number of enclosed rooms which can be used as potential meeting spaces by future tenant.

Kitchenettes will be relocated to enclosed rooms G8 and F2, where existing services are already present, allowing flexibility to future tenant to use the larger rooms such as G10 as multipurpose/collaboration workshop rooms. The design team has been engaged to provide a warm shell space/base building works only for a single tenant, and detailed fit out will be carried out by future tenant, with adaptive reuse scope.

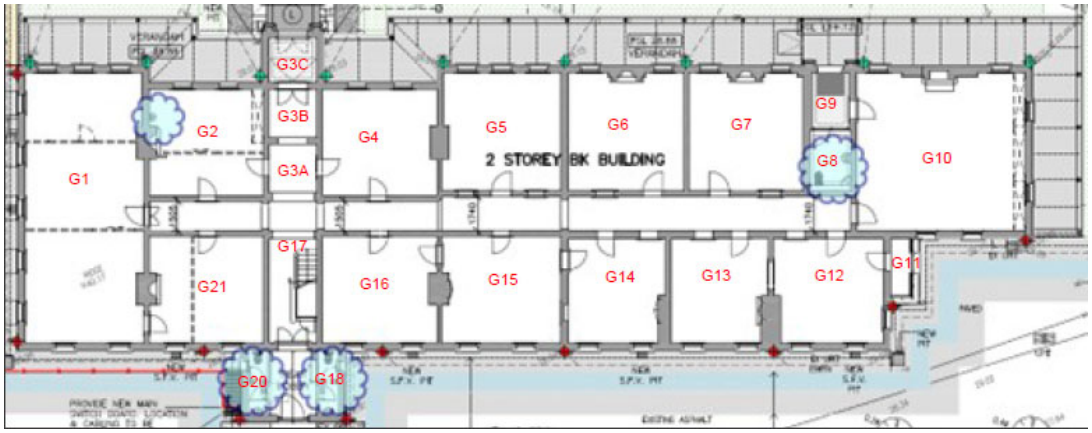


Figure 12. Ground floor existing services identified & clouded in Blue - Room G2, G18&G20 (outside) and G8 to the east.

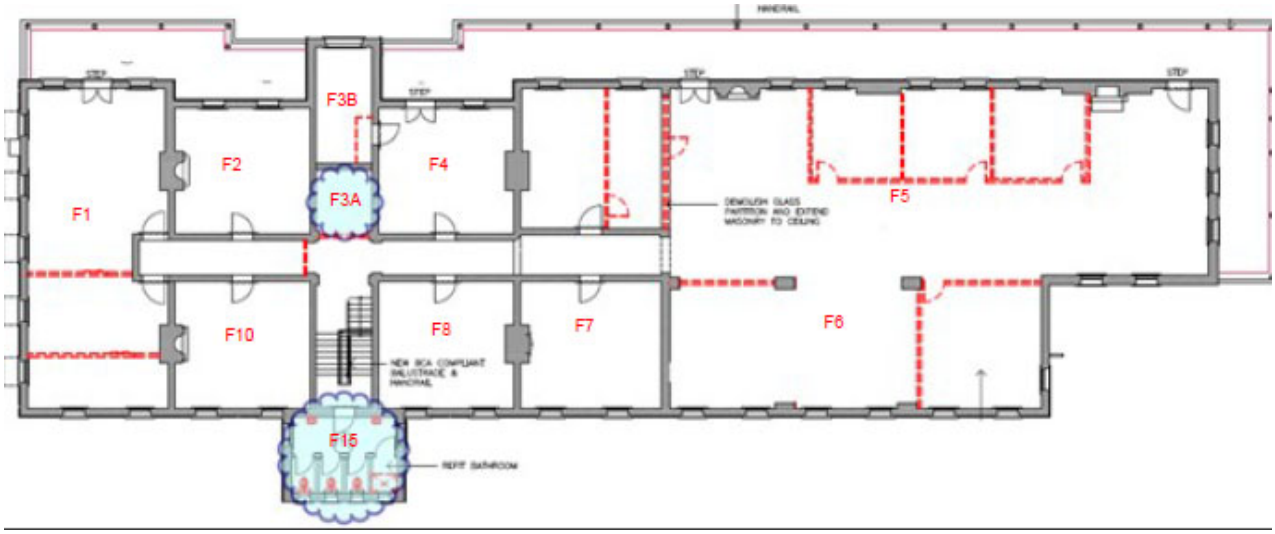


Figure 13. First floor existing amenities identified & clouded in Blue - Room F3A and F15 on mezzanine level.

In addition, as part of Green Star Buildings, 4 showers and 13 lockers introduced in the gender neutral end of trip facility changing room which gives better usability ,inclusive design and spatially efficient in a small building.
4 showers and 13 lockers formulated by using the occupancy rate of 106 in total. (Green Star buildings Movement and Place calculation guide)

Two alternative rooms such as G21 & G16 were explored with their proximity to rear entry and bike rack located near existing WC block on south and G21 discarded due to the heritage significant fire place.

Fire booster assembly location & size

Decisions on the location of external services were made to maintain visual & physical heritage integrity of the CME buildings outside façade, and to align with existing and future character of the locality. The sizes of the required outside services such as main switch board and sprinkler booster assembly were reduced down to minimum and cleared off the CME building façades. Furthermore, in liaison with the heritage consultant, room G15 near the building entrance on ground was chosen for Comms & Elec. room to house all the services required. These are shown in the plan layout.

The fire engineering team advised that it was unlikely that Fire & Rescue NSW would accept a performance solution. The sizes of the fire sprinkler booster assembly were therefore reduced and compressed down to minimum compliant, which is approx. 2000L x 700W x 900H and, as depicted below, location 3 to the far east proposed away from the prominent main entrance front outside the tree protection zones shown dotted in green.

Three alternative locations along Wilson Street frontage were investigated and explored, clouded in Blue below.

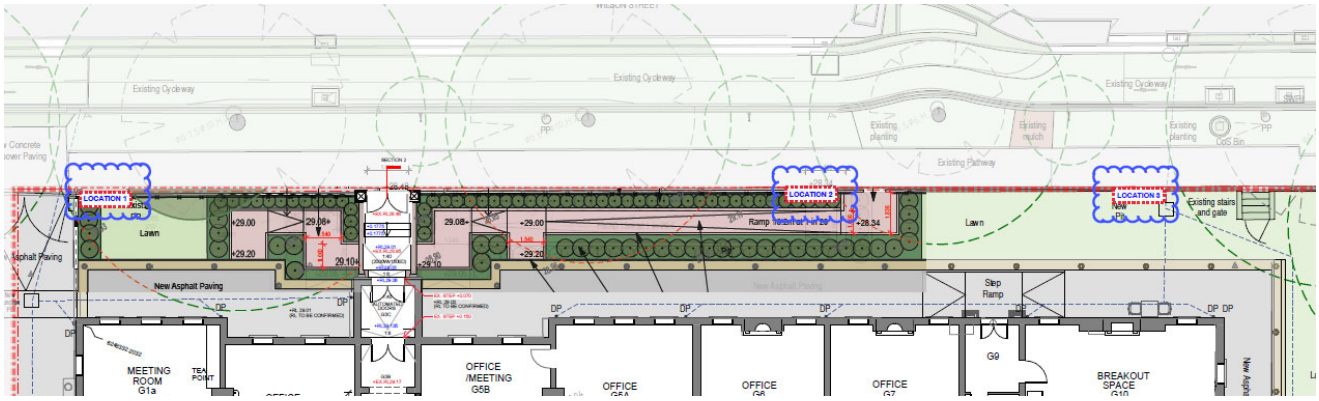


Figure 14. 3 locations investigated for sprinkler booster assembly along the Wilson Street frontage clouded in blue.

Location 3 was the design team's first preference, away from the main CME entrance, and any visual detraction from the impressive northern elevation. Sprinkler assembly along the Wilson Street frontage was the only option viable due to site constraints, such as narrow existing driveway to the west, and the potential archaeological deposits located directly at the east. The rear of the building is intended as a future public space. This provides easy & quick access for Fire & Rescue NSW to tap into a water supply when responding to emergencies and hazards for this high state significant heritage building. A retaining wall will be provided behind the sprinkler assembly with appropriate landscape treatment—refer to greater detail in the landscape drawings.

The under covered existing WC block storage area which has been retained is used as a bin storage and air conditioner plant area. This is temporary use only, until further development of future public space to the south is available. A new 1.8m high screen fence and gate are provided under existing metal deck roof. Details are in the landscape architects' drawing.

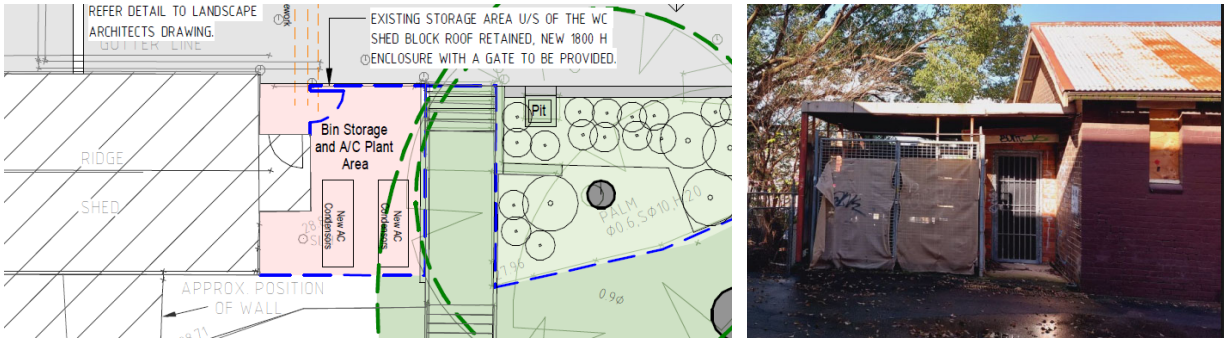


Figure 15. Bin & condenser units area indicated in blue by using the covered existing storage area that is part of the WC shed block retained.

Performance solutions

Main entrance gates with a central handrail:

Due to the spatial constraint we propose that the gates will be opened manually by the tenant in the morning and closed manually in the evening. This will require performance solution with conditioned management in use plan from future tenant and TfNSW. Refer for detail of proposed gate to the landscape architect detail drawings.

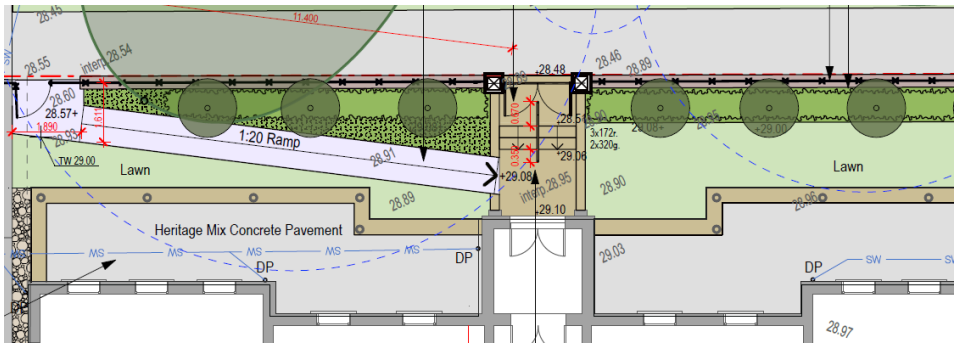


Figure 16. Main entrance gates with a single handrail

There is currently no path connecting to the eastern verandah (ground floor) on the northern side of the building. This is a potential DDA complaint risk where a garden path is not provided. The edge of the verandah, at least 600mm wide, should be of a hard different surface finish at the same level. Where a step is provided and is not protected by a kerb, technically a performance solution would be required as the verandah is along the walkway.

Currently the only pavement connecting directly to the western verandah (ground floor) is the driveway. Based on the existing survey levels, photographs and observation on site we do not believe it will be possible to provide equitable access to the western verandah from the driveway. Note however, that there is no doorway into the building from the western verandah and currently no paved link to the main building entry. Hence the design team's interpretation is that this is not a common area, and proposed works are only for maintenance. It will not be encouraged to be used by any occupants, and an accessway is thus not required. Refer detail to landscape architects detail drawings.

Existing stairs:

The *Disability (Access to Premises—Buildings) Standards 2020*, or Premises Standard, a Commonwealth regulation made under the *Disability Discrimination Act 1992,* requires any existing buildings to be upgraded along the affected part. Where works are being done to the existing stairs, the stairs should comply with current standards.

The existing handrail is far from meeting current standards, and is more used as a balustrade. An additional handrail on top of exiting handrail will be introduced and a continuous compliant handrail on the circulation stair provided, with a Performance Solution on a single handrail.

Figure 17. Similar example of additional railing added on top of non-compliant timber handrail.

In addition, below list scenarios where we believe the adaptation of a performance design may add value to development in lieu of complying with the prescriptive deemed to satisfy (DtS) provisions;

- Non complaint existing doors with door opening width, door controls, door circa clearances
- No accessible shower to the GF common shower and changing room
- No accessible WC on ground

Refer detail to appendix 2. BCA & DDA reports

2.9 Applicable Standards

The relevant TfNSW and NSW regulations are as follows but not limited to:

- The Building Code of Australia (National Construction Code) 2016 – Amendment 1
- Commonwealth *Disability Discrimination Act 1992*
- *Environmental Planning and Assessment Act 1979* Crime Prevention Through Environmental Design Guidelines
- *Work Health and Safety Act 2011 No. 10 NSW Legislation*
- Commonwealth *Disability (Access to premises - Buildings) Standards 2010*

The relevant Australian Standards, not limited to:

- AS1428.1 – 2009 Design for access and mobility Part 1: General requiments for access – New building work.
- AS 1428.2 – 1992 Design for access and mobility Part 2: Enhanced and additional requirements – Building and facilities.
- AS 1428.4.1 – 2009 Design for access and mobility Part 4.1: means to assist the orientation of people with vision impairment – Tactile ground surface indicators
- AS 2890.1 – 2004 – Parking Facilities – Part 1: Off Street Parking

3. SSDA DRAWING LIST

ARCHITECTURAL

DRAWING NO.	Title
CCG-CME-AR-DRG-000	COVER SHEET, LOCATION PLAN
CCG-CME-AR-DRG-100	DRAWING INDEX
CCG-CME-AR-DRG-101	SURVEY
CCG-CME-AR-DRG-200	SITE ANALYSIS PLAN
CCG-CME-AR-DRG-201	PROPOSED SITE PLAN
CCG-CME-AR-DRG-202	GLA & NLA CALCULATIONS SHEET
CCG-CME-AR-DRG-203	GROUND FLOOR DEMOLITION PLAN
CCG-CME-AR-DRG-204	PROPOSED GROUND FLOOR PLAN
CCG-CME-AR-DRG-205	FIRST FLOOR DEMOLITION PLAN
CCG-CME-AR-DRG-206	PROPOSED FIRST FLOOR PLAN
CCG-CME-AR-DRG-207	ROOF PLAN
CCG-CME-AR-DRG-208	GROUND FLOOR REFLECTED CEILING PLAN
CCG-CME-AR-DRG-209	FIRST FLOOR REFLECTED CEILING PLAN
CCG-CME-AR-DRG-300	ELEVATIONS
CCG-CME-AR-DRG-301	ELEVATIONS
CCG-CME-AR-DRG-400	SECTIONS
CCG-CME-AR-DRG-401	SECTIONS
CCG-CME-AR-DRG-500	DETAILS - STAIRCASE
CCG-CME-AR-DRG-501	DETAILS - WET AREA PLANS SHEET 1
CCG-CME-AR-DRG-502	DETAILS - WET AREA PLANS SHEET 2
CCG-CME-AR-DRG-503	DETAILS - LIFT PLANS AND SECTION
CCG-CME-AR-DRG-504	DETAILS - BALCONY BALUSTRADE DETAILS
CCG-CME-AR-DRG-505	DETAILS - DORMER WINDOW
CCG-CME-AR-DRG-601	3D EXTRENAL PERSPECTIVES
CCG-CME-AR-DRG-602	3D INTERNAL PERSPECTIVES

4. APPENDICES

4.1 Appendix 1: Landscape plans

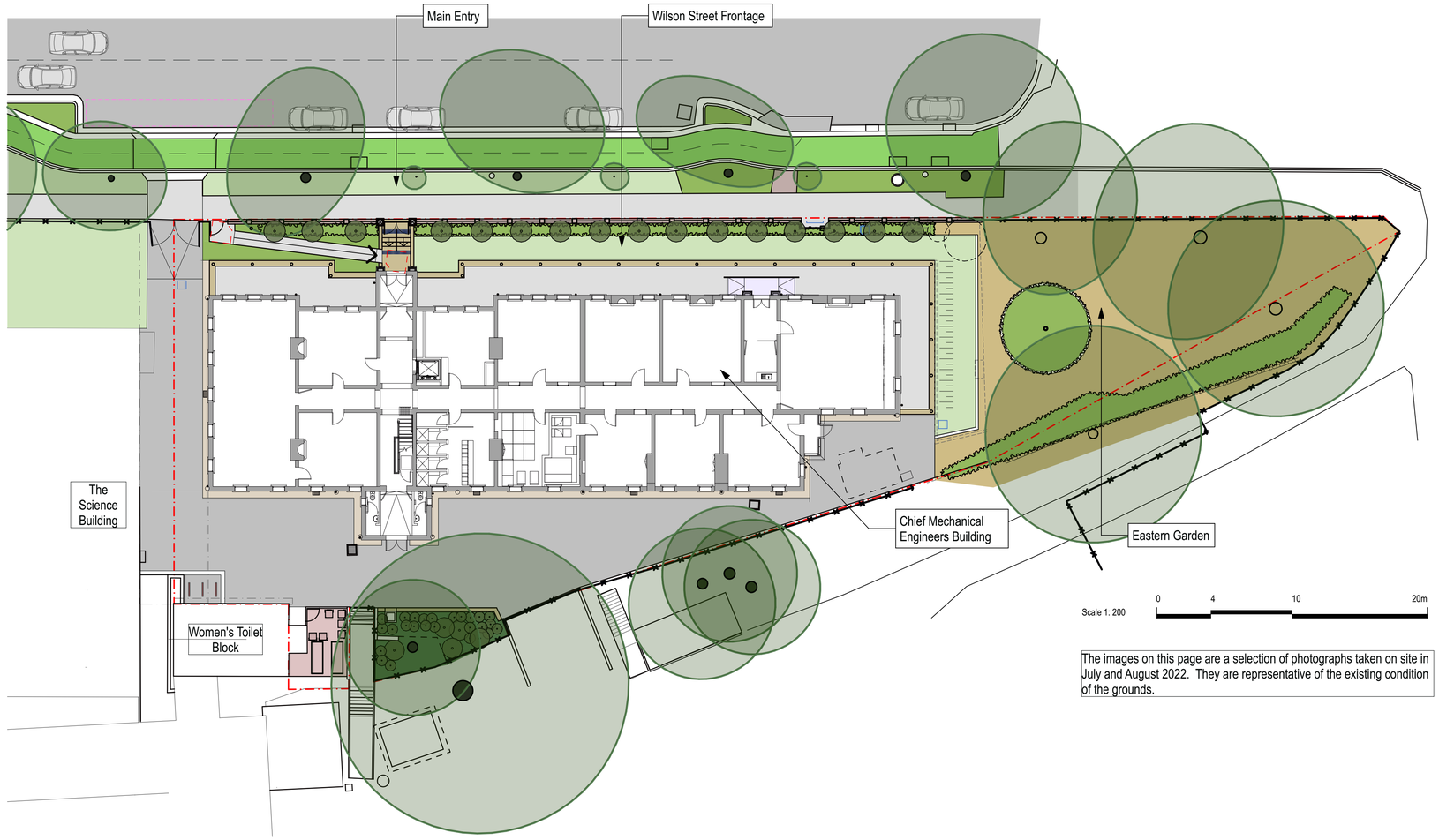
4.2 Appendix 2: BCA & DDA SSDA reports

Driveway from Wilson Street at western end of the site,

Wilson Street main entry flanked by sandstone gate posts

Wilson Street boundary fence & second entry steps and gate

North, western verandah and front garden area, looking east



The images on this page are a selection of photographs taken on site in July and August 2022. They are representative of the existing condition of the grounds.

Wilson Street garden area viewed from above

Eastern garden and flag pole

Existing toilet block at 'rear' & view of significant trees

Area between the building and southern fence

Eastern verandah looking south

Eastern garden viewed from balcony

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SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North
Scale : 1:200@A1 / 1:400@A3

DRAWING TITLE
Landscape Site Plan

DRAWING NUMBER
L-SD-01

REVISION
A

Plotted at : 11:28 am 4/11/2022

For loading zone detail, see Fig 4.22 in SCT Traffic, Transport and Accessibility study

Poured in situ concrete ramp with low raking walls and kerbs in galvanised steel plate, providing equitable access to main entry

Retain and protect existing gateway and flanking pillars and maintain as main entry to facility

Dry pressed clay brick wall. 350mm thick nom. 450 high with double bull nose

Garden and lawn raked down to top of wall

New 1000mm high steel fence to match City of Sydney Park Fence Design, custom manufactured and finished in dark grey micaceous iron oxide coating, mounted atop new brick wall

Booster Assembly, cabinet and galvanised steel plate retaining wall

Camelia sasanqua pruned to a small tree, umbrella form. Underpalnted with a Buxus sempervirens hedge maintained at a height of 600mm and an Ophiopogon japonicus border.

WILSON STREET

T01 T02 T03 T04 T05 T06 T07 T08

Existing Cycleway

Existing Pathway

New Concrete Crossover Paving

Existing planting

Existing mulch

CoS Bin

SWPit

PP

TW 28.80

28.55 28.57 28.48 28.5 29.06 29.10 29.12 +28.32

1:20 Ramp

Lawn

Booster

New Pit

Existing stair to be demolished

Heritage Mix Concrete Pavement

29.04

Step Ramp

New Junction Pit

28.98+

Retain and refurbish where required the existing sandstone edge around verandah. Remove decomposed granite and resurface with Concrete using off white cement, river gravel and a locally sourced sand. We believe this is in keeping with the story of the building as an industrial facility and also has a connection to the land and the construction techniques of the time.

Raise and relay existing sandstone flagging and side walls to the level of the door threshold

FL 29.17

Camelia sasanqua pruned to a small tree, umbrella form. Underpalnted with a Buxus sempervirens hedge maintained at a height of 600mm and an Ophiopogon japonicus border.

Provide accessible building entry/ step ramp in concrete. Balustrade in frameless glass

Remove existing weed species and previously removed tree regrowth to be cut off at base

Remove excessive mulch, grind any stumps remaining and renew topsoil and turf grass to frontage

Ex. concrete hob to be removed and lawn graded down to meet sandstone edge

Timber Sleeper Laid Flat

Ex. Fence to be Removed

Mulch

Ex. Fire Hose to be Removed

Drain overflow from tank to Wilson street, avoiding Tree Protection Zone.

JOINS L-SD-03

Coarse gravel apron around building with subsoil drainage lines falling to and connecting with s.w. system. To minimise splash onto the wall of the building and allow foundations to dry through the unsealed surface

New Asphalt Levels amended to expose building vents and fall away from the buildings at 1:50

Renew stormwater drainage from Downpipes and drain out through driveway minimising incursion into street tree 'Tree Protection Zone'

Drain rear downpipes to proposed rainwater tank. Shallow and localised trenching by hand only through tree protection zone.

Nominal location of below ground rainwater tank

Pit

New rainwater tank below ground.Excavation clear of all retained trees

One consolidated trench for all services to rear of building to minimise trenching near or around historic trees

New Asphalt Levels amended to expose building vents and fall away from the building at 1:50

Trench for Refrigerant Pipework Electricals etc.

Preferred location for bicycle hoops. Ideally should be visible from the street/driveway.

Ex. Grated Drain

Bike Racks

T206 T209 T205 T207

Existing trees retained and protected

Demolish existing fence and corrugated iron enclosure and refurbish with a new 1.8m timber screen fence and utilise area for plant and equipment and bin storage.

Bin Storage and A/C Plant Area

New A/C Condensors

New Air Conditioners

Existing building retained and protected. Not part of scope of works.

New raised sandstone edging to garden

Existing asphalt to be carefully removed and area around existing historic palm to be replenished with topsoil and planted with hardy groundcovers.

Existing tree retained and protected

Existing palm tree retained and protected

0 2 4 10m

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT

RNE - Chief Mechanical Engineers Building

Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : 1:100@A1/1:200@A3

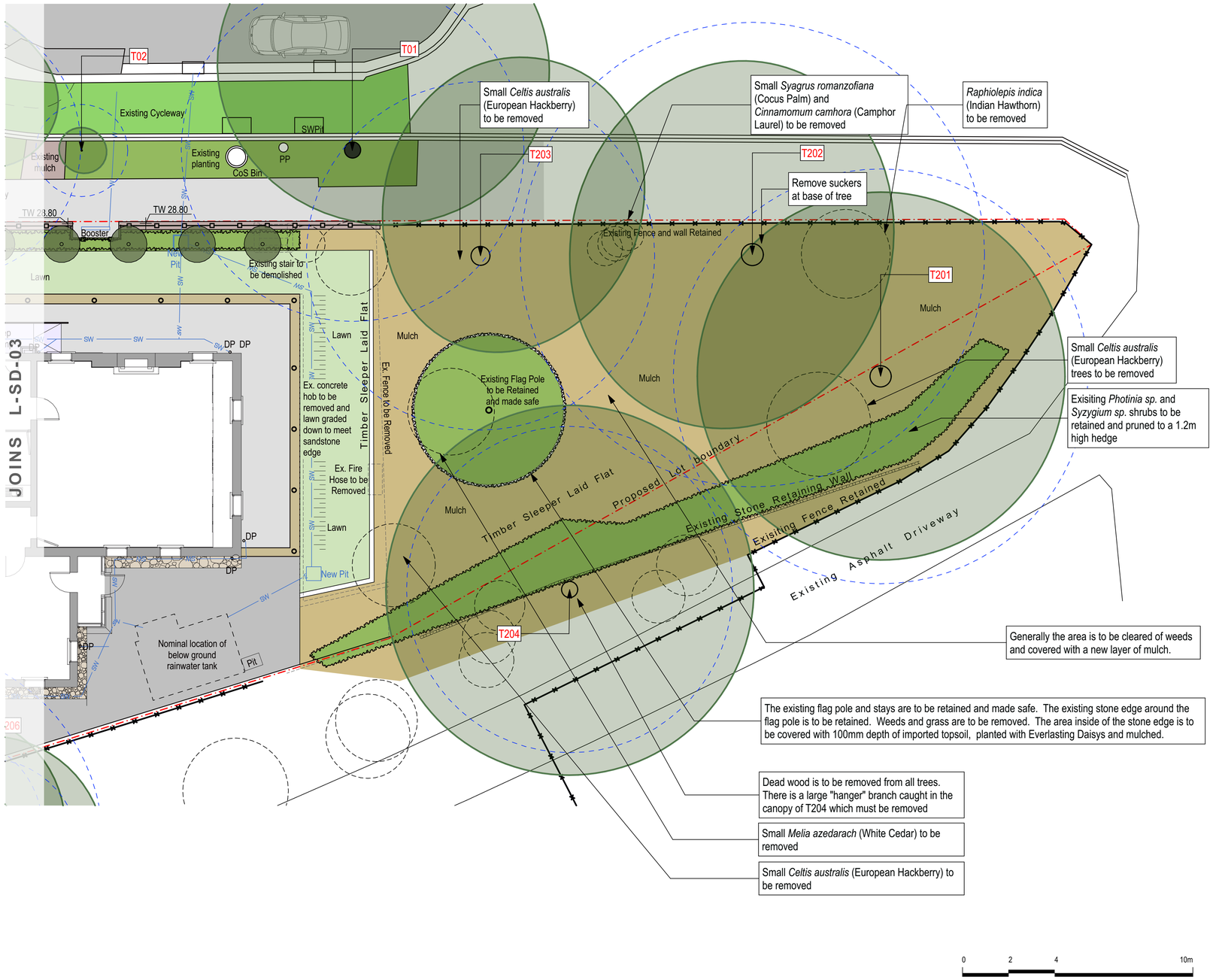
North

DRAWING TITLE: Landscape Concept Plan

DRAWING NUMBER: L-SD-02

REVISION: A

Plotted at : 11:28 am 4/11/2022

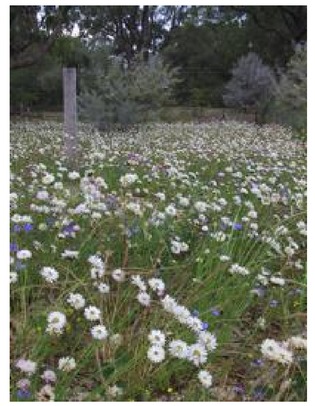


Proposed Plant Palette

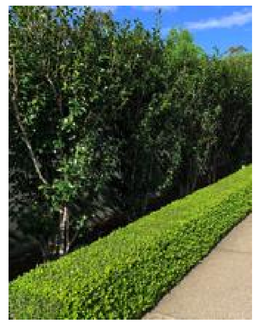
Camellia tree, *Camellia sasanqua*

Gymea Lily, *Doryanthus excelsa*

Lilyturf border, *Liriope muscari*



Everlasting Daisy, *Bracteantha bracteata*



Box hedge, *Buxus sempervirens*

Little Con border, *Lomandra confertifolia 'Little Con'*

Modo Grass border, *Opiopogon japonicus*

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P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

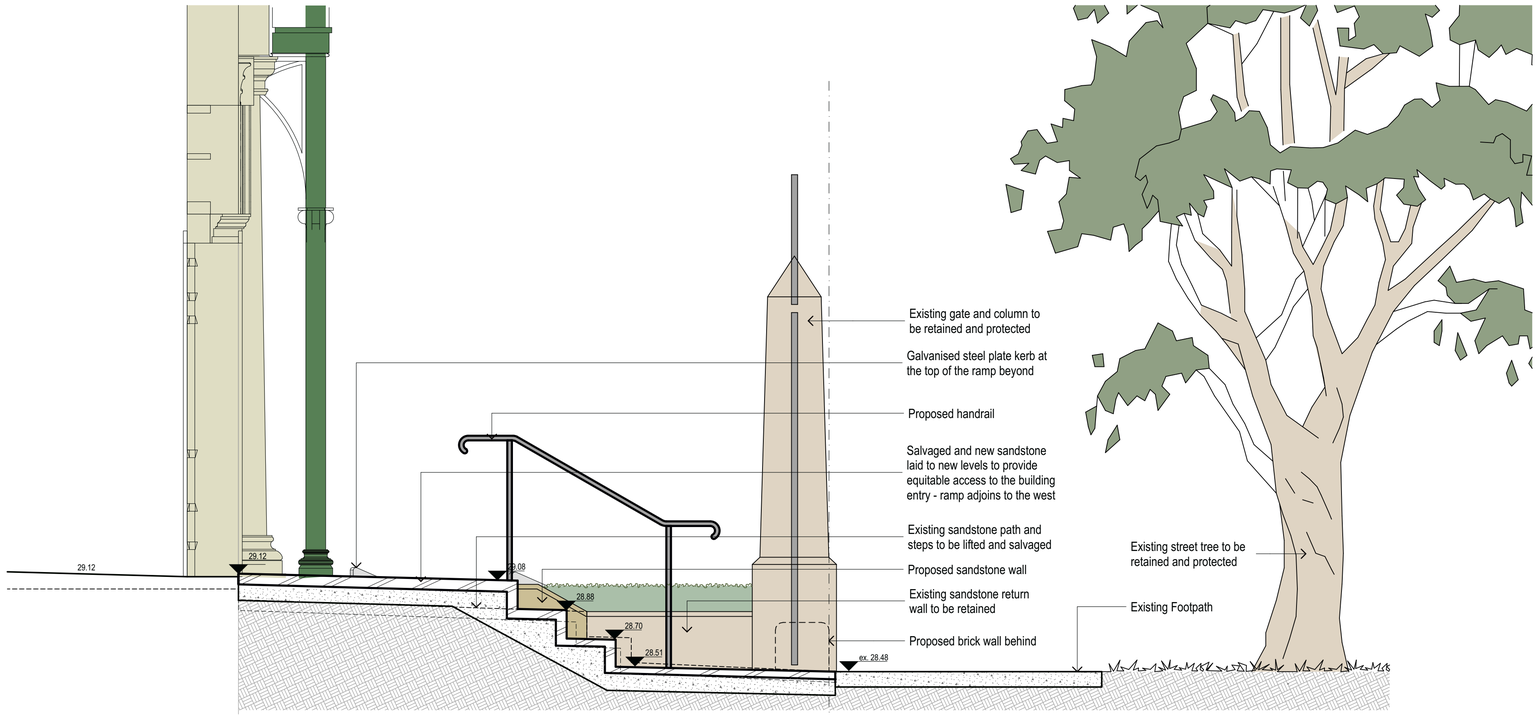
PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North Scale : 1:100@A1/1:200@A3

DRAWING TITLE
Eastern Garden Plan

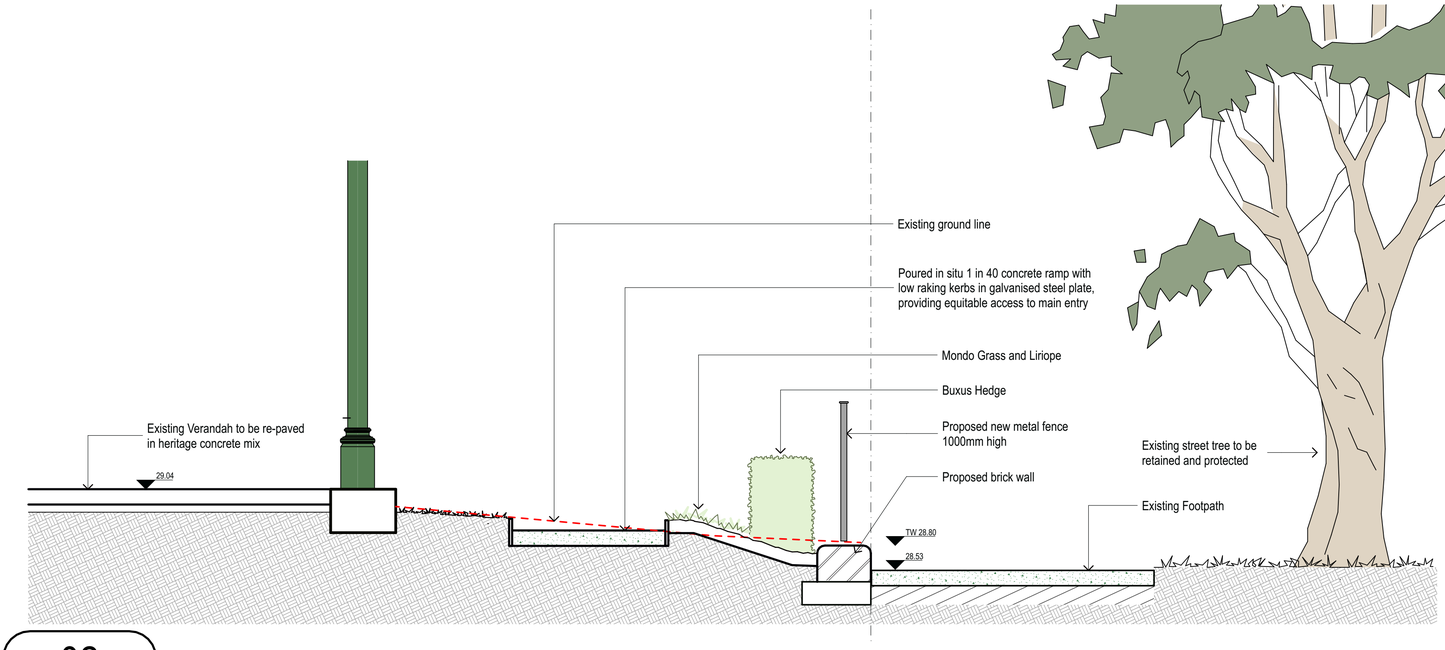
DRAWING NUMBER L-SD-03
REVISION A

Plotted at : 11:28 am 4/11/2022



01 Section through Wilson St entry steps

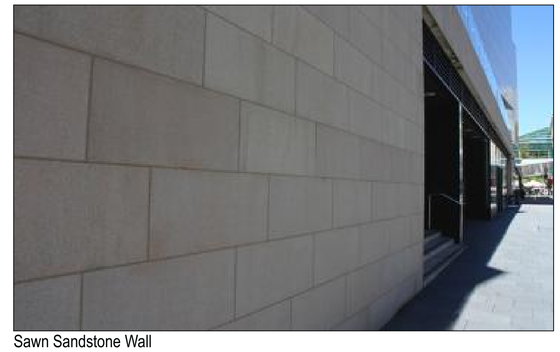
Scale 1:20 @ A1, 1:40 @ A3



02 Section through ramp entry and gate

Scale 1:20 @ A1, 1:40 @ A3

Palisade Fence



Sawn Sandstone Wall

Sawn sandstone Steps

Sawn Sandstone - Buff Colour

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

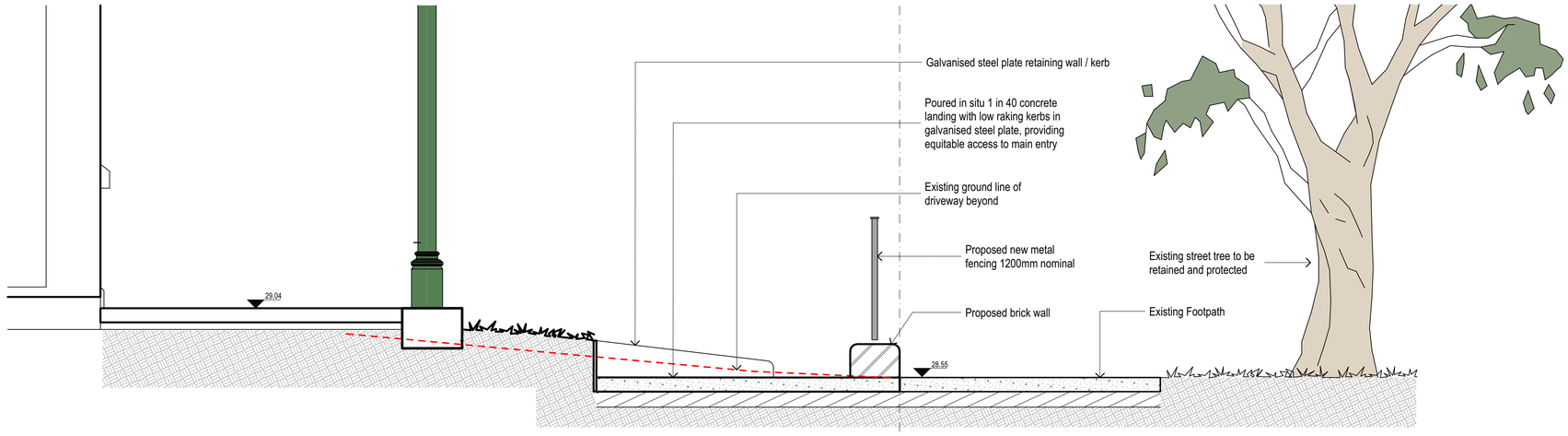
Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : As shown
North

DRAWING TITLE
Typical Sections

DRAWING NUMBER
L-SD-04

REVISION
A

Plotted at : 11:28 am 4/11/2022



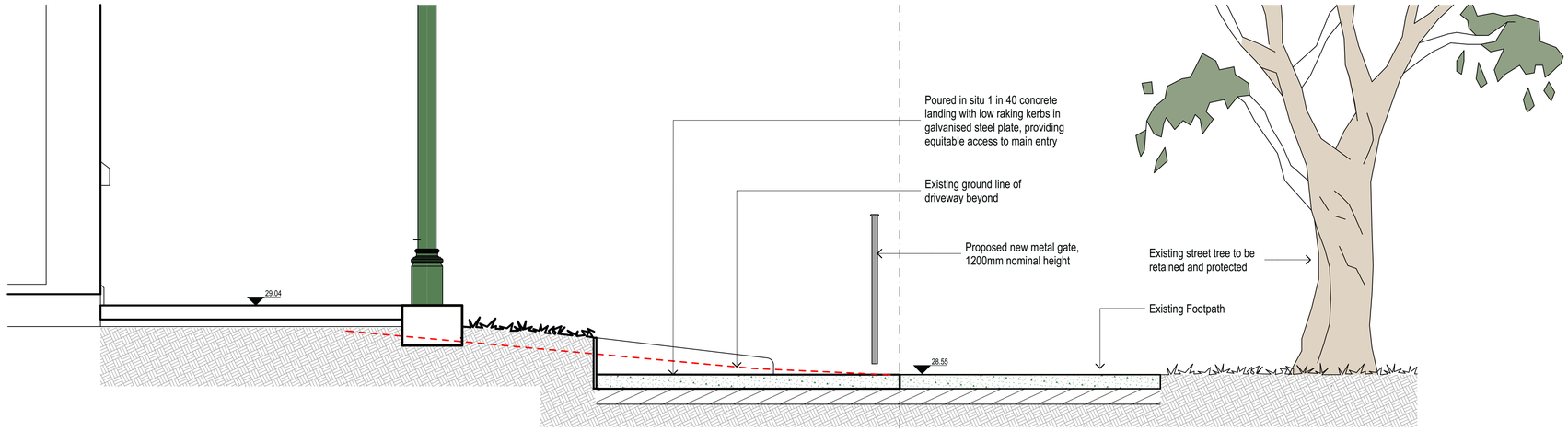
03 Section through Wilson St at ramp entry

Scale 1:20 @ A1, 1:40 @ A3

Contrasting Nosing Detail

Brick Wall with Bullnose on Front and Back Leading Edge

Tactile Indicators



04 Typical section through Wilson St ramp

Scale 1:20 @ A1, 1:40 @ A3

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P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

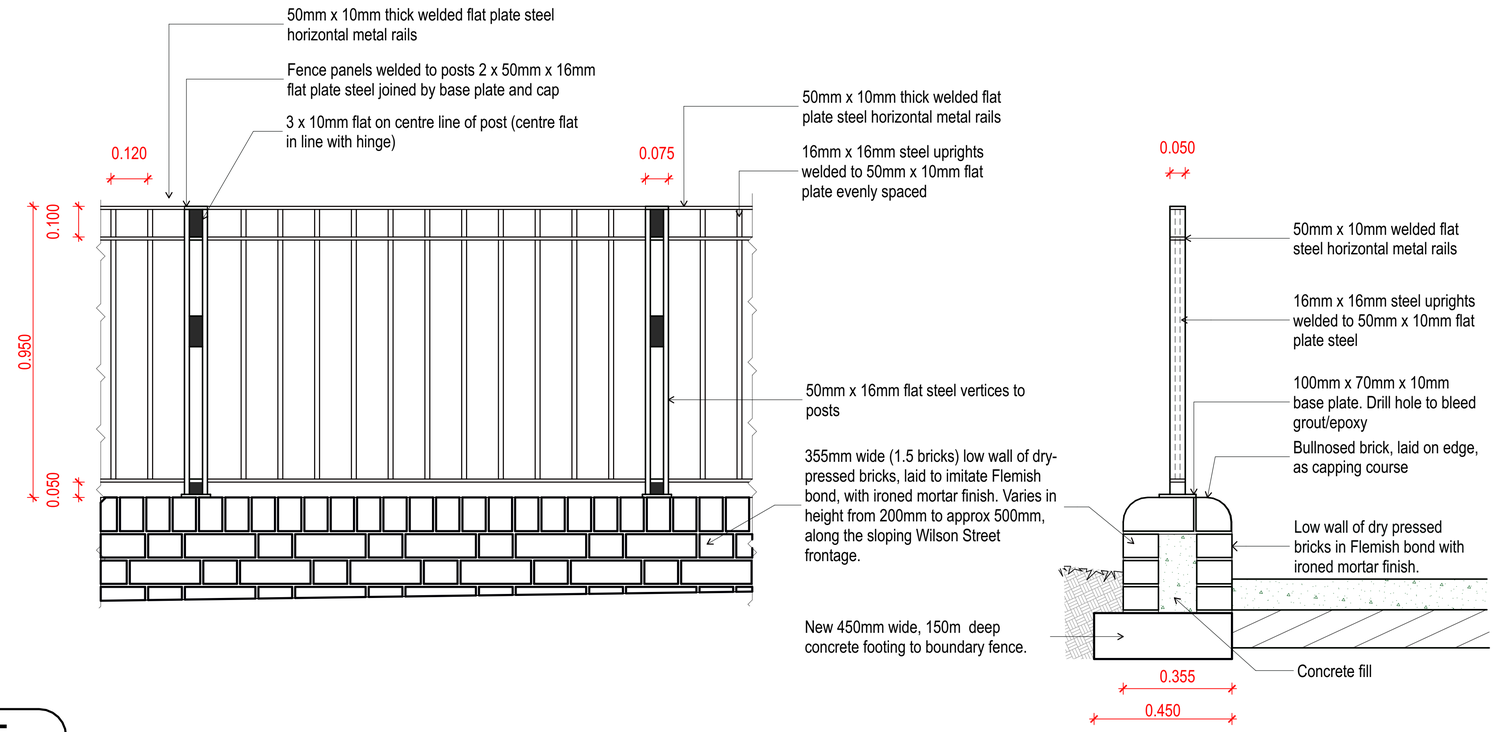
Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North Scale : As shown

DRAWING TITLE
Typical Sections

DRAWING NUMBER
L-SD-05

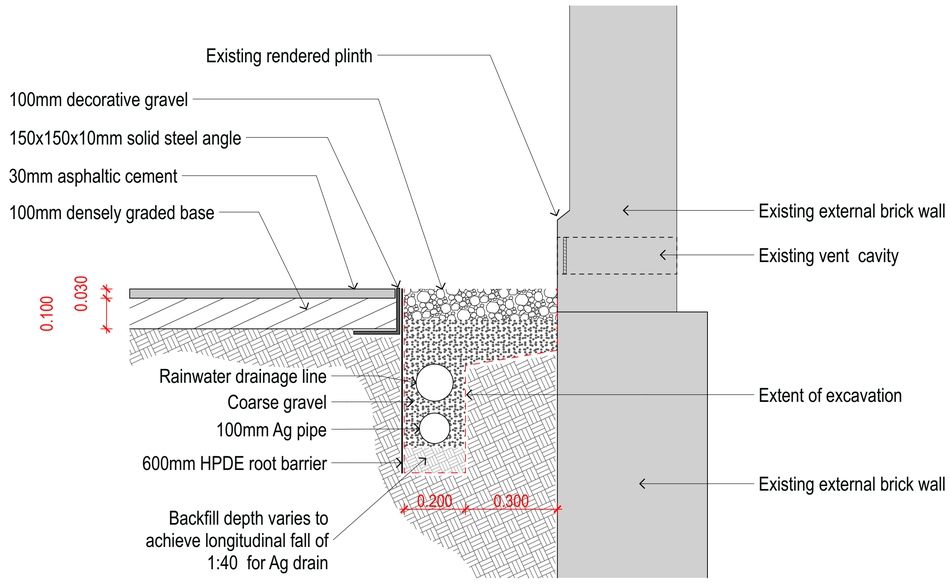
REVISION
A

Plotted at : 11:28 am 4/11/2022



05 Wilson St boundary wall and fence detail

Scale 1:10 @ A1, 1:20 @ A3



06 Subsoil drainage and gravel apron detail

Scale 1:10 @ A1, 1:20 @ A3

Looking west inside the Wilson Street fence

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SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North
Scale :

DRAWING TITLE
Typical Details

DRAWING NUMBER
L-SD-06

REVISION
A

Plotted at : 11:28 am 4/11/2022

Wilson Street facade, showing proposed boundary wall and fence configuration.

Eastern garden, looking west towards the building.

Wilson Street frontage, showing ramp entry, and driveway, on the right of the image.

Main entry from Wilson Street.

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SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT

RNE - Chief Mechanical Engineers Building

Transport for NSW

North

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : N/A

DRAWING TITLE

Indicative Landscape Renders

DRAWING NUMBER: L-SD-07

REVISION: A

Plotted at : 11:28 am 4/11/2022

View from driveway, looking along the building verandah and new access ramp.

Wilson Street facade, view looking west along the frontage.

View of entry area, looking west, showing the adapted original steps and landing, meeting the new ramp.

General view of the southern area (rear) of the building, looking east. Temporary fence screens plant and bins, on the right of the image.

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SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North
Scale : N/A

DRAWING TITLE
Indicative Landscape Renders

DRAWING NUMBER
L-SD-08

REVISION
A

Plotted at : 11:28 am 4/11/2022

DESIGN CONFIDENCE

11 November 2022

Our Ref: P222_139

NSW Government
Transport for NSW
231 Elizabeth Street
Sydney NSW 2000

Attention: Jennifer Faddy

Redfern North Eveleigh Precinct Renewal Project - Chief Mechanical Engineer's Building
BCA Capability Statement for State Significant Development Application

Please find enclosed our BCA Capability statement for submission as part of the State Significant Development Application proposed at the aforementioned address.

Should you require any further information regarding this proposal, please do not hesitate to contact us.

Kind Regards

Ryan Dillon
Senior Building Regulations Consultant
For Design Confidence (Sydney) Pty Ltd

11 November 2022

Our Ref: P222_139

NSW Government
Transport for NSW
231 Elizabeth Street
Sydney NSW 2000

Attention: Jennifer Faddy

Redfern North Eveleigh Precinct Renewal Project - Chief Mechanical Engineer's Building
BCA Capability Statement for State Significant Development Application

1. Introduction

This statement has been prepared by Design Confidence on behalf of Transport for NSW. It supports State Significant Development (SSD) Development Application (DA) No. SSD-39971796 for the heritage conservation and adaptive reuse of the former Chief Mechanical Engineer's Building (CME Building) in North Eveleigh, which is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). This statement is to address the SEAR's Built Form and Urban Design issue and assessment requirement.

The application seeks consent for the heritage conservation and adaptive reuse of the CME Building, which includes:

(i) Internal and external heritage conservation works to make the building suitable for adaptive reuse, including painting, repairs and refurbishment of the existing building (primarily internally) and installation of services to support future usage for offices or the like;

(ii) Building upgrades to ensure compliance with the Building Code of Australia, including accessibility and fire safety requirements;

(iii) Removal of any hazardous building materials; and

(iv) Minor landscaping works.

No significant additions (except those necessary to facilitate the introduction of new services, amenities and equitable access) or substantive demolition of external heritage fabric is envisaged as part of the project. Internal changes comprise the removal of some internal walls and alterations to building fabric to create suitable spaces and compliant paths of travel.

2. Background

Design Confidence has been engaged to provide building regulatory advice regarding the compliance status of the proposed mixed-use development when assessed against the relevant prescriptive requirements as contained within the Building Code of Australia (BCA) 2022 – Volume 1.

This statement has been provided to accompany the Development Application, which is State Significance. A broad assessment has been undertaken of the proposed design (as detailed within the documentation listed in Table 2.1 below).

Design Confidence has been involved on the project since the development of the architectural concept, the advice being provided to date has been in the context of the Building Code of Australia (BCA) 2022 – Volume 1, inclusive of the performance provisions contained therein.

Table 2.1 – Architectural Drawings

TITLE	DRAWING	REV	DATE
COVER SHEET, LOCATION PLAN	CCG-CME-AR-DRG-000	B	04/11/2022
DRAWING INDEX	CCG-CME-AR-DRG-100	B	04/11/2022
SURVEY	CCG-CME-AR-DRG-101	B	04/11/2022
SITE ANALYSIS PLAN	CCG-CME-AR-DRG-200	B	04/11/2022
PROPOSED SITE PLAN	CCG-CME-AR-DRG-201	B	04/11/2022
GLA & NLA CALCULATIONS SHEET	CCG-CME-AR-DRG-202	B	04/11/2022
GROUND FLOOR DEMOLITION PLAN	CCG-CME-AR-DRG-203	B	04/11/2022
PROPOSED GROUND FLOOR PLAN	CCG-CME-AR-DRG-204	B	04/11/2022
FIRST FLOOR DEMOLITION PLAN	CCG-CME-AR-DRG-205	B	04/11/2022
PROPOSED FIRST FLOOR PLAN	CCG-CME-AR-DRG-206	B	04/11/2022
ROOF PLAN	CCG-CME-AR-DRG-207	B	04/11/2022
GROUND FLOOR REFLECTED CEILING PLAN	CCG-CME-AR-DRG-208	B	04/11/2022
FIRST FLOOR REFLECTED CEILING PLAN	CCG-CME-AR-DRG-209	B	04/11/2022
ELEVATIONS	CCG-CME-AR-DRG-300	B	04/11/2022
ELEVATIONS	CCG-CME-AR-DRG-301	B	04/11/2022
SECTIONS	CCG-CME-AR-DRG-400	B	04/11/2022
SECTIONS	CCG-CME-AR-DRG-401	B	04/11/2022
DETAILS - STAIRCASE	CCG-CME-AR-DRG-500	B	04/11/2022
DETAILS - WET AREA PLANS SHEET 1	CCG-CME-AR-DRG-501	B	04/11/2022
DETAILS - WET AREA PLANS SHEET 2	CCG-CME-AR-DRG-502	B	04/11/2022
DETAILS - LIFT PLANS AND SECTION	CCG-CME-AR-DRG-503	A	04/11/2022
DETAILS - BALCONY BALUSTRADE DETAILS	CCG-CME-AR-DRG-504	B	04/11/2022

3. BCA Compliance Strategy

Table 3.1 below summaries the proposed development in the context of the BCA

Table 3.1 – BCA Summary

DESCRIPTION		
Building Classification	Office	Class 5
Rise in Storeys	Two (2)	
Storeys Contained	Two (2)	
Type of Construction	Type C	
Effective Height	4.38 m	(First Floor FFL 33.55 –Ground Floor FFL 29.17)
Largest Fire Compartment (Whole Building)	Floor area Volume	1513 m^2 6214 m^3
Max Fire Compartment Size	(3,000m^2 /18,000m^3)	Within Limitation
Climate Zone:	Climate Zone 5	

The following outlines the proposed compliance strategy for the development noting that compliance will be achieved via both prescriptive measures and performance-based solutions.

3.1 Fire Resistance & Stability

The development consists of a Class 5 building with a rise in storey of two (2). The building is therefore required to be of Type C construction. This means neither the floor nor the roof is required to be fire rated.

Building elements are required to achieve the nominated FRLs as nominated within BCA Spec 5 as applicable, these FRLs have been summarised within Table within Appendix A3.

3.2 Compartmentation & Separation

The BCA places limitations on the maximum floor area and volume an area within a building can be, this is to limit the maximum allowable fuel load available within a space which is also tied back to the fire-resistance levels building elements are required to achieve.

The whole building is considered to be one fire compartment and is within the maximum DTS floor area and volume for a Class 5 Type C building.

An Electrical Substation and/or Main switch board room that is located within the building is to be separated with fire rated construction of 120/120/120 with self-closing fire doors of -/120/30.

3.3 Fire Spread between Adjoining Buildings

The site is bounded by a public road on the Northern boundary and adjoining allotments on the remaining boundaries. The risk of fire spread is located along the Western and Southern boundary.

There are openings that are within 3m of the Southern boundary (G12 & F6) on the Southeast corner of the building and the Western boundary (Room G1 & F1). It is understood that these openings will be addressed with a mix of deemed to satisfy and performance-based solutions.

3.4 Provision for Escape

3.4.1 Number of Exits and Non-Fire Isolated Exits

The building has an effective height of less than 25m and therefore each storey is required to have one exit. The stair only connects two (2) storeys therefore is not required to be a fire isolated stair.

3.4.2 Exit Travel Distances

Travel distances throughout the development would generally comply with the exception of the travel distance to an exit 53m in lieu of 20m on the First Floor.

It is understood that a BCA Performance Solution / Fire Engineering Report will be pursued which justifies that the current design complies with the relevant Performance Requirements.

Please see Appendix A3 of this report showing travel distance markup

3.4.3 Width of exits and paths of travel to exits

A minimum 1m clear path of travel to an exit is required throughout the building.
Clear width throughout the development would generally comply with the exception of the following:

(i) 910mm opening from Room G1 and G10

(ii) 710mm opening from cubicle G18 and G20

It is understood that a BCA Performance Solution / Fire Engineering Report will be pursued which justifies that the current design complies with the relevant Performance Requirements.

3.5 Construction of exits

3.5.1 Enclosure of space under stairs and ramps

The space below the non-fire-isolated stairway to the first floor must be enclosed with:

(i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and

(ii) any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door

3.5.2 Doorways and Door swings

The automated doorway serving as exits on the Ground Floor must be opened manually under a force of not more than 110N and open automatically on power failure, or activation of a fire or smoke alarm.

Two exits on the Ground floor swing in the opposite direction of egress.

It is understood that a BCA Performance Solution / Fire Engineering Report will be pursued which justifies that the exit swinging in the opposite direction with the relevant Performance Requirements.

3.6 Services and Equipment

3.6.1 Hydrants

A fire hydrant system complying with AS2419.1-2021 is required to serve the building.

A hydrant booster remote from a building is required to be adjacent to the principal vehicular access to the site. It is understood that a BCA Performance Solution / Fire Engineering Report will be prepared to justify this departure from the hydrant standard AS2419.

3.6.2 Sprinklers

The building will be sprinkler protected with a AS2118 system installed throughout the building.

A sprinkler alarm valve must be located in a secure room or enclosure which has direct egress to road or open space. The alarm valve room is located under the stairs and does not open directly to road or open space.

It is understood that a BCA Performance Solution / Fire Engineering Report will be pursued which justifies that the current design complies with the relevant Performance Requirements.

3.6.3 Other Fire Safety Measures

Reference should be made to Section 4 below as it outlines the remaining fire safety measures currently proposed.

4 Fire Safety Measures

Table 4.1 below outlines the relevant statutory fire safety measures that will provided as part of the development such that compliance with the BCA is achieved.

Table 4.1 – Fire Safety Measures

STATUTORY FIRE SAFETY MEASURES	PROPOSED STANDARD OF PERFORMANCE
Automatic Fire Suppression System (Sprinklers)	BCA 2022 Clause E1D4, E1Dx & Spec. 17 AS 2118.1-2017
Emergency Lighting	BCA 2022 Clause E4D2, E4D3 & E4D4 AS 2293.1-2018
Exit And Directional Signage	BCA 2022 Clause E4D5, E4D6 & E4D8, Spec 25 AS 2293.1-2018
Fire Doors	BCA 2022 Clause C3D13, C3D14, C4D6, C4D7, C4D8, C4D9, C4D12 & Spec. 12, AS 1905.1-2015
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1-2021, AS 2118.6-2012 (Combined System)
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444-2001
Fire Engineering Report Measure (TBC)	Fire Engineering Report (TBC)

5 Summary

Our strategy for ensuring compliance will be refined and documented over the coming months in conjunction with the continual development of the architectural documentation, if required.

In order to achieve compliance with the BCA, whilst preserving the functional and aesthetic requirements of the project, the use of performance-based designs may be required. It is our belief that performance-based design can deliver a building that meets the Performance Requirements of the BCA.

We are of the opinion that compliance can be achieved, be it via either complying with the DtS provisions or Performance requirements of the BCA.

We trust that the above information is sufficient for the Department of Planning in assessing the merit architectural design from a planning perspective.

This statement should not be construed as relieving any other parties of their legislative obligations.

I possess Indemnity Insurance to the satisfaction of the building owner or my principal.

Yours Faithfully

Ryan Dillon
Senior Building Regulations Consultant
For Design Confidence (Sydney) Pty Ltd

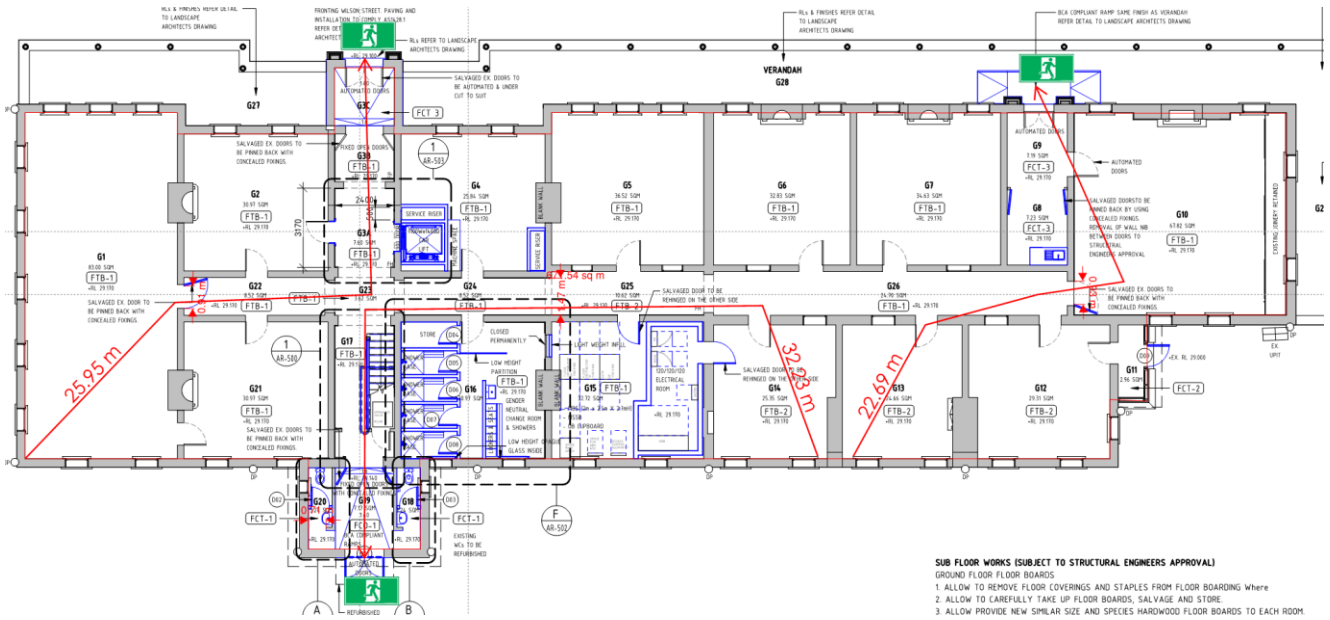
Appendix A1

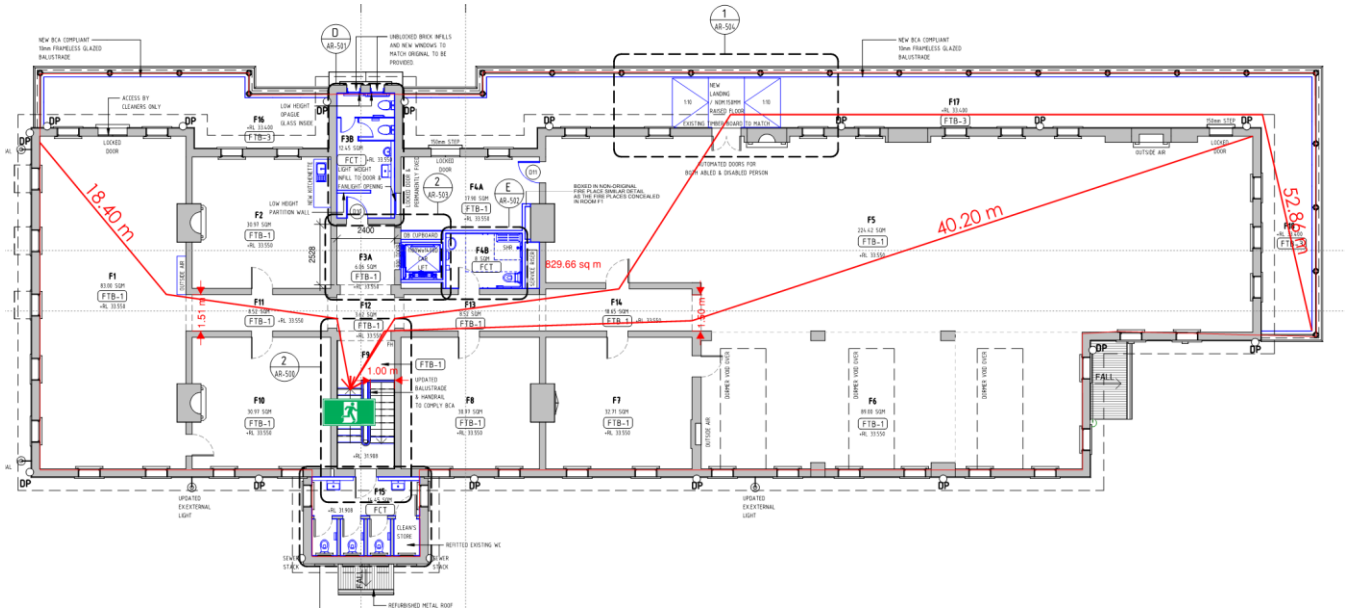
Proposed Performance Solutions

NO.	DESIGN EFFICIENCIES	DTS CLAUSE	PERFORMANCE REQUIREMENTS
1.	**Protection of openings within external walls located less than 3 m from boundary** Justify nil or reduced protection measures to openings within 3m of the Western (Room G1 & F1) and Southern (G12 & F6) boundary.	C4D4	C1P2 and C1P8
2.	**Travel Distances** Justify extended travel distances of 53m to an exit in lieu of 20m on First Floor	D2D5	D1P4 & E2P2
3.	**Width of exits and paths of travel to exits** Justify path of travel to an exit being less than 1m (910mm and 710mm)	D2D8	D1P6
4.	**Swinging doors** Justify exits on the Ground floor swinging in the opposite direction of egress.	D3D25	D1P4
5.	**Booster location** Justify the departure from the hydrant standard AS2419.1 Booster assembly not adjacent to the principal vehicular access to the site..	E1D1	E1P3
6.	**Sprinklers** Justify the sprinkler alarm valve room not having direct egress to a road or open space.	E1D4 & Spec 17	E1P4

Appendix A2

Marked up architectural drawings





Appendix A3

Required Fire Resistance Levels for Type C construction

Spec.5

Fire Resisting Construction (prev. Spec C1.1)

Type C Construction – Fire resistance of building elements (S5C24)

In building required to be constructed as Type C, each required building element must achieve the required Fire Resisting Levels (FRL's) as per the following tables –

1. External Walls (Loadbearing and Non-Loadbearing)

An external wall is considered "the outer wall of the building". External walls include columns and all other elements which is incorporated within.

Distance from a fire source feature	Required FRL's	
	Class 2, 3 or 4 Part	Class 5, 7a or 9
Less than 1.5m	90/90/90	90/90/90
1.5m to less than 3m	--/--/--	60/60/60
3m or more	--/--/--	--/--/--

Table S5C24a – Required FRL's for Loadbearing External Walls

2. External Columns (Loadbearing and Non-Loadbearing)

For the purpose of compliance with this part, an external columns are not incorporated within the external wall of the building which extends beyond the outer wall of a building.

Distance from a fire source feature	Required FRL's	
	Class 2, 3 or 4 Part	Class 7, 7a or 9
Less than 1.5m	90/--/--	90/--/--
1.5m to less than 3m	--/--/--	60/--/--
3m or more	--/--/--	--/--/--

Table S5C24b – Required FRL's for Non-Loadbearing External Walls

3. Common Walls & Fire Walls (Loadbearing and Non-Loadbearing)

As defined within Schedule 1 of the BCA, a fire wall "appropriate resistance to the spread of fire that divides a storey or building into fire compartments". Whereas a common walls is defined as a wall common to adjoining buildings.

Column Type	Required FRL's	
	Class 2, 3 or 4 Part	Class 5, 7a or 9
Loadbearing and non-loadbearing	90/90/90	90/90/90

Table S5C24c – Required FRL's for External Columns

4. Internal Walls (Loadbearing and Non-Loadbearing)

As defined within Schedule 1 of the BCA, an internal wall is considered within the building's interior and "is neither a common nor a party wall". An element which is considered loadbearing is an element which is "intended to resist vertical forces additional to those due to its own weight".

Spec.5
Cont'd

Location	Required FRL's	
	Class 2, 3 or 4 Part	Class 5, 7a or 9
Bounding public corridor, public lobbies, and the like	60/60/60	--/--/--
Between or bounding sole-occupancy units	60/60/60	--/--/--
Bounding a stair if required to be rated	60/60/60	60/60/60

Table S5C24d – Required FRL's for Internal Walls (Loadbearing)

5. FRL of roof

Location	Required FRL's	
	Class 2, 3 or 4 Part	Class 5, 7a or 9
Roof	--/--/--	--/--/--

Table S5C24e – Required FRL's for roofs

10 November 2022

Our Ref: P222_139

NSW Government
Transport for NSW
Sent Via Email

Attention: Jennifer Faddy

Redfern North Eveleigh Precinct Renewal Project - Chief Mechanical Engineer's Building
ACCESS Capability Statement for State Significant Development Application

1. INTRODUCTION

An assessment of the subject development has been undertaken by Design Confidence at the request of Transport for NSW. It supports State Significant Development (SSD) Development Application (DA) No. SSD-39971796 for the heritage conservation and adaptive reuse of the former Chief Mechanical Engineer's Building (CME Building) in North Eveleigh, which is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The application seeks consent for the heritage conservation and adaptive reuse of the CME Building, which includes:

(i) Internal and external heritage conservation works to make the building suitable for adaptive reuse, including painting, repairs and refurbishment of the existing building (primarily internally) and installation of services to support future usage for offices or the like;

(ii) Building upgrades to ensure compliance with the Building Code of Australia, including accessibility and fire safety requirements;

(iii) Removal of any hazardous building materials; and

(iv) Minor landscaping works.

No significant additions (except those necessary to facilitate suitable access and fire egress) or substantive demolition of external heritage fabric is envisaged as part of the project. Internal changes comprise the removal of some internal walls and alterations to building fabric to create suitable spaces and compliant paths of travel.

2. BACKGROUND

Design Confidence has been engaged to provide building regulatory advice regarding the compliance status of the proposed development works when assessed against the relevant prescriptive requirements as contained within the Building Code of Australia (BCA) 2022 – Volume 1, particularly the accessibility provisions as are principally contained within Parts D4, E3D7, E3D8, F4D5, F4D6, F4D7, F4D12 and G7 as applicable to the subject development.

This correspondence has been provided to assist with development of the design documentation, a broad assessment has been undertaken of the proposed design as detailed within the documentation listed in **Appendix 1**.

The advice being provided to date has been in the context of the following—

» Building Code of Australia (BCA) 2022 – Volume 1

- AS1428.1-2009 Design for access and mobility Part 1: General requirements for access – New building work;
- AS1428.4.1-2009 Means to assist the orientation of people with a vision impairment – Tactile Ground Surface Indicators
- AS2890.6-2009 Off-street parking for people with disabilities
- AS1735.12-1999 Facilities for persons with disabilities

3. ASSESSMENT

The subject existing Heritage Chief Mechanical Engineers Building is located within the Redfern North Eveleigh Precinct and is to undergo refurbishment to utilise the current dilapidated building as a commercial office space again.

The proposed use of the building is commercial/office, achieving a BCA function and use classification of Class 5.

Given the building is existing, this report therefore applies to new works and the affected part, as defined by the Disability (Access to Premises – Buildings) Standards 2010, hereinafter referred to as the Premises Standards.

In addition to undertaking a detailed assessment of the design against the prescriptive requirements of the BCA a preliminary performance-based assessment has also been undertaken.

The implementation of a performance-based approach in lieu of compliance with the deemed-to-satisfy (DtS) provisions of the BCA shall be disclosed to the relevant stakeholders and is subject to the approval of the certifying authority.

The **Table 1** below lists scenarios where we believe the adoption of a performance design may add value to development in-lieu of complying with the prescriptive (DtS) provisions—

Table 1 – Performance Solutions

ITEM	PROPOSED PERFORMANCE SOLUTION	BCA DtS CLAUSE	PERFORMANCE REQUIREMENT
1	Existing doors along affected part leading to area of new works shown with green circles In Appendix 2 do not comply with door opening width, door controls, door circ clearances etc	D4D2	D1P1
2	Walkways are to comply with AS1428.1. Along GF covered verandah, the walkways Is not provided with a 600mm wide contrasting surface where a step leads to the lawn.	D4D2	D1P1
3	Access is not provided to the GF common shower and changing room.	D4D2	D1P1
4	Gates provided on the allotment boundary will be operated by security personal. Door circulation clearances, operable force and door hardware to be considered within the proposed solution.	D4D3	D1P1
5	Existing Heritage stair handrail is unable to be provided with a compliant handrail on each side. A single handrail will be provided with an inconsistent height with non-compliant horizontal extensions. TGSI's will not be provided to the stair.	D4D4 D4D9	D1P1
6	Non gender WC's where serving more than 10 staff provided in lieu of separate male and female amenities	F4D4	F4P1
7	An accessible WC is not provided within the GF bank of WC's.	F4D5 F4D6	F4P1

In accordance with the requirements of Clause D4D2 of the BCA, access is required to be provided to and within all areas normally used by the occupants within a Class 5 building.

Table 2 below outlines the relevant accessibility measures that will be provided as part of the development such that compliance with the BCA is achieved, specifically with D4, E3D7, E3D8, F4D5, F4D6, F4D7, F4D12 and G7 as applicable to the subject development.

Table 2 – Accessibility Measures

DESCRIPTION	COMMENT	RESOLUTION
Clause D4D2	In accordance with D4D2, access to be provided to and within all areas normally used by the occupants. However, the Premises Standard being Federal Legislation, above the BCA only requires where new building works being undertaken, from the principle pedestrian entrance along the affected part to the new part are required to be upgraded in accordance with AS1428.1.	An accessway 'affected part' into areas of identified as new building based on the comparison of the existing floor plans have been identified within Appendix 2. Door openings that do not comply with current requirements will be addressed by a Performance Solution given the Heritage significance of the building. A series of step ramps or walkways with compliant gradients are shown to approach the terraces due to the existing floor level restrictions. Stepramps and walkways to comply with AS1428.1. Where the walkway within the covered verandah is not provided with a 600mm wide contrast surface before a drop to the lawn is proposed, this will be reviewed further by a Performance Solution. Access is not available to the GF Shower and Changing area. The L1 accessible shower and WC will form part of the justification of the required Performance Solution.
Clause D4D3	The Premises Standard only requires upgrade from the principle building entrance and within the affected part and new works areas within the building. However, given the extensive upgrade works externally, an accessible path of travel has been provided via a 1:20 walkway from the allotment boundary to the building entrance. Where works are being undertaken, they should comply with AS1428.1. Where a doorway on an accessway has multiple leaves, at least one of those leaves should have a clear opening width of 850mm unless is automatic.	Automatic double entry doors on GF shown to comply. Two security gates are located in front of the main entry stairs and the 1:20 walkway which are along the upgraded accessway from the allotment boundary. The door controls, operable force, door circulation spaces and clear opening width will be justified by a Performance Solution.
Clause D4D4	General circulation stairs (Front entry stairs and internal central stairs)	A single central handrail is proposed to the entry stairs that does not comply with AS1428.1 requiring handrails on

DESCRIPTION	COMMENT	RESOLUTION
		both sides and therefore will be justified by a Performance Solution. The central internal stairs will also not satisfy Clause 11 of AS1428.1 due to the Heritage restrictions of the existing stair. The performance requirement of the BCA will be justified by a Performance Solution.
Clause D4D5	Rooms / areas and associated accessways afforded the exemption concession under D3.4 need not to be accessible for people with disabilities due to the health and safety risk within these areas.	Refer to Appendix 2 markups for potential areas that would generally fall under D3.4 exemptions. Client acceptance would be requested to accompany construction documentation approval.
Clause D4D6	Number of accessible car parking spaces shown to comply with the BCA.	There are no carparking spaces provided for this building within the allotment and therefore accessible carspaces have not been considered.
Clause D4D7	Signage packages to be provided with detailed construction documentation to show compliance with Spec 15 of the BCA and AS1428.1	Further details required in due course.
Clause D4D8	Hearing augmentation not required as a part of the base building design.	Future tenancy fitouts may require hearing augmentation where inbuilt amplification systems installed within meeting rooms and the alike.
Clause D4D9	Tactile indicators will be required for the entry stairs on GF adjacent to principle building entrance as indicated on the Landscape Site Plan Drawing,	TGSI's will be performance justified where not provided to the internal central stairs. TGSI's to be selected to achieve compliance with AS1428.4.1.
Clause D4D10	Wheelchair seating spaces in Class 9b assembly buildings are not applicable to this building.	No further action required.
Clause D3.10	There are no proposed swimming pools within this development.	No further action required.
Clause D4D11	A landing for a step ramp must not overlap another landing for a step ramp or ramp.	The building shows compliance with D3.11 of the BCA.
Clause D4D12	Glazing on an accessway will be required to be provided with a solid horizontal decal in accordance with AS1428.1	Horizontal decals will be required on all frameless or fully glazed doors and sidelights, or any glazing capable of being mistaken as a doorway. Further details to be provided with construction documentation.
Clause E3D8	One (1) new passenger lift is to be provided to serve the building.	Design of the passenger lift to demonstrate compliance with E3.6 and AS1735.12 and this clause E3D8. Update DWG 503 as states 1735.1 & E3.6

DESCRIPTION	COMMENT	RESOLUTION
		Lift shop drawings required for further review for compliance.
Clause F4D4	Separate facilities are required for male and females unless is an unisex accessible sanitary facility or a staff facility that is for less than 10 users only. A Class 5 building does not require showers and therefore an accessible unisex shower is not required in accordance with F4D7 of the BCA however is provided given Council's End of Trip facility requirements.	The 2 cubicles on GF are to be non-gender facilities and a Performance Solution will be provided to satisfy this clause.
Clause F4D5	An accessible WC is provided in combination with an accessible shower on L1. Refer to F4D6 below. The amenities on GF and the Male facilities on L1 are existing and have not been affected by the Premises Standard upgrade requirements. The new Female sanitary facilities on L1 will be provided with an ambulant facility satisfying Clause F4D5 c).	Fixtures and fittings to be designed within detailed documentation to comply with AS1428.1. A performance solution is required where the accessible WC and shower is not provided on the GF accessible part of the building.
Clause F4D6	An accessible WC is required on each level where sanitary facilities are provided.	A performance solution is required where the accessible WC and shower is not provided on the GF location of staff amenities.
Clause F4D12	Accessible Adult Change Facilities are not applicable to the subject development.	No further action required.

4. SUMMARY

Based upon the information contained in the above tables one can determine that the proposed alteration and additions to the existing Heritage building are capable of achieving compliance with the relevant accessibility requirements of the BCA, subject to the comments provided above.

Compliance can be achieved either by meeting the deemed-to-satisfy requirements of the BCA, as are principally contained within Parts D4, E3D7, E3D8, F4D5, F4D6, F4D7, F4D12 and G7 as applicable, or via a performance-based approach.

We trust that the above information is sufficient for the consent authority in assessing the merit of the architectural design from a planning perspective.

This statement should not be construed as relieving any other parties of their legislative obligations.

Design Confidence possess Indemnity Insurance to the satisfaction of the building owner.

Kind Regards,

Report By	Reviewed By
DRAFT	DRAFT
Rachael Telling **Accessibility Consultant** For Design Confidence (Sydney) Pty Ltd	John La Scala **Accessibility Associate** For Design Confidence (Sydney) Pty Ltd

APPENDIX 1 – DOCUMENTATION PROVIDED FOR ASSESSMENT

Table 1 – Architectural Drawings prepared by CCG Architects

DRAWING	REV	TITLE		DATE
COVER SHEET, LOCATION PLAN	CCG-CME-AR-DRG-000	B	04/11/2022
DRAWING INDEX	CCG-CME-AR-DRG-100	B	04/11/2022
SURVEY	CCG-CME-AR-DRG-101	B	04/11/2022
SITE ANALYSIS PLAN	CCG-CME-AR-DRG-200	B	04/11/2022
PROPOSED SITE PLAN	CCG-CME-AR-DRG-201	B	04/11/2022
GLA & NLA CALCULATIONS SHEET	CCG-CME-AR-DRG-202	B	04/11/2022
GROUND FLOOR DEMOLITION PLAN	CCG-CME-AR-DRG-203	B	04/11/2022
PROPOSED GROUND FLOOR PLAN	CCG-CME-AR-DRG-204	B	04/11/2022
FIRST FLOOR DEMOLITION PLAN	CCG-CME-AR-DRG-205	B	04/11/2022
PROPOSED FIRST FLOOR PLAN	CCG-CME-AR-DRG-206	B	04/11/2022
ROOF PLAN	CCG-CME-AR-DRG-207	B	04/11/2022
GROUND FLOOR REFLECTED CEILING PLAN	CCG-CME-AR-DRG-208	B	04/11/2022
FIRST FLOOR REFLECTED CEILING PLAN	CCG-CME-AR-DRG-209	B	04/11/2022
ELEVATIONS	CCG-CME-AR-DRG-300	B	04/11/2022
ELEVATIONS	CCG-CME-AR-DRG-301	B	04/11/2022
SECTIONS	CCG-CME-AR-DRG-400	B	04/11/2022
SECTIONS	CCG-CME-AR-DRG-401	B	04/11/2022
DETAILS - STAIRCASE	CCG-CME-AR-DRG-500	B	04/11/2022
DETAILS - WET AREA PLANS SHEET 1	CCG-CME-AR-DRG-501	B	04/11/2022
DETAILS - WET AREA PLANS SHEET 2	CCG-CME-AR-DRG-502	B	04/11/2022
DETAILS - LIFT PLANS AND SECTION	CCG-CME-AR-DRG-503	B	04/11/2022
DETAILS - BALCONY BALUSTRADE DETAILS	CCG-CME-AR-DRG-504	B	04/11/2022
DETAILS - DORMER WINDOW	CCG-CME-AR-DRG-505	B	04/11/2022

APPENDIX 2 – DRAWING MARK-UPS

DESIGN CONFIDENCE

4. Performance Solution
Gate circulation clearances to both gates to be achieved outside of the allotment boundary and therefore do not technically comply with the BCA.

4. Performance Solution
Gates to be operated by dedicated staff given non compliances with operable force, door controls.

5. Performance Solution
Handrail not provided either side of flight of stairs.

2. Performance Solution
The floor or ground surface abutting the sides of the walkway shall provide a firm and level surface of a different material to that of the walkway at the same level of the walkway, follow the grade of the walkway and extend horizontally for a minimum of 600 mm.

WILSON STREET

Existing Cycleway

Existing Pathway

New Concrete Crossover Paving

PROVIDE LOCK HARDWARE TO ALL PEDESTRAIN AND VEHICLE GATES

LIGHTS IN GROUNDS AND ADJACENT TO FRONT GATES TO BE STAINLESS STEEL CYLINDER TYPES. REFER DETAIL TO SERVICE ENGINEERS DRAWING.

REFER DETAIL TO LANDSCAPE ARCHITECTS DRAWING.

1:20 Ramp

Lawn

Heritage Mix Concrete Pavement

Existing planting

Existing mulch

CoS Bin

SWSH

Booster

Existing stair to be demolished

Step Ramp

TWO STOREY BRICK BUILDING METAL ROOF

New Asphalt Levels amended to expose building vents and fall away from the buildings at 1:50

AREA TO BE REGRADED WHERE EXISTING ASPHALT LEVELS IMPEDE SUBFLOOR VENTS. REFER DETAIL TO LANDSCAPE ARCHITECTS DRAWING.

Ex. Grated Drain

Bike Racks

EXISTING STORAGE AREA U/S OF THE WC SHED BLOCK ROOF RETAINED, NEW 1800 H ENCLOSURE WITH A GATE TO BE PROVIDED

Bin Storage and A/C Plant Area

Ex. concrete hob to be removed and lawn graded down to meet sandstone edge

Ex. Fire Hose to be Removed

Ex. Fence and Wall Removed

EXISTING FENCE TO BE REMOVED

Existing Flag Pole to be Removed

Existing Fence and wall Retained

EASTERN GARDEN ALLOW PROVIDION FOR CLEAN & TIDY UP. REFER DETAIL TO LANDSCAPE ARCHITECTS DRAWING

Timber Sleeper Laid Flat

Proposed Lot boundary

Existing Stone Retaining Wall

Existing Fence Retained

New Pit

Nominal location of below ground rainwater tank

WATER TANK TO BE PLACED THE SAME DISTANCE AWAY FROM THE BUILDING * FOOTING, THAT THE BOTTOM OF THE FOOTING IS LOCATED. OTHERWISE UNDERPIN/ STABLISE THE FOOTINGS

D3.4 Exempt Spaces

Exemption under D3.4 of the BCA is to be sought for the areas hatched in red.

NOTE

NEW IN-GROUND SERVICES

EXISTING SERVICES ARE DILAPIDATED AND OR OUTDATED AND NEW SERVICES ARE REQUIRED. ROVIDE A NEW STORMWATER SYSTEM TO CONNECT THE DOWNPIPES FROM THE FRONT OF THE BUILDING TO AND DRAIN TO WILSON STREET. PROVIDE A STORMWATER REUSE SYSTEM COMPRISING STORMWATER CONNECTION TO THE DOWNPIPES AT THE REAR OF THE BUILDING COMPLETE WITH UNDERGROUND STORAGE TANK AND PUMP TO SERVE FUTURE IRRIGATION SYSTEM. PROVIDE NEW SEWER CONNECTION TO THE NORTH EAST CORNER OF THE SITE SINCE THE EXISTING SEWER PIPES ARE UNSALVAGEABLE AT THE REAR OF THE BUILDING. PROVIDE A NEW POWER CONNECTION TO THE BUILDING.
REFER DETAIL TO SERVICES ENGINEERS DRAWINGS.

SIGNAGE

INSTALL WAYFINDING BRAILLE AND TACTILE SIGNAGES TO ALL GATE ENTRIES AND BUILDING ENTRIES TO COMPLY WITH AS 1428.1-2009

INTERPRETATION SIGN

ALLOW FOR 3 X 2 METRE INTERPRETATION SIGN TO BE PLACED IN FRONT YARD BEHIND FENCE TO ADVISE PUBLIC IN REGARDS TO THE PROPOSED INTERIOR WORKS

1 SITE PLAN
SCALE 1 : 150

1.5 0 1.5 3 4.5 6 7.5m
SCALE 1:150

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

REV	DESCRIPTION	DESIGNER SIGN./DATE	VERIFIED SIGN./DATE	APPROVED SIGN./DATE
B	SSDA SUBMISSION	E.P./04/11/22	E.P./04/11/22	D.C./04/11/22
A	ISSUE FOR PRELIMINARY DESIGN	E.P./20/07/22	E.P./20/07/22	D.C./20/07/22

CO-ORDINATE SYSTEM: | HEIGHT DATUM: | SCALE:

NSW GOVERNMENT Transport for NSW

GHD | arterra

CCG ARCHITECTS
NOMINATED ARCHITECTS:
DAVID COOK (5086) / HISHAM NOORI (5678)
CCG ARCHITECTS
ARCHITECTURE

DRAWN	MUNKONG	04/11/22
DESIGNED	ERIC PARK	04/11/22
DRG CHECK	ERIC PARK	04/11/22
DESIGN CHECK	DAVID COOK	04/11/22
APPROVED	DAVID COOK	04/11/22

CHIEF MECHANICAL ENGINEER'S BUILDING
505 WILSON STREET REDFERN

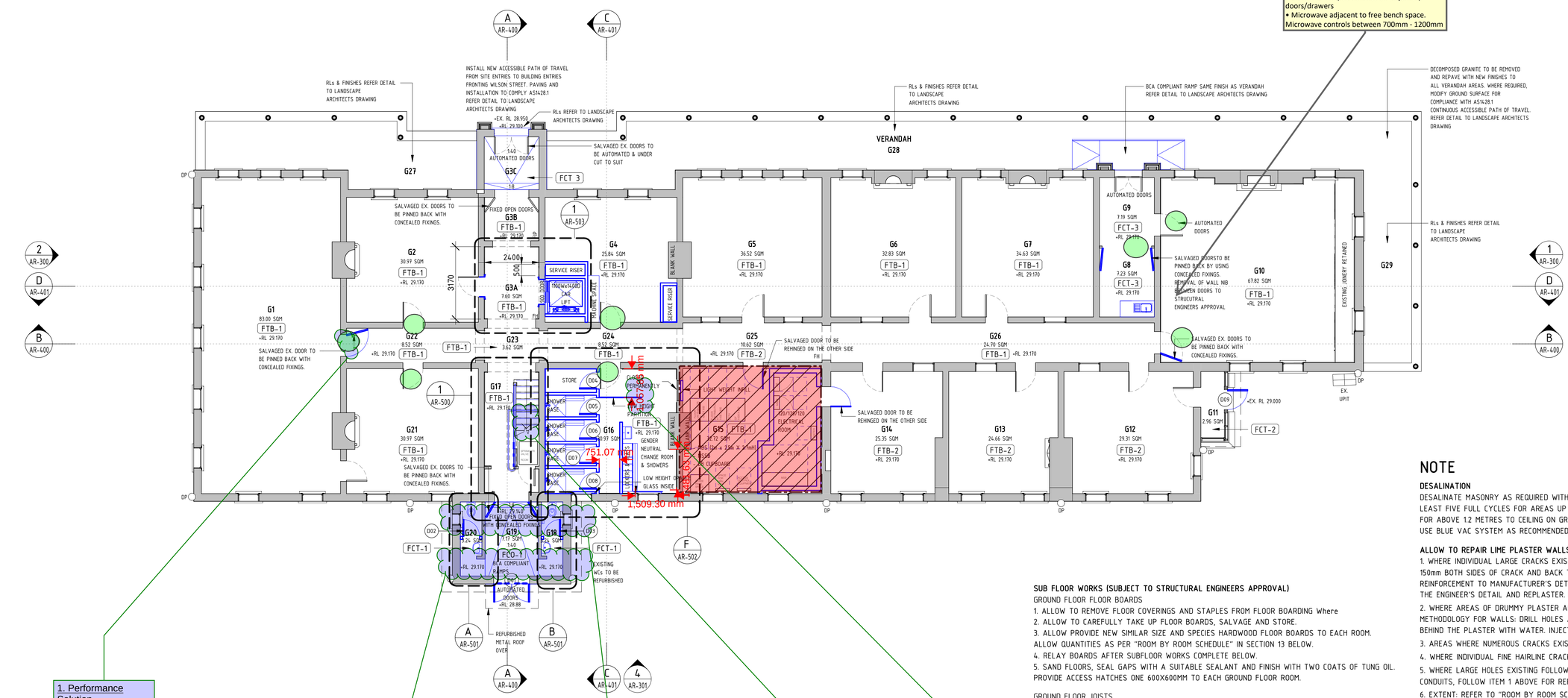
ARCHITECTURAL
PROPOSED SITE PLAN

FILE No. | SHEET: 1 OF 1 | A1
STATUS: SSDA SUBMISSION ©

DRG No.	REV	VER	EDMS No.	AMD No.
CCG-CME-AR-DRG-201	B			

DF 801*554

File Plotted D:\Documents\CHIEF MECHANICAL ENGINEER'S BUILDING_RVT21_Central_yoswards.dwt
Plot Date & Time 11/4/2022 8:10:17 PM



1 GROUND FLOOR PLAN
SCALE 1 : 100

LEGEND

- DEMOLISH
- PROPOSED
- EXISTING WALL
- PROPOSED WALL

LEGEND FLOOR FINISHES

REFER DETAIL TO ROOM BY ROOM SCHEDULE

- FTB-1 FLOOR TIMBER BOARDS (150mm) (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FTB-2 FLOOR TIMBER BOARDS (100mm) (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCT FLOOR CERAMIC TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCT-1 MONOCOTTURA TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCT-2 TERRACOTTA TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCT-3 NEW TESSELLATED TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCO-1 RAISED CONCRETE FLOOR WITH NEW TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- EXISTING DOORS WITH 850 CLEAR WIDTH (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- NEW DOORS DOOR & DOOR FRAME DETAIL TO MATCH SIMILAR EXISTING LIKE FOR LIKE DOORS ON SITE (REFER DETAIL TO ROOM BY ROOM SCHEDULE)

NOTE

TO BE READ IN CONJUNCTION WITH ROOM BY ROOM SCHEDULE

NOTE

DESALINATION

DESALINATE MASONRY AS REQUIRED WITH A DRY/WET VACUUM PROCESS. ALLOW FOR AT LEAST FIVE FULL CYCLES FOR AREAS UP TO 1.2 METRES ON GROUND FLOOR AND 2 CYCLES FOR ABOVE 1.2 METRES TO CEILING ON GROUND FLOORS AND ALL UPPER FIRST FLOOR WALLS. USE BLUE VAC SYSTEM AS RECOMMENDED BY MANUFACTURER.

ALLOW TO REPAIR LIME PLASTER WALLS WITH ONE OF THE FOLLOWING PROCESSES:

1. WHERE INDIVIDUAL LARGE CRACKS EXIST FROM STRUCTURAL MOVEMENT, CUT BACK PLASTER 150mm BOTH SIDES OF CRACK AND BACK TO SUBSTRATE, INSTALL HELICAL STAINLESS STEEL REINFORCEMENT TO MANUFACTURER'S DETAIL AND SPECIFICATION AND IN ACCORDANCE WITH THE ENGINEER'S DETAIL AND REPLASTER. PLASTER OVER TO MATCH EXISTING FINISH.
2. WHERE AREAS OF DRUMMY PLASTER ARE FOUND, REFIX BY INJECTING ADHESIVE. METHODOLOGY FOR WALLS: DRILL HOLES ABOVE AND BELOW DRUMMY AREA. ALLOW TO CLEAN BEHIND THE PLASTER WITH WATER. INJECT AN ACRYLIC RESIN BASED ADHESIVE.
3. AREAS WHERE NUMEROUS CRACKS EXIST, REMOVE EXISTING PLASTER AND REPLASTER.
4. WHERE INDIVIDUAL FINE HAIRLINE CRACKS EXIST, ALLOW TO PATCH.
5. WHERE LARGE HOLES EXISTING FOLLOW REMOVAL OF SERVICES SUCH LIGHT SWITCHES AND CONDUITS, FOLLOW ITEM 1 ABOVE FOR REPAIR METHODOLOGY.
6. EXTENT: REFER TO "ROOM BY ROOM SCHEDULE"

DOOR HARDWARE

RECTIFY DOOR HARDWARE SO AS THE DOORS ARE READILY OPENABLE FROM THE INSIDE WITHOUT A KEY BY A SINGLE HAND ACTION ON A SINGLE DEVICE (I.E. LEVER).
HE FOLLOWING WORK IS TO BE CARRIED OUT BY A REPUTABLE LOCKSMITH.
ALL ORIGINAL LOCKS SHALL BE REMOVED, EASED AND GREASED. ALLOW 50% ORIGINAL LOCKS. REMOVE ANY PAINT FROM BRASS AREAS, LIGHTLY CLEAN WITH STEEL WOOL.
NEW LOCKS (50% OF LOCKS) ALLOW FOR SUPPLY AND FIXING OF TRADITIONAL MORTISE LOCKS AS JACKSON'S 5 LEVER AND SOLID JACKSON'S BRASS KNOBS.

FIREPLACES

ALLOW TO CLEAN THE INSIDE OF VERTICAL FLUES AND FIREBOXES OF ALL CHIMNEYS. REPLACE MISSING CAST IRON METAL COMPONENTS (ALLOW CHIMNEY RESTORATION CENTRE TO PROVIDE ⅝ OF ELEMENTS FOR EACH FIREPLACE COMPONENTS AS PER "ROOM BY ROOM SCHEDULE") SPECIALIST MARBLE CONTRACTOR TO REVIEW EACH FIREPLACE AND PROVIDE REPORT. ALLOW POLISHING ALL MARBLE FIREPLACES AND RESTORING, WITH ⅝ OF NEW INTRODUCED SECTIONS OF SIMILAR MARBLE AS PER "ROOM BY ROOM SCHEDULE"
PAINT HEARTH AND METAL SECTIONS OF FIREPLACE WITH PROPRIETARY FIREPROOF BLACK-PAINT.
PROTECT FIREPLACE MANTLES AND SURROUNDS DURING CONSTRUCTION. REMOVE PROTECTION ON COMPLETION OF WORK.

SUB FLOOR WORKS (SUBJECT TO STRUCTURAL ENGINEERS APPROVAL)

GROUND FLOOR FLOOR BOARDS
1. ALLOW TO REMOVE FLOOR COVERINGS AND STAPLES FROM FLOOR BOARDING Where
2. ALLOW TO CAREFULLY TAKE UP FLOOR BOARDS, SALVAGE AND STORE.
3. ALLOW PROVIDE NEW SIMILAR SIZE AND SPECIES HARDWOOD FLOOR BOARDS TO EACH ROOM. ALLOW QUANTITIES AS PER "ROOM BY ROOM SCHEDULE" IN SECTION 13 BELOW.
4. RELAY BOARDS AFTER SUBFLOOR WORKS COMPLETE BELOW.
5. SAND FLOORS, SEAL GAPS WITH A SUITABLE SEALANT AND FINISH WITH TWO COATS OF TUNG OIL. PROVIDE ACCESS HATCHES ONE 600X600MM TO EACH GROUND FLOOR ROOM.

GROUND FLOOR JOISTS
1. CHECK OVER WITH HERITAGE ARCHITECT. AS PER TERMITE REPORT FOR TERMITE DAMAGED TIMBERS AND DRY ROT ALLOW. ALLOW QUANTITIES AS PER "ROOM BY ROOM SCHEDULE" USING 100X50MM F 27 HARDWOOD JOISTS.
2. ALLOW TO TAKE UP EXISTING JOISTS SALVAGE AND STORE.
3. RELAY JOISTS AFTER PIER AND BEARER WORK BELOW WORKS COMPLETE BELOW RELAY NEW AND SALVAGED JOISTS, NAIL TO BEARERS

GROUND FLOOR FLOOR BOARDS
1. CHECK OVER WITH HERITAGE ARCHITECT. AS PER TERMITE REPORT FOR TERMITE DAMAGED TIMBERS AND DRY ROT ALLOW. ALLOW QUANTITIES AS PER " ROOM BY ROOM SCHEDULE" USING 100X75MM F 27 HARDWOOD BEARERS
2. ALLOW TO TAKE UP EXISTING BEARERS SALVAGE AND STORE.
3. RELAY BEARERS AFTER PIER WORK BELOW WORKS COMPLETE BELOW RELAY NEW AND SALVAGED BEARERS

GROUND FLOOR PIERS
1. CHECK OVER WITH HERITAGE ARCHITECT.
2. ALLOW TO ARCHIVALLY RECORD, THEN REMOVE EXISTING PIERS.
3. CONSTRUCT NEW 230X230MM BRICK PIERS AT 1500MM CENTRES TO STRUCTURAL ENGINEER'S DETAILS (ALLOW 450X450X 300 REINFORCED CONCRETE PADS)
PROVIDE NEW GAL STEEL ANT CAPS TO ALL PIERS

D3.4 Exempt Spaces

Exemption under D3.4 of the BCA is to be sought for the areas hatched in red.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

REV	DESCRIPTION	DESIGNER SIGN./DATE	VERIFIED SIGN./DATE	APPROVED SIGN./DATE
B	SSDA SUBMISSION	E.P./04/11/22	E.P./04/11/22	D.C./04/11/22
A	ISSUE FOR PRELIMINARY DESIGN	E.P./20/07/22	E.P./20/07/22	D.C./20/07/22

CO-ORDINATE SYSTEM: | HEIGHT DATUM: | SCALE: 1:100

SCALE 1:100

CCG ARCHITECTS
NOMINATED ARCHITECTS: DAVID COOK (5086) / HISHAM NOORI (5678)
CCG ARCHITECTS
ARCHITECTURE

DRAWN	MUNKONG	04/11/22
DESIGNED	ERIC PARK	04/11/22
DRG CHECK	ERIC PARK	04/11/22
DESIGN CHECK	DAVID COOK	04/11/22
APPROVED	DAVID COOK	04/11/22

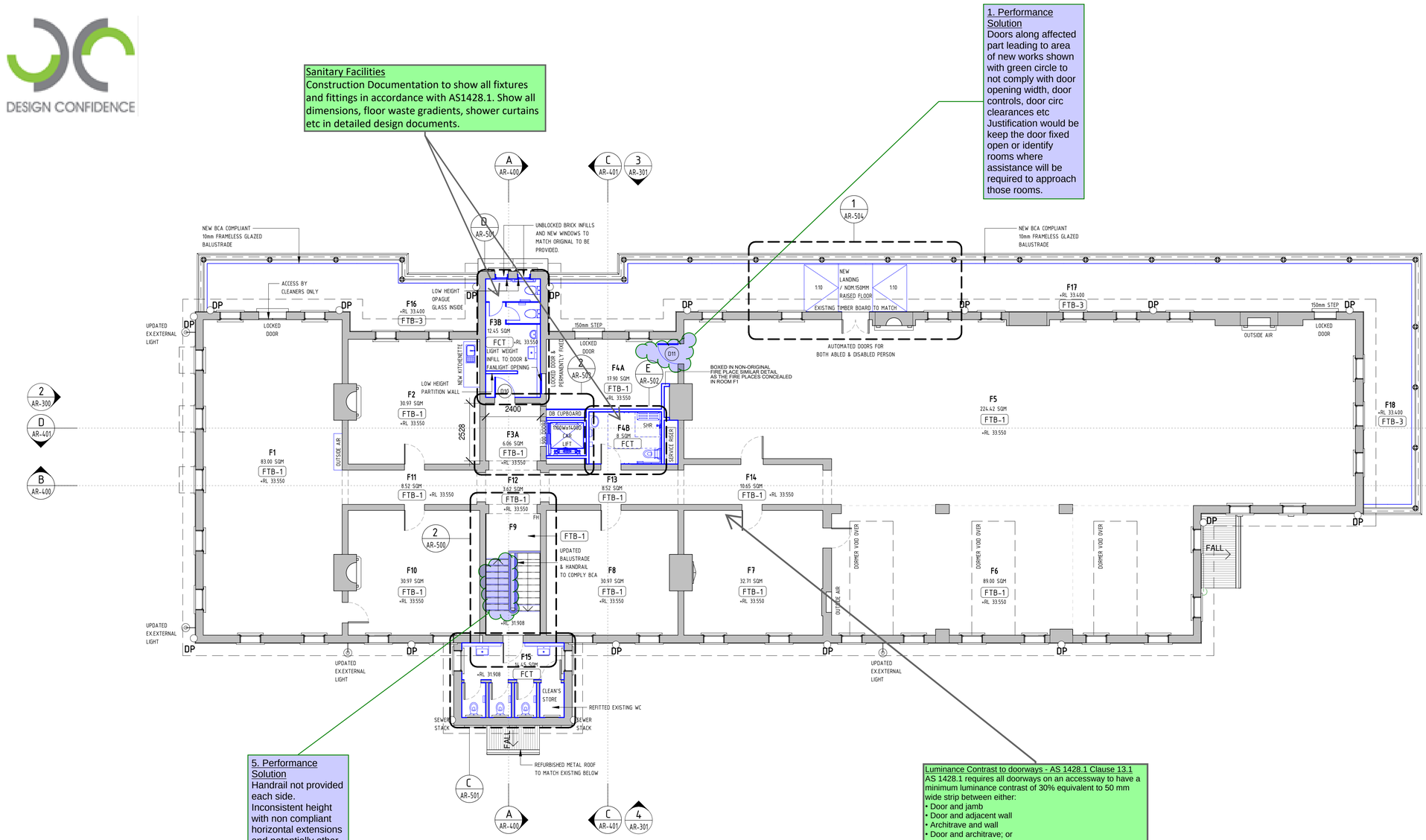
CHIEF MECHANICAL ENGINEER'S BUILDING
505 WILSON STREET REDFERN

ARCHITECTURAL
PROPOSED GROUND FLOOR PLAN

FILE No.	SHEET: 1 OF 1			A1
STATUS: SSDA SUBMISSION				©
DRG No. CCG-CME-AR-DRG-204	REV B	VER	EDMS No.	AMD No.

DF 801*554

File Plotted D:\Documents\CHIEF MECHANICAL ENGINEER'S BUILDING_RVT21_Central_yoswarb.rvt
Plot Date & Time 11/4/2022 8:10:25 PM



LEGEND

- DEMOLISH
- PROPOSED
- EXISTING WALL
- PROPOSED WALL

LEGEND FLOOR FINISHES

REFER DETAIL TO ROOM BY ROOM SCHEDULE

- FTB-1 — FLOOR TIMBER BOARDS (150mm) (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FTB-3 — FLOOR TIMBER BOARDS- EXISTING REFURBISHED
- FCT — FLOOR CERAMIC TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- FCT-1 — MONOCOTTURA TILES (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- EXISTING DOORS WITH 850 CLEARANCE (REFER DETAIL TO ROOM BY ROOM SCHEDULE)
- NEW DOORS DOOR & DOOR FRAME DETAIL TO MATCH SIMILAR EXISTING LIKE FOR LIKE DOORS ON SITE (REFER DETAIL TO ROOM BY ROOM SCHEDULE)

NOTE

TO BE READ IN CONJUNCTION WITH ROOM BY ROOM SCHEDULE

1 FIRST FLOOR PLAN

SCALE 1 : 100

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

NOTE

SUB FLOOR WORKS (SUBJECT TO STRUCTURAL ENGINEERS APPROVAL)

FIRST FLOOR FLOOR BOARDS

1. ALLOW TO REMOVE FLOOR COVERINGS AND STAPLES FROM FLOOR BOARDING WHERE REQUIRED.
2. WHERE DAMAGED RESTORE BOARDING. ALLOW PROVIDE NEW SIMILAR SIZE AND SPECIES HARDWOOD FLOOR BOARDS TO EACH ROOM. ALLOW AS PER " ROOM BY ROOM SCHEDULE" SAND FLOORS, SEAL GAPS WITH A SUITABLE SEALANT AND FINISH WITH TWO COATS OF TUNG OIL.

FIRST FLOOR JOISTS

1. CHECK OVER WITH HERITAGE ARCHITECT.
2. WHERE DAMAGED RESTORE JOISTS. ALLOW PROVIDE NEW SIMILAR SIZE AND SPECIES HARDWOOD JOISTS TO EACH ROOM. ALLOWANCE 30% EACH ROOM ALLOW 400MM X 50 F 28 HARDWOOD JOISTS AT 450MM CENTRES.

REV	DESCRIPTION	DESIGNER SIGN./DATE	VERIFIED SIGN./DATE	APPROVED SIGN./DATE
B	SSDA SUBMISSION	E.P./04/11/22	E.P./04/11/22	D.C./04/11/22
A	ISSUE FOR PRELIMINARY DESIGN	E.P./20/07/22	E.P./20/07/22	D.C./20/07/22

CO-ORDINATE SYSTEM: | HEIGHT DATUM: | SCALE: 1:100

SCALE 1:100

CCG ARCHITECTS
NOMINATED ARCHITECTS: DAVID COOK (5088) / HISHAM NDORI (5678)
CCG ARCHITECTS
ARCHITECTURE

DRAWN	MUNKONG	04/11/22
DESIGNED	ERIC PARK	04/11/22
DRG CHECK	ERIC PARK	04/11/22
DESIGN CHECK	DAVID COOK	04/11/22
APPROVED	DAVID COOK	04/11/22

CHIEF MECHANICAL ENGINEER'S BUILDING

505 WILSON STREET REDFERN

ARCHITECTURAL

PROPOSED FIRST FLOOR PLAN

FILE No. | SHEET: 1 OF 1 | A1

STATUS: SSDA SUBMISSION (c)

DRG No.	REV	VER	EDMS No.	AMD No.
CCG-CME-AR-DRG-206	B			

DF 801*554

Appendix F

curio
PROJECTS

Appendix F

RNE - Chief Mechanical Engineers Building—External Works Package

Prepared by Arterra in 2022.

ARTERRA DESIGN PTY LTD ABN 40 069 552 610
SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

Chief Mechanical Engineer's Office building, Wilson Street frontage.

PROJECT & CLIENT

RNE - Chief Mechanical Engineers Building

Stage 1 - Paint Shop Sub-Precinct
Wilson Street, Darlington N.S.W. 2008

Prepared for :
Transport for NSW

External Works Package

DRAWING INDEX

Drawing No.	Layout Name	Revision
L-SD-00	Cover Sheet	A
L-SD-01	Landscape Site Plan	A
L-SD-02	Landscape Concept Plan	A
L-SD-03	Eastern Garden Plan	A
L-SD-04	Typical Sections	A
L-SD-05	Typical Sections	A
L-SD-06	Typical Details	A
L-SD-07	Indicative Landscape Renders	A
L-SD-08	Indicative Landscape Renders	A

DATE :
4 November 2022

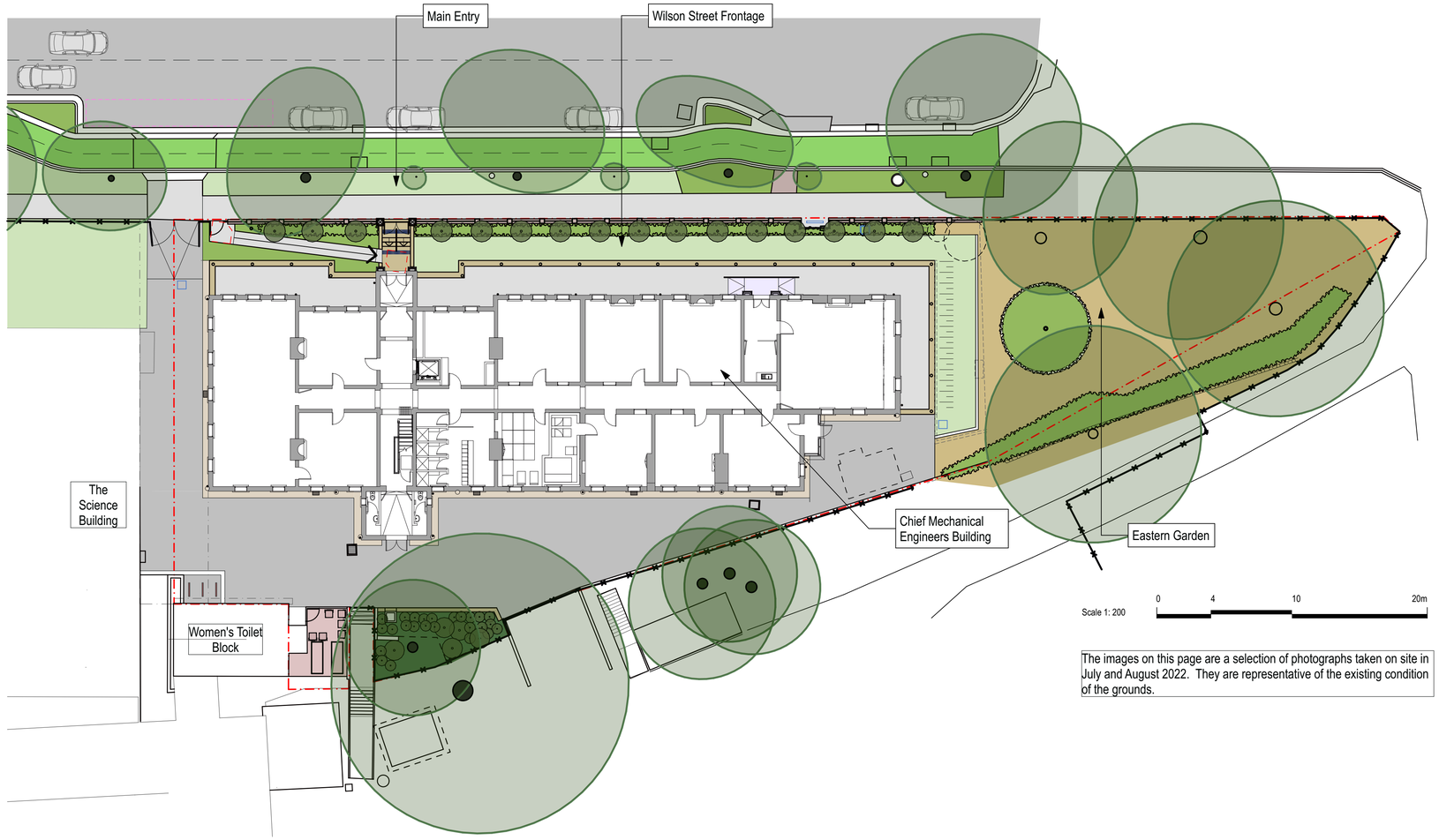
ISSUE :
SSDA - Submission

Driveway from Wilson Street at western end of the site,

Wilson Street main entry flanked by sandstone gate posts

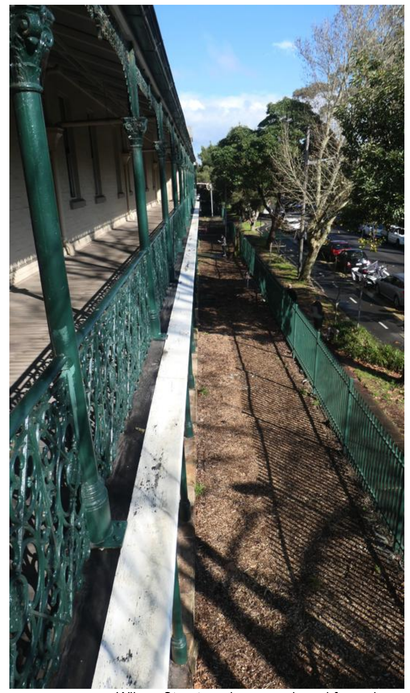
Wilson Street boundary fence & second entry steps and gate

North, western verandah and front garden area, looking east



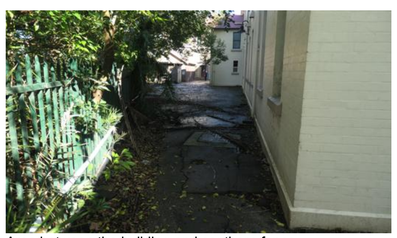
Scale 1: 200 — 0, 4, 10, 20m

The images on this page are a selection of photographs taken on site in July and August 2022. They are representative of the existing condition of the grounds.



Wilson Street garden area viewed from above

Existing toilet block at 'rear' & view of significant trees



Area between the building and southern fence

Eastern verandah looking south

Eastern garden viewed from balcony

Eastern garden and flag pole

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North
Scale : 1:200@A1 / 1:400@A3

DRAWING TITLE
Landscape Site Plan

DRAWING NUMBER
L-SD-01

REVISION
A

Plotted at : 1:34 pm 4/11/2022

For loading zone detail, see Fig 4.22 in SCT Traffic, Transport and Accessibility study

Poured in situ concrete ramp with low raking walls and kerbs in galvanised steel plate, providing equitable access to main entry

Retain and protect existing gateway and flanking pillars and maintain as main entry to facility

Dry pressed clay brick wall. 350mm thick nom. 450 high with double bull nose

Garden and lawn raked down to top of wall

New 1000mm high steel fence to match City of Sydney Park Fence Design, custom manufactured and finished in dark grey micaceous iron oxide coating, mounted atop new brick wall

Booster Assembly, cabinet and galvanised steel plate retaining wall

Camelia sasanqua pruned to a small tree, umbrella form. Underpalnted with a Buxus sempervirens hedge maintained at a height of 600mm and an Ophiopogon japonicus border.

WILSON STREET

T01 T02 T03 T04 T05 T06 T07 T08

Existing Cycleway

Existing Pathway

New Concrete Crossover Paving

Existing planting

Existing mulch

CoS Bin

SWPit

PP

TW 28.80

28.55 28.57 28.48 28.5 29.00 29.01 29.02 28.32

1:20 Ramp

Lawn

Heritage Mix Concrete Pavement

29.04

Booster

New Pit

Existing stair to be demolished

Step Ramp

Mulch

Timber Sleeper Laid Flat

Ex. Fence to be Removed

JOINS L-SD-03

Remove existing weed species and previously removed tree regrowth to be cut off at base

Remove excessive mulch, grind any stumps remaining and renew topsoil and turf grass to frontage

Drain overflow from tank to Wilson street, avoiding Tree Protection Zone.

Retain and refurbish where required the existing sandstone edge around verandah. Remove decomposed granite and resurface with Concrete using off white cement, river gravel and a locally sourced sand. We believe this is in keeping with the story of the building as an industrial facility and also has a connection to the land and the construction techniques of the time.

New Junction Pit

28.98+

Raise and relay existing sandstone flagging and side walls to the level of the door threshold

FL 29.17

Camelia sasanqua pruned to a small tree, umbrella form. Underpalnted with a Buxus sempervirens hedge maintained at a height of 600mm and an Ophiopogon japonicus border.

Provide accessible building entry/ step ramp in concrete. Balustrade in frameless glass

Ex. concrete hob to be removed and lawn graded down to meet sandstone edge

Ex. Fire Hose to be Removed

Coarse gravel apron around building with subsoil drainage lines falling to and connecting with s.w. system. To minimise splash onto the wall of the building and allow foundations to dry through the unsealed surface

New Asphalt Levels amended to expose building vents and fall away from the buildings at 1:50

Renew stormwater drainage from Downpipes and drain out through driveway minimising incursion into street tree 'Tree Protection Zone'

Drain rear downpipes to proposed rainwater tank. Shallow and localised trenching by hand only through tree protection zone.

Nominal location of below ground rainwater tank

Pit

New rainwater tank below ground.Excavation clear of all retained trees

New Asphalt Levels amended to expose building vents and fall away from the building at 1:50

One consolidated trench for all services to rear of building to minimise trenching near or around historic trees

Trench for Refrigerant Pipework Electricals etc.

Preferred location for bicycle hoops. Ideally should be visible from the street/driveway.

Ex. Grated Drain

Bike Racks

T206 T209 T205 T207

Existing trees retained and protected

Demolish existing fence and corrugated iron enclosure and refurbish with a new 1.8m timber screen fence and utilise area for plant and equipment and bin storage.

Bin Storage and A/C Plant Area

New A/C Condensors

New Air Conditioners

Existing building retained and protected. Not part of scope of works.

New raised sandstone edging to garden

Existing asphalt to be carefully removed and area around existing historic palm to be replenished with topsoil and planted with hardy groundcovers.

Existing tree retained and protected

Existing palm tree retained and protected

0 2 4 10m

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P 02 9957 2466 **F** 02 9957 3977 **W** ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT

RNE - Chief Mechanical Engineers Building

Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : 1:100@A1/1:200@A3

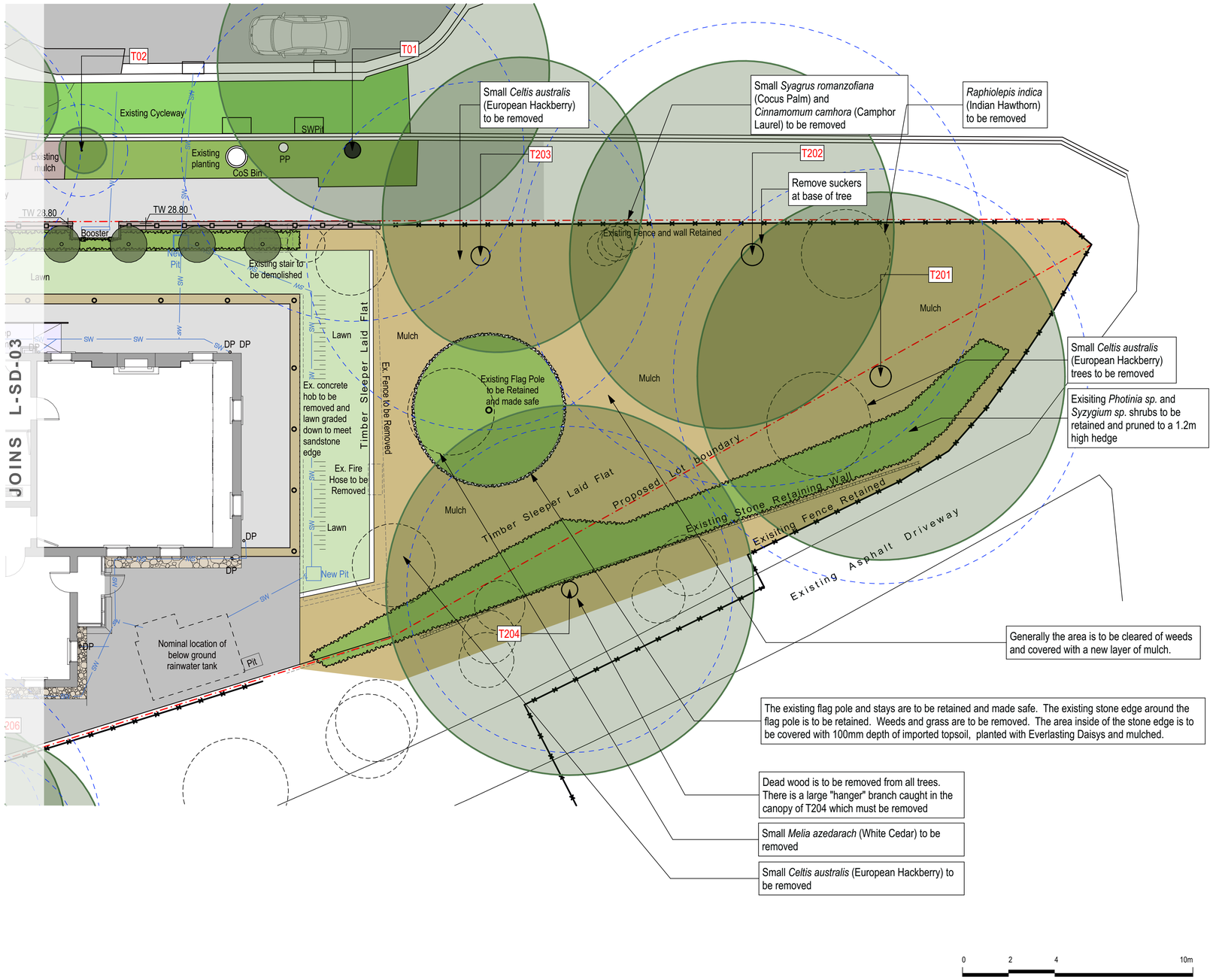
North

DRAWING TITLE: Landscape Concept Plan

DRAWING NUMBER: L-SD-02

REVISION: A

Plotted at : 1:34 pm 4/11/2022

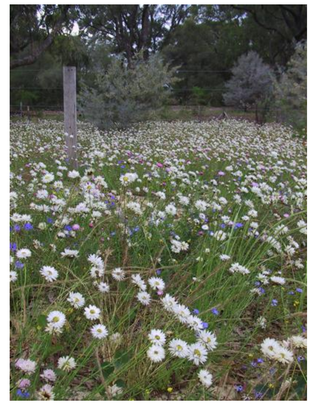


Proposed Plant Palette

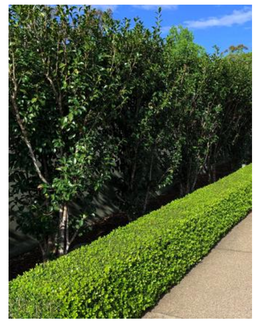
Camellia tree, *Camellia sasanqua*

Gymea Lily, *Doryanthus excelsa*

Lilyturf border, *Liriope muscari*



Everlasting Daisy, *Bracteantha bracteata*



Box hedge, *Buxus sempervirens*

Little Con border, *Lomandra confertifolia 'Little Con'*

Modo Grass border, *Opiopogon japonicus*

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

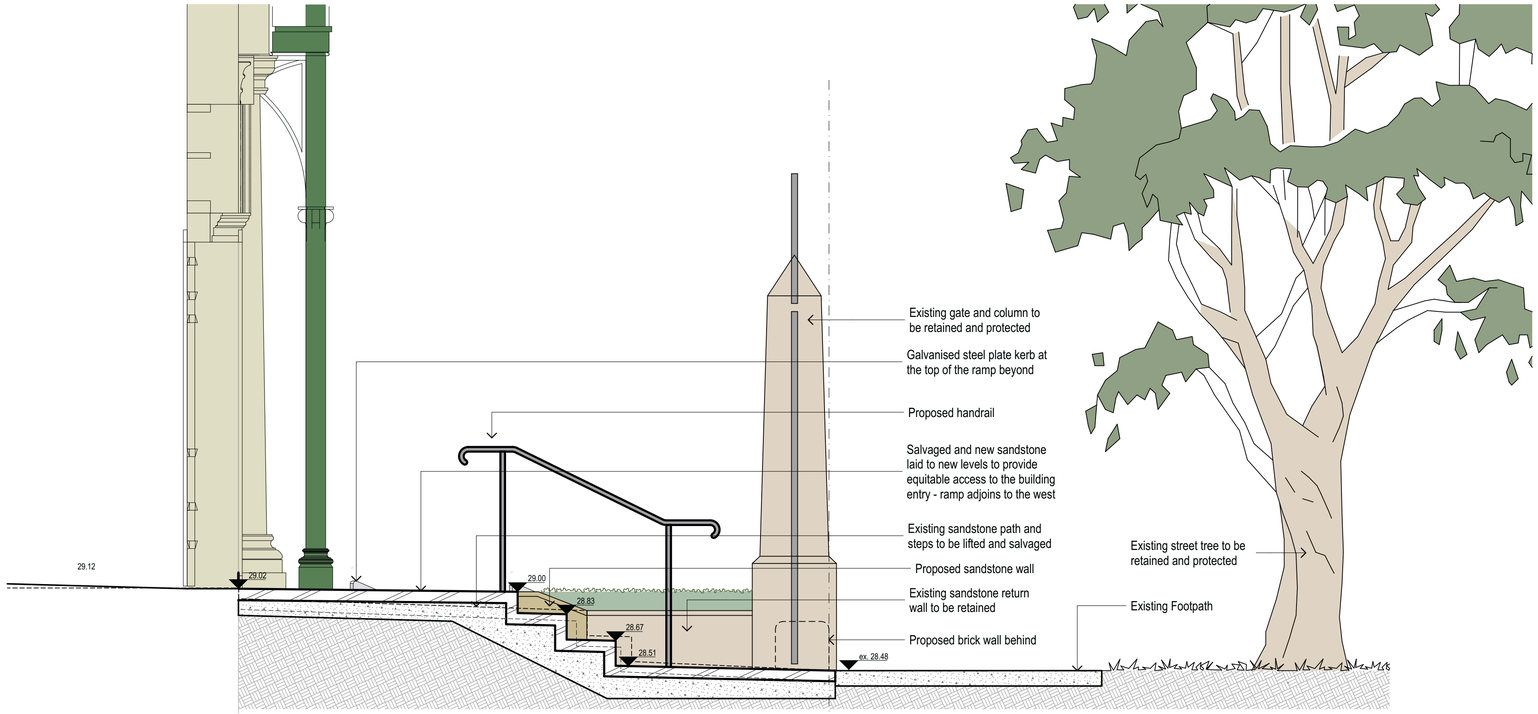
Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North Scale : 1:100@A1/1:200@A3

DRAWING TITLE
Eastern Garden Plan

DRAWING NUMBER
L-SD-03

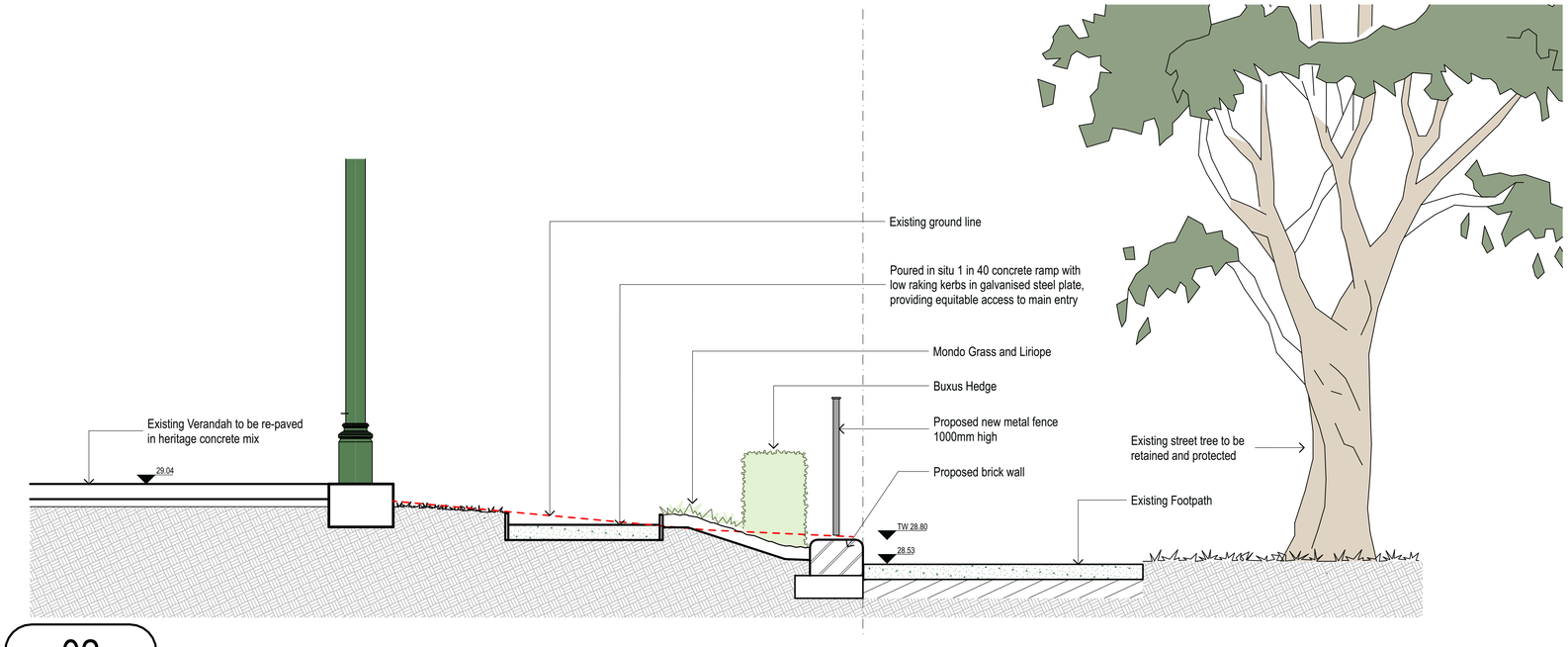
REVISION
A

Plotted at : 1:34 pm 4/11/2022



01 Section through Wilson St entry steps

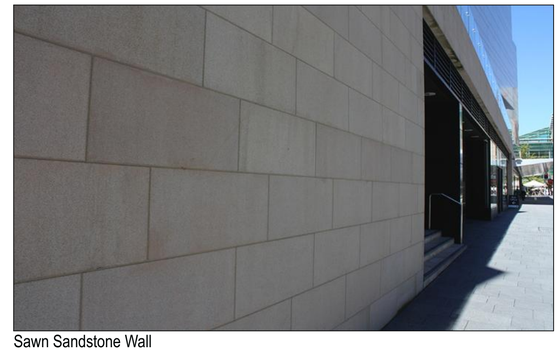
Scale 1:20 @ A1, 1:40 @ A3



02 Section through ramp entry and gate

Scale 1:20 @ A1, 1:40 @ A3

Palisade Fence



Sawn Sandstone Wall

Sawn sandstone Steps

Sawn Sandstone - Buff Colour

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

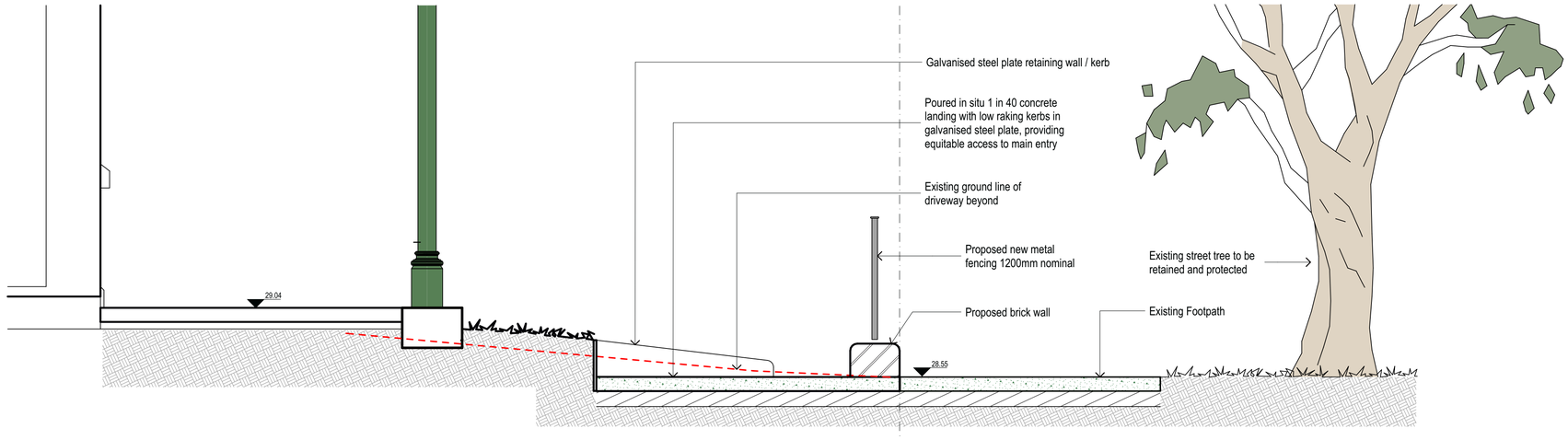
Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North Scale : As shown

DRAWING TITLE
Typical Sections

DRAWING NUMBER
L-SD-04

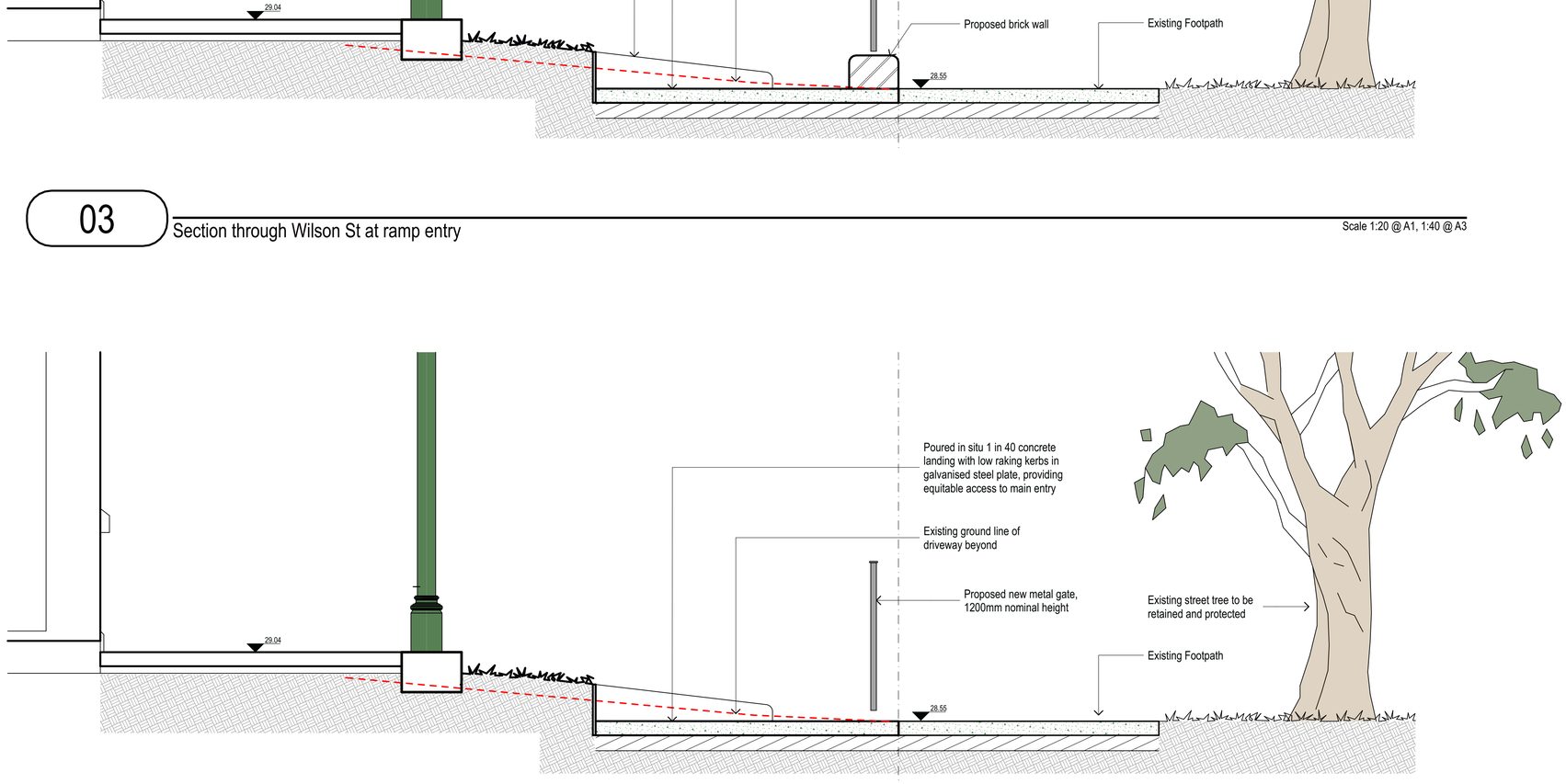
REVISION
A

Plotted at : 1:34 pm 4/11/2022



03 Section through Wilson St at ramp entry

Scale 1:20 @ A1, 1:40 @ A3



04 Typical section through Wilson St ramp

Scale 1:20 @ A1, 1:40 @ A3

Contrasting Nosing Detail

Brick Wall with Bullnose on Front and Back Leading Edge

Tactile Indicators

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

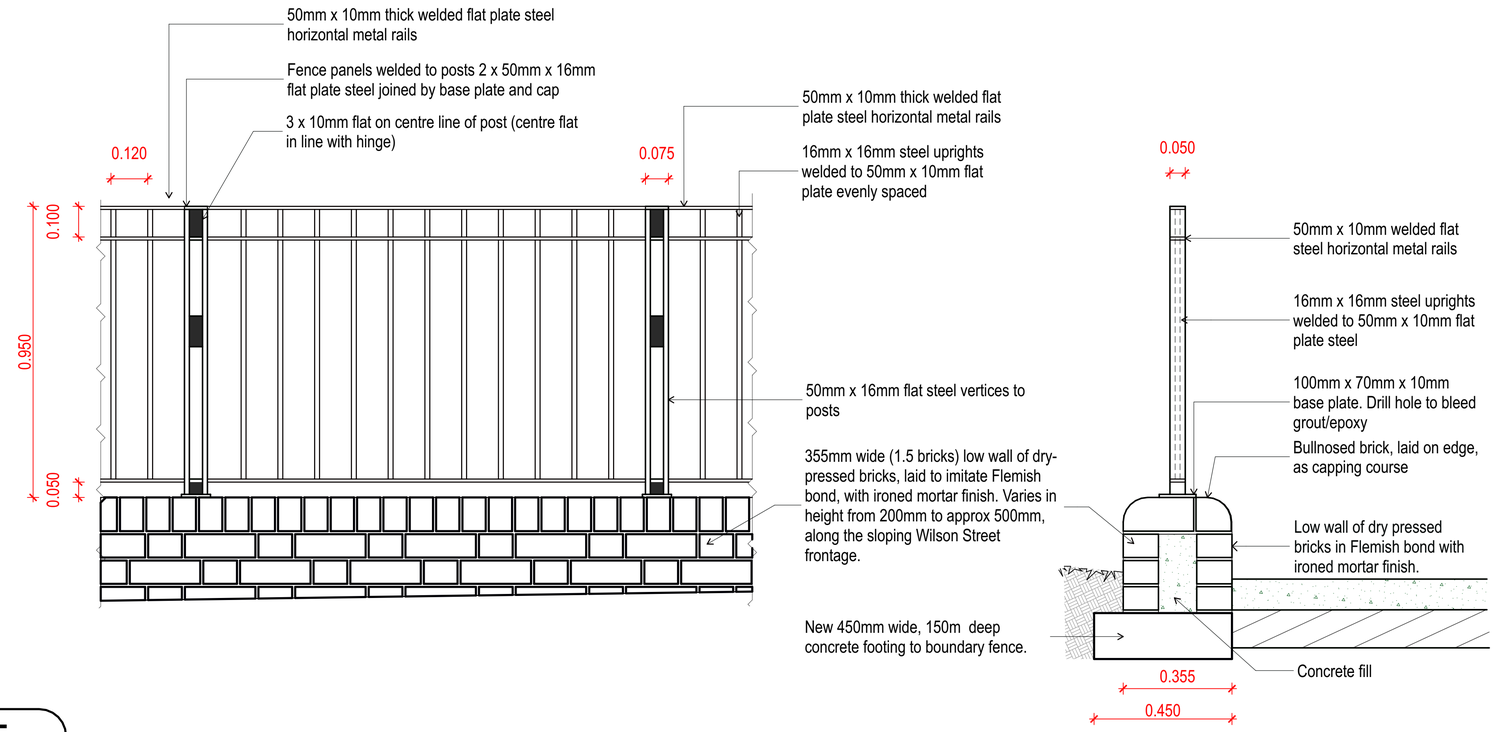
Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : As shown
North

DRAWING TITLE
Typical Sections

DRAWING NUMBER
L-SD-05

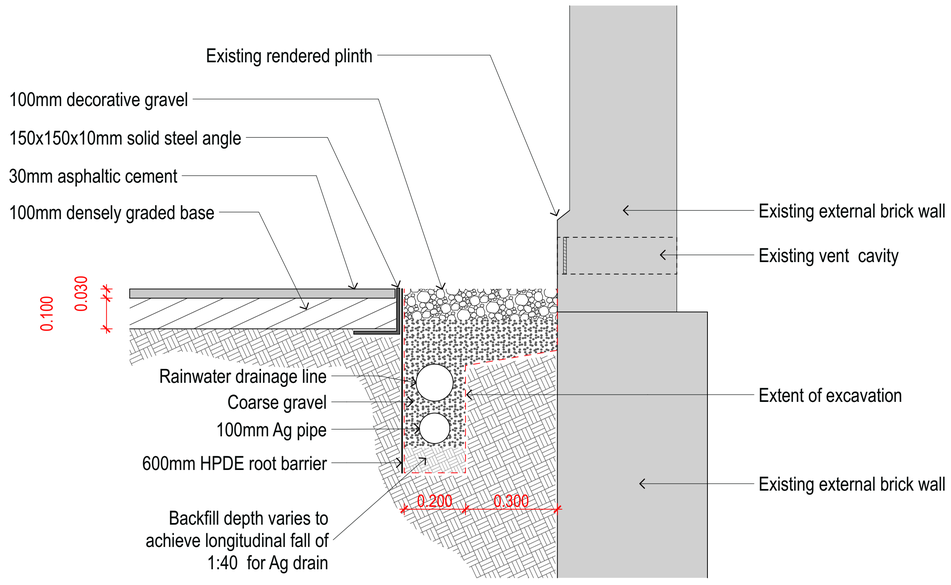
REVISION
A

Plotted at : 1:34 pm 4/11/2022



05 Wilson St boundary wall and fence detail

Scale 1:10 @ A1, 1:20 @ A3



06 Subsoil drainage and gravel apron detail

Scale 1:10 @ A1, 1:20 @ A3

Looking west inside the Wilson Street fence

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P 02 9957 2466 F 02 9957 3977 W ARTERRA.COM.AU

REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North
Scale :

DRAWING TITLE
Typical Details

DRAWING NUMBER
L-SD-06

REVISION
A

Plotted at : 1:34 pm 4/11/2022

Wilson Street facade, showing proposed boundary wall and fence configuration.

Eastern garden, looking west towards the building.

Wilson Street frontage, showing ramp entry, and driveway, on the right of the image.

Main entry from Wilson Street.

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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT

RNE - Chief Mechanical Engineers Building

Transport for NSW

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
North Scale : N/A

DRAWING TITLE

Indicative Landscape Renders

DRAWING NUMBER L-SD-07

REVISION A

Plotted at : 1:34 pm 4/11/2022

View from driveway, looking along the building verandah and new access ramp.

Wilson Street facade, view looking west along the frontage.

View of entry area, looking west, showing the adapted original steps and landing, meeting the new ramp.

General view of the southern area (rear) of the building, looking east. Temporary fence screens plant and bins, on the right of the image.

arterra

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SUITE 602 / 51 RAWSON STREET, EPPING, NSW 2121
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REVISION	DESCRIPTION	CHKD	DATE
A	For SSDA Submission	DSO	03/11/22

PROJECT & CLIENT
RNE - Chief Mechanical Engineers Building
Transport for NSW

North

Project No : 22.15
Designed : DSO/RWS
Drawn : DSO/RWS
Scale : N/A

DRAWING TITLE
Indicative Landscape Renders

DRAWING NUMBER
L-SD-08

REVISION
A

Plotted at : 1:34 pm 4/11/2022

Appendix G

curio
PROJECTS

Appendix G

Statement of Landscape Intent – Chief Mechanical Engineers Office, North Eveleigh
Prepared by Arterra in 2022.

statement of landscape intent

CHIEF MECHANICAL ENGINEERS OFFICE, NORTH EVELEIGH
Redfern North Eveleigh
505 Wilson Street, Redfern

November 2022

Overview
The revitalisation of the Chief Mechanical Engineers Office (CMEO) involves conservation works to the building fabric and modifications required to bring the building up to current standards for use as general office space. The landscape works for this phase are focused on:

- accessibility; and
- general repair or 'making good' of existing landscape surfaces.

Design and implementation of the landscape setting around the CMEO building will be limited to the Wilson Street (northern) frontage only. The eastern garden and permanent landscape treatments on the southern and western sides of the building will not be undertaken at this time. They are to be included with the development of Stage 3 works on the Eastern Park.

The key drivers for the current phase of works are:

- Retention of significant fabric.
- Providing a landscape treatment that is functional and minimalist and does not draw undue attention to itself or obscure the significant building.
- Accommodating accessible circulation around the exterior of the building.
- Accommodating services upgrade including stormwater connection.
- Retention of existing trees across the site as well as street trees in the adjacent Wilson Street.

There are 4 components to this phase of the project, and they are described in more detail below.

Wilson Street Frontage
The existing primary entrance to the building and the existing pedestrian gateway on the Wilson Street boundary are to be retained. The existing steps are to be lifted and relayed so that the upper landing can be lifted to provide equitable access at the entry to the building. Stainless steel tactile indicators will be installed at the top and bottom of the stair. An inlay of contrasting colour will be cut into and set in the step nosings. A new accessible ramp will connect to the upper landing, ensuring the same experience of arrival for all users. The ramp is designed with a 1:20 grade, requiring no handrails. As a simple, concrete surface, it will provide continuity from the street and be differentiated from the flagstone finish of the original entry landing. A low retaining wall and kerb in galvanised steel plate will edge the ramp ensemble ensuring that users stay on the path and are directed towards the entry. The ramp is designed to be 'unfussy' ensuring that the new insertion does not draw attention from the rhythm of the façade or compete with the original approach to the formal building entry.

The existing concrete slab retaining wall and 1.8m. high, green palisade fence on the Wilson Street boundary are to be removed and replaced with a new fence atop a low brick retaining wall. It is proposed that the wall will be constructed with dry pressed clay bricks, a bull nosed header and a thickness of 350mm. The fence is proposed to match the City of Sydney's standard park fence detail, a customised steel palisade approximately 1m. high finished in dark grey micaceous iron oxide coating. The existing vehicular gates will be replaced with new gates to match the style and the overall height of the new wall and fencing. Similarly, adjacent the vehicular gate, at the base of the access ramp there will be a new pedestrian gate. The existing, retained gates at the main entry will be re-finished to match the colour of the new fence.

Inside the new fence a neatly clipped, box hedge will be used to define the level change, which is consistent with the character of the Victorian period building and Wilson Street streetscape. Amongst the Buxus we have proposed a row of Camelias at approximately 3m. spacings. The intention is that they be pruned and shaped to a small tree with umbrella form so that they contribute to the canopy cover of the area without overly obstructing views of the building. The Buxus will be bordered with Mondo Grass and Lilyturf. East of the main entry there will be a lawn between the border and the verandah. West of the entry the border will extend to fill in the areas between the ramp and the verandah.

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Eastern Garden
The eastern garden area will be opened to the building and tidied up but there is no intention at this stage to reinstate or interpret the original garden. The existing 1.8m high green palisade fence that separates the eastern garden from the building is to be removed. The existing flagpole is to be retained and made safe. The existing stone edge around the flagpole is to be retained. Topsoil is to be placed over the existing surface, inside of this edge and the area is to be planted with small flowering ground covers. Beyond this small display around the flagpole, small tree saplings and weed species are to be removed by cutting to the base and poisoning. The area is then to be mulched over the existing surface.

Screening of utilitarian functions and introduction of a new Garden Bed
The area to the south of the building will be tidied up, especially in the area opposite the 'rear' access door. A screened area will be introduced at the eastern end of the toilet block to accommodate bin storage and air-conditioning plant, ensuring these elements do not visually impact appreciation of the CMEO when viewed from the south. Removal of an area of the hard asphalt surface and installation of a small, new garden bed in this area is intended to improve the conditions for the historic *Phoenix canariensis* (Canary Island Date Palm) and *Cinnamomum camphora* (Camphor Laurel).

Repair of Existing Finishes
In addition to the specific, new elements on the site, all existing surfaces will generally be repaired and 'made good'. Where possible, the raised asphalt surface around the site will be milled to a lower level to allow building sub-floor vents to be revealed. Immediately adjacent the western and southern sides of the building a narrow gravel border and sub-soil drainage will be installed to allow the building and foundations to breathe.

The current decomposed granite finish on the verandah will be replaced with a concrete finish using off white cement, river gravel and locally sourced sand. This is consistent with the appearance of the verandah in old photographs and is in keeping with the story of the building as an industrial facility. It also has a connection to the land and the construction techniques of the time. Conservation work to the sandstone verandah edge will also be undertaken as part of this phase of works and will provide the edge against which the new concrete will be finished.

Conclusion
The landscape design comprises a limited scope aimed at supporting the reuse of the CMEO as contemporary office space. It incorporates upgrade of services, access and general safety of the site.

Regards

Derek Osborne AAILA
Associate / Registered Landscape Architect (980)

Appendix H

curio PROJECTS

Appendix H

CME Building—Concept Design Report – Engineering Services

Prepared by GHD in 2022.

CME Building

Concept Design Report – Engineering Services

Transport for NSW

04 November 2022

→ **The Power of Commitment**

Project name		Chief Mechanical Engineer's Building Base Building Services					
Document title		CME Building | Concept Design Report – Engineering Services					
Project number		12581717					
File name		CME Building - Base Building Services. Concept Design Report.docx					
Status Code	**Revision**	**Author**	**Reviewer**		**Approved for issue**		
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S3	B	I Lindquist	P Parker	On-file			4/11/22
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1. Introduction

1.1 Purpose of this report

This report details the concept design proposals for the engineering services and supports State Significant Development (SSD) Development Application (DA) No. SSD-39971796 for the heritage conservation and adaptive reuse of the former Chief Mechanical Engineer's Building (CME Building) in North Eveleigh, which is submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Transport for NSW is the proponent for the SSDA.

This report covers the engineering services as detailed below:

– Hydraulic services including the sanitary drainage, stormwater, water supply and domestic cold and hot water.
– Mechanical services including the air conditioning and ventilation services
– Electrical services including power supply and power systems, lighting, communication systems and security systems
– Fire services including fire hydrant, fire sprinkler, fire alarm and fire hose reel systems

1.2 Scope and limitations

This report: has been prepared by GHD for Transport for NSW and may only be used and relied on by Transport for NSW for the purpose agreed between GHD and Transport for NSW as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Transport for NSW arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1.3 Background

1.3.1 Site Description

The site comprises the former CME Building (**Figure 1**) and immediate surrounds (**Figure 2**). The site is identified as 505 Wilson Street, and forms part of Lot 5 in Deposited Plan 1175706.

Originally constructed in 1887 and subsequently extended to keep pace with the expansion of the NSW railways and demand for engineering services, the CME Building is of State heritage significance. The CME Building is listed on the NSW Heritage Register (SHR No. 5014147) and Transport for NSW's s170 Register. The statement of significance provided on the NSW Heritage Inventory outlines the significance of the site:

> *The building is a very fine late Victorian railways office on a scale above all other such structures in the State. The building reflects the importance of the railway engineers in the development of the State and its closeness to the Eveleigh workshops (mainly under the control of the Mechanical Branch) indicates the confidence in railway construction. The building is in a style not often seen in Sydney and is a rare survivor. More often this form of building is in evidence in the country where the pressure of development*

is less. It is an important element in the town and streetscape of Wilson St, Redfern, particularly to close proximity to the railway workshops.

The CME Building is located within the Redfern North Eveleigh Precinct (**Figure 3**). The Redfern North Eveleigh Precinct is located within the wider Redfern-Waterloo Authority Sites SSP. The Redfern North Eveleigh Precinct is 10 hectares of land owned by Transport Asset Holding Entity (TAHE) at the southern edge of Redfern Station, located between the rail corridor and Wilson Street.

The Redfern North Eveleigh Precinct, including the CME Building, is the subject of an approved Part 3A Concept Plan (MP08_0015) which continues to apply to the land pursuant to Schedule 2 of *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*. TfNSW is currently preparing a SSP Study for the Paint Shop Sub-Precinct within the wider Redfern North Eveleigh Precinct, which was exhibited between 26 July and 25 August 2022. It is noted that the SSP Study indicates that the Concept Approval would be surrendered should rezoning of the Paint Shop Precinct occur.

Figure 1 - Chief Mechanical Engineer's Building (existing), viewed from Wilson Street

Figure 2 – Aerial showing extent of works
Source: Nearmap/Ethos Urban

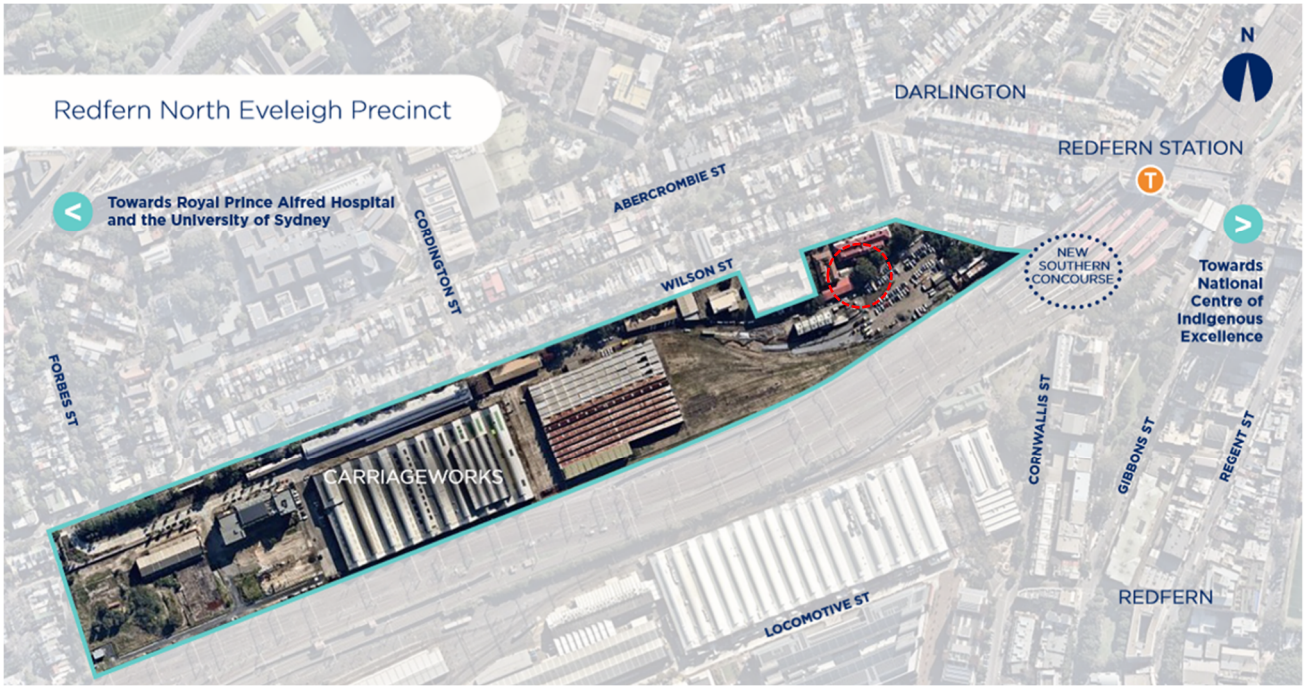


Figure 3 - Redfern North Eveleigh Precinct (CME Building outlined in red)

Source: TfNSW

1.3.2 Overview of Proposed Development

The application seeks consent for the heritage conservation and adaptive reuse of the CME Building, which includes:

– Internal and external heritage conservation works to make the building suitable for adaptive reuse, including painting, repairs and refurbishment of the existing building (primarily internally) and installation of services to support future usage for offices or the like;
– Building upgrades to ensure compliance with the Building Code of Australia, including accessibility and fire safety requirements;
– Removal of any hazardous building materials; and
– Minor landscaping works.

No significant additions (except those necessary to facilitate suitable access and fire egress) or substantive demolition of external heritage fabric is envisaged as part of the project. Internal changes comprise the removal of some internal walls and alterations to building fabric to create suitable spaces and compliant paths of travel.

1.3.3 Assessment Requirements

The Department of Planning and Environment have issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the SEARs as follows:

– Design Quality – engineering services

1.4 Assumptions

This concept design report is based on the following:

– Services brief for the CME Building excluding the provision of an external electric vehicle charging station and removal of the requirement to demolish the services to the toilet block
– Return brief prepared for the CME Building
– Concept drawings prepared by the Architect and Landscape consultant
– Preliminary assessment of the credit requirement to achieve a 5 star Green Star rating for the Building

2. Hydraulic Services

2.1 Scope

The hydraulics services are for the design and documentation of the proposed CME building development and include:

– Rainwater drainage, harvesting, treatment, and reuse.
– Sanitary plumbing and drainage.
– Sanitary Fixtures and Tapware [as specified by Architect].
– Domestic cold-water reticulation.
– Domestic hot water and warm water reticulation.
– Backflow protection.
– Connections to site infrastructure.
– Associated Authority plumbing applications and negotiations (excluding fees and charges);
– All co-ordination between Hydraulic Services and other services trades including mechanical, fire sprinklers, irrigation and building structure.

2.2 Design Criteria

Refer to architectural schedule for sanitary fixture and tapware selections.

Minimum fixture flow rates

Table 1 Minimum fixture flow rates

Fixture	Max flowrate (l/min)	WELS Rating
Basins (including DDA)	6	TBC
Sinks	9	TBC
Showers	9	TBC
Urinals	N/A	N/A
Water Closets (including DDA)	N/A	N/A

2.2.1 Water Services

The potable cold water supply system for the male and female bathroom amenities, kitchenettes and garbage / mechanical plant room shall meet the following minimum operational and design criteria:

Table 2 potable water operational requirements

Function	Design Criteria
Working velocities in pipes shall be limited to a maximum of	1.6m/s
Maximum operational pressure at outlet	500kPa
Minimum operational pressure at outlet	250kPa

The potable hot water supply system for the male and female bathroom amenities, kitchenettes and garbage / mechanical plant room shall meet the following minimum operational and design criteria:

Table 3 Hot water operational requirements

Function	Design Criteria
Working velocities in HW flow pipes from heaters shall be limited to a maximum of	1.2m/s
Maximin operational pressure at outlet	500kPa
Minimum operational pressure at outlets	250kPa
Hot water storage temperature shall be set at a minimum of	60°C
Thermostatic mixing valves to all accessible amenities at	42°C
Thermostatic mixing valves in all other areas to be set at	50°C

2.2.2 Compliance

The key Standards, Codes and Regulations for the hydraulic services systems include:

– Plumbing and Drainage Part 1: Water Service: To AS/NZS 3500.1:2018
– Plumbing and Drainage Part 2: Sanitary Plumbing and Drainage: To AS/NZS 3500.2:2018
– Plumbing and Drainage Part 3: Stormwater Drainage: To AS/NZS 3500.3:2018
– Plumbing and Drainage Part 4: Hot Water Supply System: To AS/NZS 3500.4:2018
– Building Code of Australia 2019 Volume 1 (Amnd 1)
– Plumbing Code of Code of Australia 2019 Volume 3
– Electrical Installations (Australian and New Zealand Wiring Rules): To AS/NZS 3000:2018

2.3 Sanitary Drainage

Sanitary drainage and plumbing systems: Designed in accordance with AS/NZ 3500.2 and Local Authority requirements including:

- In ground drainage, shall have adequate inspection openings to surface to enable ease of maintenance. Where possible main drains to be run external to the building.
- Sanitary waste shall be connected via a new gravity connection point anticipated at the front of the site to the existing Sydney Water sewer infrastructure.
- Provide provision for safe release of effluent from the connection point (ORG and/or reflux valve).
- Vents and drainage pipes will be constructed to provide flexibility for future building requirements and fixture reconfigurations.
- Additional drainage systems will be provided to cater for discharge from mechanical, fire and hydraulic plant and equipment as required.
- Sanitary vents shall be terminated to atmosphere, through the highest roof level.
- Sanitary plumbing located over acoustic sensitive areas will be acoustically wrapped in accordance with the acoustic engineers and best practice requirements.
- All non-metallic pipes penetrating floor slabs, fire and smoke walls and any fire rated element will be provided with an approved fire stop collar to match the required FRL of that element.
- All pipes will be adequately supported and securely fixed. Such supporting and fixing to be carried out without causing any distortion, damage or stress on the pipes or pipe joints. Pipes will be supported at each collar and at spacing as listed in the appropriate Australian Standard.
- Supply and install tundishes in areas required for mechanical / plant drainage. Tundishes will be recessed in wall type with viewing panel or chrome plated where exposed.
- Pipelines shall be laid true to line and bore from point to point.
- Pipelines shall be graded in accordance with the Authorities requirements and as required under AS/NZS3500.2.
- Provide and install clear-out inspection fittings to provide rodding access to all lines for ease of maintenance.

2.4 Rainwater Collection & Re-use

Designed in accordance with Local Authority regulatory requirements & AS/NZ 3500.1 and AS/NZS 3500.3, rainwater shall be collected to Sydney Water, local council and Australia Rainfall Runoff requirements.

A storage/rainwater collection tank combined with Onsite Detention Tank (OSD) is situated at the rear of the site. Due to the sites heritage constraints the rainwater tank and OSD is provided below ground with the combined tank overflow connecting into the authority civil stormwater drainage system.

Harvested rainwater is intended to be collected from a portion of the CME building roof via external downpipes, and the stored rainwater shall be treated / filtered to class' A' water quality prior to re-use via rainwater pumps for site irrigation supply purposes.

2.5 Stormwater Drainage System

The stormwater drainage system from the CME building extends from the base of the external downpipes and discharges to the civil stormwater and civil OSD system provided by others.

2.6 Water Supply

A new potable water connection for the CME building development is provided from the existing site potable water supply via the existing authority meter and existing site RPZD assembly located at the front of the site boundary near Wilson and Little Eveleigh Street.

A new fire mains connection from the existing authority main at the front of the site in Wilson Street shall be provided for new CME fire services. The fire main services connected to the authority main shall be reticulated up to the fire booster(s) within the site boundary on Wilson Street and terminated for continuation by fire services Contractor. Refer to section 5 for further fire services information.

2.7 Domestic Water

2.7.1 Potable Cold Water

Potable cold water delivery to fixtures, fittings, equipment and plant throughout the CME development, shall include:

Backflow prevention provided on:

– incoming water supplies (to Sydney Water requirements).
– To zoned areas.
– On individual fixtures, where required by AS/NZS3500.1.
– Rainwater tank potable cold water switching device.
– Fire Services.
– Mechanical provisions.
– Irrigation provisions.

Potable cold water shall be supplied, at minimum, to the following:

– Amenities.
– Fit out areas.
– Mechanical equipment.
– Heated domestic water heaters.
– Refuse/waste Room.
– Rainwater tank potable cold water switching device.
– Capped provision for irrigation.

The cold water system will incorporate stop valves, which shall be located in readily accessible locations to enable individual area isolation for maintenance purposes.

Excessive water pressures to be reduced by providing individual adjustable pressure reducing valves on the outlet of the control valves.

Fixtures, fittings and equipment shall be provided with the minimum WELS rating as nominated by the ESD consultant to meet Green Star requirements.

The following water metering strategy shall be adopted;

– Authority Metering.
– Potable domestic main water meter.
– DCV bypass water meter on fire services.
– Sub meters for future fit out provisions (TBC).

2.7.2 Potable Hot and Warm Water

Heated domestic hot water shall be generated utilising electric instantaneous 3 phase type hot water units located in bathrooms and kitchenette amenities, close to point of use and within accessible locations.

Thermostatic mixing valves for warm water delivery shall be provided in wall recessed stainless steel cabinets to provide temperature reduction in all amenity showers, basins and accessible fixtures as required.
Hot water insulation will have a zero flame and smoke index and be 25mm thick (min) wall thickness with a K value of 0.04 w/m K for all bathrooms and kitchenette amenities.

Dead legs in the heated water system shall be avoided as much as practical and every heated water outlet shall have full temperature within 10 seconds.

Instant chilled / boiling type service units are provided close to point of use within kitchen sink cupboards and located on ground and first floor kitchenette areas.

2.8 Building Management System (BMS)

Hydraulic systems monitored shall include:

– Sub water meters.
– Rainwater pumps set including;
  - Each pump failure;
  - Each pump run.
– Rainwater storage tank;
  - High level alarm;
  - Low level alarm.
– Rainwater treatment system fault.

3. Mechanical Services

3.1 Scope

The Scope of the Mechanical Services comprise the Air-conditioning and Ventilation Services which include:

– Air conditioning systems to serve all occupied areas to suit a class 5 commercial office
– Filtered and conditioned fresh air distribution to each space.
– Cooling to Communications Rooms
– Mechanical ventilation to the toilets and pantries. etc.
– Provision for future tenant exhaust systems
– Building Management and Control System (BMS).

3.2 Design Criteria

3.2.1 Design Conditions

External:: Summer 31.1^{0}C dry bulb ,22.7^{0}C wet bulb

Winter 7.2^{0}C dry bulb

Internal:	22.5°C ± 1.5°C Dry Bulb and nominal 50% Relative Humidity (No direct humidity control except by virtue of the coil selection)
Outside Air:	50% higher rates of Outside Air than the recommended outside air quantities detailed in AS 1668.2:2012 to comply with the 5 star Green Star requirements. Include CO2 monitoring to maintain the internal CO2 level less than 800ppm
Supply Air:	Based on heat load requirements.
Exhaust Air:	Toilets To AS1668.2: 2012
	Mechanical and electrical rooms; to suit equipment requirements.
Supplementary Outside Air:	0.3 l/s/m² NLA to every floor for tenant use
Supplementary exhaust air:	100l/s per floor
Temperature zoning	Separate temperature zones are required for each room in the ground and first floor areas

3.2.2 Internal Heat Gains

Lighting 5 W/m^2

Small power 15 W/m^2

3.2.3 Noise levels design

Comply with AS2017: 2017

3.2.4 Occupancy

The total occupancy for the building shall be 1 persons per 10m² NLA

3.2.5 Compliance

The key Standards, Codes and Regulations for the mechanical services systems include:

- National Construction Code 2019.
- AS 1668.1:2015 - The use of ventilation and air-conditioning in buildings – Fire and smoke control in buildings
- AS 1668.2: 2012 – The use of ventilation and air-conditioning in buildings – Mechanical ventilation in buildings
- AS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors
- AS 3666 Set 2011– Air-handling and Water Systems of Buildings – Microbial Control
- AS/NZS 3000:2018 – Electrical Installations
- AS 1324.2:2003 – Air Filters for Use In General Ventilation
- AS 4254.1:2021 – Ductwork for air handling systems in building – flexible duct
- AS 4254.2:2012 – Ductwork for air handling systems in building – rigid duct
- AS 4426:1997 – Thermal insulation of pipework, ductwork and equipment selection, installation and finish
- Local Electricity Supply Authority
- Occupational Health and Safety Codes

3.3 Air Conditioning

3.3.1 General

The mechanical system is based on the following principles:

– Minimum noise and vibration characteristics.
– Proven design.
– Appropriate for application and climate.
– Limited space available in the first floor space for the reticulation of the services
– Limited height available in the sub floor space on the ground floor for the reticulation of services
– Minimum disturbance of the heritage fabric of the building
– Reliability.
– Durability.
– Flexibility for future churn. This shall include clearly defined separation of services and specification of clear ceiling zones of sufficient height to permit the reticulation and relocation of each service
– Ease of maintenance.
– Ease of replacement of parts, consumables and whole item.
– Design criteria and building performance in accordance with requirements and recommendations in the reference standards.
– Efficient operation at full load, part load and after-hours operation – this requires a balance between initial capital cost and ongoing operation and maintenance costs. The system shall have the lowest total cost solution having regard to functional requirements, operation costs, future maintenance and initial costs.
– Plant selection shall be in accordance with recognised design guides e.g. AIRAH Design Guides as follows:
    - DA02 Noise Control
    - DA09 Load Estimation and Psychrometric
    - DA15 Air Filters
    - DA03 Duct Design
    - DA13 Fans

All plant shall be commissioned in accordance with a recognised standard such as ASHRAE Guideline 1 or CIBSE Commissioning Code M.

3.3.2 ESD Design Objectives

The building is to be designed to achieve a 5 star Green Star rating.

To meet energy budget requirements, the building will have energy and environmental conservation measures to minimise energy consumption without compromising the specified accommodation standards. The following has been considered for the Heating, Ventilation and Air Conditioning Systems:

– Use of direct expansion variable flow refrigerant systems with energy efficient part load performance
– Provision of variable speed drives to outside air fans with variable flow
– Include a 50% increase to the outside air rates specified in AS 1668.2 with CO2 monitoring to allow the outside air to modulate and maintain a maximum of CO2 le vel of 800ppm
– Use of high efficiency electric motors
– Control of the mechanical services with a direct digital control system incorporating energy saving algorithms
– Consideration of the provision of a mixed mode air conditioning system allowing the use of natural ventilation through opening windows when outside ambient conditions are appropriate.

3.3.3 Air conditioning Options

The total area to be air conditioned is in the order of 1100m² with an estimated cooling load less than 150kW and the heating load less than 100kW.

The existing building will require some cooling and heating to provide acceptable temperature control. The provision of passive cooling and heating would require considerable modification to the fabric of the building including increasing the thermal insulation of the walls, floors and windows together with the introduction of ventilation chimneys into the building. Due to the heritage requirements this is not considered practical, and an active cooling and heating system will be required to provide suitable comfort conditions in the building.

A number of different options for air conditioning the building have been examined and these options are summarised below:

Chilled/Heating Water System

This option would include the following:

– An air cooled chiller with circulation pump located in the outdoor plant space
– An air cooled heat pump with a circulation pump located in the outdoor plant space to provide heating
– Insulated chilled water and heating water pipes reticulated underground between the plant space and the sub floor space of the ground floor
– Insulated chilled and heating water pipework reticulated through the building to the fan coil units
– Ducted fan coil units located in the roof space and ground floor sub floor space or free standing fan coil units located on the floor of the rooms.
– A separate ducted outside air system comprising outside air intakes, filters, fans and ducting through the roof space and vertical risers to the ground sub floor space to reticulated outside air though the building. Outside air would be distributed to the first floor via linear slot ait outlets in the first floor ceiling and to the ground floor via swirl outlets in the ground floor.

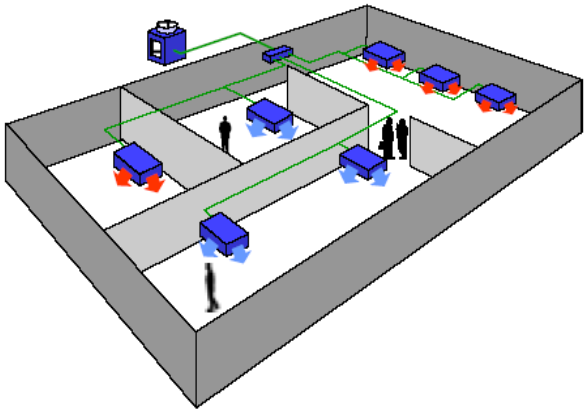
The advantages and disadvantages of this option are outlined below:

Table 4 Chilled / Heating Water System assessment

Advantages	Disadvantages
The use of chilled water would allow the use of an underfloor displacement air system for the ground floor. The use of direct expansion refrigeration system would result in a supply air temperature too low to use for an underfloor system	Higher capital cost than a direct expansion system
Good temperature control	The chiller and heat pump will take up more space that the condensers for an air-cooled refrigeration system
The chillers can use lower GWP refrigerants than direct expansion systems	The pipework will be larger and more difficult to fit into the available floor space than using refrigerate pipework
Can be controlled directly via a BMS	The system will only have one source of cooling or heating so if these break down, no cooling or heating would be available.
	More likelihood of leaks or condensation drips from the use of chilled water pipework

Variable Refrigerant Flow System

A VRF air-conditioning system would comprise the following:



- Air cooled heat pump condensing units located in the outdoor plant space. These are fitted with variable speed refrigeration compressors to provide both cooling and heating via reverse cycle operation.
- Refrigeration pipework would be reticulated in ground to the sub floor space of the ground floor and reticulated via the sub floor space of the ground floor and vertical risers to the first floor
- Ducted fan coil units located in the roof space and ground floor sub floor space or free standing fan coil units located on the floor of the rooms.
- A separate ducted outside air system comprising outside air intakes, filters, fans and ducting through the roof space and vertical risers to the ground sub floor space to reticulate outside air though the building. Outside air would be distributed to the first floor via linear slot air outlets in the first floor ceiling and to the ground floor via swirl outlets in the ground floor.

VRF systems are complex and contain microprocessor-based electronics, which ensure efficient operation. Central to VRF control is their ability to automatically vary refrigerant flow from the outdoor unit in response to the heating/cooling load of the building.

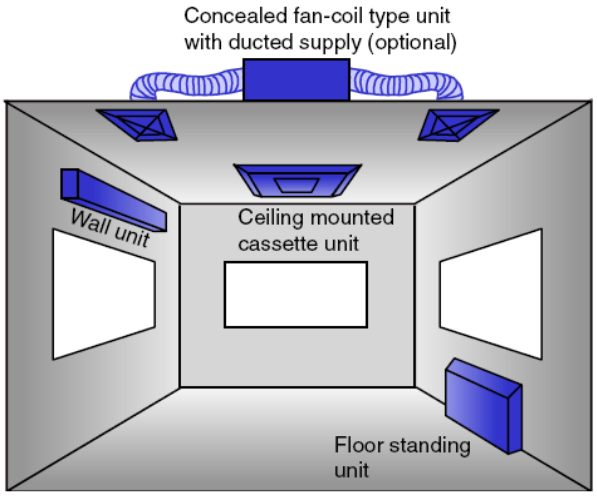
The advantages and disadvantages of this option are outlined below:

Table 5 Variable Refrigerant Flow System assessment

Advantages	Disadvantages
The refrigerant pipework is smaller than the chilled and heating water and requires only one set of pipes. The pipework will have less impact on the building fabric	Cannot be used for an underfloor ducted system as the supply air temperature is too cold
Lower capital cost than the chilled water/ heating water option	Requires a High Level Interface to connect the controls to a BMS
The air-cooled condensers require less plant space that the chiller and heat pump	
Can provide both heating and cooling simultaneously and can	

Advantages	Disadvantages
There will be multiple condensers so on failure of one unit, air conditioning to all the building is not affected	
More energy efficient than a small, chilled water/ heating water system	

Ducted Vs Free Standing Fan Coil Units



There are options to use ducted fan coil units or free-standing air fan coil units. The use of a high wall unit is only considered suitable for the Communications room. The use of ceiling mounted cassette units is not considered appropriate for this building due to the openings required in the heritage ceilings and visual impact of the units.

The ducted unit option would include:

– Ducted fan coil units located in the roof space with Sheetmetal and flexible ductwork between the FCU and supply and return air outlets in the ceiling to distribute the air to the space.
– Ducted fan coil units located in the sub floor space of the ground floor with return and supply air outlets located in the floor of the ground floor.

Note there is no space available to locate the FCUs in the first floor floorspace and insufficient space in the ground floor corridor to fit the FCUs ductwork and other services.

The free-standing fan coil units will comprise free standing fan coil units located on the ground and first floor with no supply and return air ductwork.

A comparison of these systems are as follows:

Table 6 Ducted FCU comparison

Advantages	Disadvantages
The fan coil units would be hidden in the roof space and underfloor space	May be insufficient space in the roof space to fit the FCUs and ductwork
Better air distribution that the free standing FCUs	Require excavation of the sub floor ground floor space to provide a minimum of 450mm clear space
	As the FCUs for the ground floor need to be located in the sub floor space, a direct expansion VRF system is not suitable and a central chilled and heating water system would be required
	Require a large number of openings in the first floor ceilings and ground floor for the air outlets and access to the FCUs

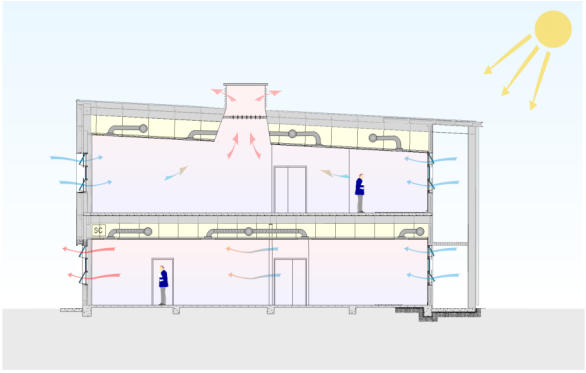
Table 7 Free Standing FCU comparison

Advantages	Disadvantages
Does not require space in the roof space or under the ground floor	The FCUs will be exposed in the rooms
Least effect on the heritage fabric including the ceilings and floor	Air distribution is not as good as good
Only localised excavation in the ground floor sub floor is required	
Allows the use of a VRF direct expansion refrigeration system	

3.3.4 Other Considerations

The provision of individual FCUs in each space will allow the provision of a mixed mode air conditioning system.

Mixed mode is not considered a system in itself but an enhancement that can be applied to an air conditioning system to improve energy consumption. A mixed mode system can be defined as a system that utilises either air conditioning to a space to control temperatures and when external conditions are appropriate utilises natural ventilation in lieu of air conditioning to control space temperature. In this building the FCUs would be arranged to shut down when the windows in the room are open



Key points

- Energy efficient means to provide outside air and control space temperatures to buildings
- Potential to create healthier internal environments
- Can provide greater occupant satisfaction due to increased sense of control of system
- Provides more reliability as each system can act as a backup of the other
- Extends life of mechanical plant as it will run less.

Limitations

- More expensive than air-conditioning only
- Openable windows will have security implications
- Open windows can be a source of noise entering the building
- Entrance of insects etc through openable windows needs to be considered
- Building operators may require special training
- Occupants need to understand building operation.

3.3.5 Proposed Air Conditioning System

The proposed air conditioning system for the building is a Variable Refrigerant flow system using free standing fan coil units with a separate ducted outside air system with air outlets in the first-floor ceiling and ground floor.

This system is selected for the following reasons:

- Least impact on the heritage fabric and only limited penetrations are required in the first-floor ceiling and ground floor for the outside air outlets
- The provision of the VRF system provides an energy efficient system with less plant area and smaller space required for the pipework.
- Allows the provision of a hybrid air conditioning to allow the use of natural ventilation by opening the windows when the conditions are appropriate.

3.3.6 Heritage Impact

The mechanical services will be configured to minimise the impact on the heritage fabric of the CME Building. These considerations include:

- Minimising penetrations in the ceilings and floors
- Provision of ducting in the roof space and sub floor space below the ground floor to reticulated ductwork.
- Minimising service risers and locating the risers in consultation with the heritage consultants to minimise the impact on the Heritage fabric.

– Provision of a service zone in a dropped ceiling in the ground floor corridor to allow reticulation of the services to the first floor.
– Routing the services including pipework between the floor joists of the first floor and following the changes of direction in the floor joists to minimise the impact of the service reticulation in these areas.

3.4 Ventilation Systems

The proposed ventilation systems are made up of two components, being outside air and exhaust systems.

3.4.1 Outside air Systems

Outside air will be provided to all occupied areas of the building and include supplementary outside air to allow for future meeting rooms etc.

The outside air systems will comprise the following

– Air intakes located in the valley of the roof so they are not visible form the ground level.
– Ducted outside air complete with filters and variable speed fans located in the roof space.
– Sheetmetal and flexible ductwork in the roof space to linear slot outlets in the first-floor ceiling to supply outside air to the first floor.
– Sheetmetal droppers from the roof space to the ground floor sub floor space and ductwork reticulated in the sub floor space to floor mounted swirl outlets to serve the ground floor.
– Take off points in the roof space and sub floor space of the ground floor for future tenant use.
– Provision of CO^2 sensors to modulate the speed of the outside air fans to maintain the CO^2 levels below 800ppm.

3.4.2 Exhaust systems

The toilets and pantries will be provided with ducted exhaust systems comprising ductwork and fans located in the roof space with exhausts discharging through the roof.

3.5 Controls

3.5.1 Building Management System (BMS)

A central BMS shall monitor and control the operation of all the Mechanical Services systems within the buildings.

A comprehensive building management system utilizing direct digital control and front-end monitoring systems shall be provided for the control, operation and monitoring of all the major plant systems.

The operational status of all the Mechanical Services systems shall record back to the BMS together with all alarms.

The BMS system shall also, where required, control the timed operation of certain non-Mechanical systems.

The BMS shall also have provisions as required to achieve a 5 star Green Star rating. These include

– Monitoring the electrical and water consumption using sub meters
– Provide a demand management system to control the peak electricity use – the details of this will need resolution during the detailed design stage.
– Provision of a demand management dashboard that shows the peak demand target, current, historical demand, the demand shedding priorities and enabling button alongside the critical performance characteristics (usually comfort temperature)

4. Electrical Services

4.1 Scope

The scope of work for the Electrical Services comprises the following:

– Installation of power and communication lead mains to support future commercial tenants.
– Electrical services design to allow for multiple commercial tenants and design to suit a base building configuration with future fit outs.
– Provide metering for multiple tenants.
– Design of lighting system, small power layout and communication system to suit the base building.
– Reticulate power and communications cabling including cable pathways for future tenant fit outs.
– Heritage consideration is paramount with special consideration for cable reticulation through the building.
– Installation of security system, including proximity card system or equivalent to building and external gates.
– Installation of Switchboard, Distribution board and communication racks.
– New electrical supplies to other services such as mechanical, hydraulic and fire services as required.

4.2 Design Criteria

4.2.1 Compliance

The key Standards, Codes and Regulations for the Electrical Services includes:

– National Construction Code 2019
– AS/NZS 3000-2018 Electrical Installations (known as the Australian/New Zealand Wiring Rules)
– AS/NZS 3008.1.1 2017 Electrical installations – Selection of cables – Cables for alternating voltages up to and including 0.6/1kV – Typical Australian installation conditions
– AS/NZS 3013-2005 Electrical installations – Classification of the fire and mechanical performance of wiring system elements
– AS 61439 Low voltage switchgear and control gear assemblies
– AS/NZS 3760-2010 – In service safety inspection and testing of electrical equipment
– AS 3851 The calculation of short-circuit currents in three-phase A/C. systems
– AS/NZS 4836-2001 Safe working on low-voltage electrical installations
– AS/CA S009: 2020 Installation requirement for customer cabling
– AS 2834 1995: Computer accommodation
– AS 1428.1:2009 Design for access and mobility – General requirements for access – New building work
– AS 1428.2-1992 Design for access and mobility – Enhanced and additional requirements – Buildings and facilities
– AS/NZS 1680.1:2006 Interior and Workplace Lighting - General principles and recommendations
– AS/NZS 2053.1:2001 Conduits and fittings for electrical installations Part 1: General Requirements
– AS/NZS 2293.1:2018 Emergency lighting and Exit Signs for Building
– AS/NZS 4282:201 Control of the Obtrusive Effects of Outdoor Lighting
– AS 60529 Degrees of Protection provided by Enclosures (IP Code)
– SAA HB 29 Communication Cable Manual

Note: Some of the above Australian Standards are mandated by law; others represent current acceptable practice in case law. Where interpretation is necessary refer to advice from the appropriate Chief Engineer.

4.2.2 Existing configuration

A visual and non-invasive site inspection was undertaken on 16th June 2022. The findings of the inspection are noted in the section below:

Incoming supply and Distribution boards

The existing supply to the CME Building is supplied via an existing aerial supply along Wilson Street and is connected to the existing Main Switchboard/Meter Panel mounted on a private pole at the front of the premise.

The existing switchboard / meter panel has a 63A main switch. Existing cable containment is generally a mix of external inground cabling and mix of surface mounted containment and ceiling recessed cabling within the building.

An existing 400A rated Switchboard is currently located at the back entrance of the building and is unconnected. It appears unused and was believed to be part of a main supply upgrade that did not proceed. The switchboard condition has deteriorated in the interim.

There are several Distribution Boards and MSSB located along the corridor of building and will be removed and replaced for the new works.

No secondary supply has been identified, CME Building has only a single power supply.

Metering equipment

Existing Ausgrid meter panel is located on a private pole within the front of the premise.

Lighting, emergency lighting and lighting control

The general lighting installation is aged and at the end of life.

The existing lighting system within the building comprises of linear battens and troffer luminaires. All luminaires inside the building appear using fluorescent lamp.

The back side of the building are installed with gooseneck lights of a heritage nature. The front side of the building limited quantity of internal facing spot lights.

Existing lighting control is via manual switch.

There is no existing emergency lighting sighted during the site inspection.

General power

The existing general power installation is typical consisting of subcircuits supplying equipment as required throughout the building.

Communication

There are existing communication distribution frames located along the corridor. This will be removed for the new works.

Security

There is an existing nx-16 access control system near the front entry of the facility. There appears to be no CCTV at the facility.

Maximum Demand

The existing facility has been unused for a period of time, with no meaningful existing maximum demand available.

A preliminary maximum demand has been undertaken based on AS/NZS 3000 utilising square meter rates for an office facility. This has been estimated at approximately 200A. A detailed maximum demand will be calculated based on AS/NZ 3000 Table C3 in future stages of the design. A 30% spare capacity allowance will be added for future expansion.

4.3 Upgrade Requirements

The current drawings and documentation are at Concept Stage and will be subject to further design development. Certain details are not yet shown at this stage and will be further defined and designed in subsequent design stages.

The following upgrade requirements have been determined based on a site inspection, scope of work, calculations, interpretation of standards, and consultation with providers.

4.3.1 Power system

Supply Authority Connection

A previously approved ASP connection for a new supply from substation S.7224 was undertaken prior to the commencement of this project. It has however been several years since the approval was provided. It is anticipated that a new connection will need to be negotiated.

Metering equipment

Existing Ausgrid tariff metering shall be replaced with new as part of main switchboard. New sub-metering will be provided for future multiple tenants. Meters shall be connected to a monitoring system capable of capturing and processing the data produced.

Main Switchboard

A new Main Switchboard shall be provided to the proposed electrical room. New consumer mains to be provided from the Ausgrid substation (subject to application for connection).

4.3.1.1 Distribution Board

Existing Distribution Board will be removed and replaced with new. One Distribution Board for each floor with submain from the Main Switchboard. Total for circuit capacity to allow for 50% increase in circuits.

Enclosure to be non-combustible construction to comply with D2.7 of the BCA.

Cabling and Containment

A new underground cable containment shall be provided for the new incoming submains from the Substation Kiosk to the existing Main Switchboard.

The proposed cable route between Main Switchboard and Distribution Boards will be via combined services route / cable tray on the underfloor space ground floor and first floor. Separate cable tray on the same route shall be provided for the final circuits. Access hatch will be provided for maintenance purposes.

New electrical cabling and containment shall be compliant with relevant standards.

General Power

All new general power outlet and associated containment shall be in accordance with relevant Australian Standards.

4.3.2 Lighting system

New lighting and associated sub-circuits and containment will be provided to internal and external parts of the building in accordance with relevant standards.

Inground luminaires \ ground mounted projectors shall be utilised to highlight the existing heritage columns at the front entry. Glare guards shall be used where required.

External wall washers shall be utilised to accent the Northern façade, luminaires shall be installed in a concealed manner within the awning.

LED strip lighting shall be provided to highlight details including the tympanum above entry areas.

Internal luminaires shall be suspended where possible and supplemented with the use of wall mounted luminaires.

Where possible external luminaires will utilise a warm colour temperature (2700k or under).

New emergency lighting and associated sub-circuits and containment to internal portions of the building in accordance with relevant standards.

Where required to coordinate with heritage ceilings, surface mounted emergency lights shall be provided to avoid cutting large holes within the ceiling. Exit lights to be wire suspended.

Lighting controls shall be provided via motion sensor with contactor and override switch arrangement. Dimming shall be provided within internal luminaires and external luminaires where required to meet curfew requirements.

Lighting calculations will be provided in the next design stage.

4.3.3 Communication system

Complete operational telecommunication passive cabling system shall be provided in accordance relevant Australian Standards 11801 and 14763.2

Existing Distribution frames and all associated containment located along the corridor shall be removed. All existing connections shall be removed and new structured cabling (cat6A) provided from the new Communication Distribution rack located at the proposed communication room.

A new communication lead mains shall be provided to new communications network termination device (NTD)

A system of cable trays and conduits shall be provided in the underfloor space and roof space to allow for communication cable reticulation from the communication distribution rack.

The communications cable tray shall be sized to a 30% fill capacity with sides minimum 50mm high.

All new communications outlets and associated containment shall be in accordance with relevant standards.

4.3.4 Security system

Access control system and associated containment shall be provided to three (3) ground building entrance doors, proposed Communication room and external gates. Perimeter detection to be provided as required.

4.3.5 ESD Design Objectives

The building is to be designed to achieve a 5-star Green Star rating.

To meet energy budget requirements, the building will have energy and environmental conservation measures to minimise energy consumption without compromising the specified accommodation standards. The following has been considered for the Power and Lighting System:

– Accessible energy metering for all common uses, major uses, and major sources.
– Meters to be connected to a monitoring system capable of capturing and processing the data produced by the meters.
– Meters and automatic monitoring systems shall be:
    - Provided with continual information (up to 1-hour interval readings)
    - Commissioned and validated per the most current 'Validating Non-Utility Meters for NABERS Ratings' protocol.
    - All meters to have accuracy declarations and/or certificates
    - Sub-meters that are not to be used as utility (billing) meters should either have Certificates for accuracy issued by NMI or a test certificate from the European Measuring Instruments Directive - 2004/22/CE

- Where the building's Gross Floor Area (excluding car parking areas) is smaller than 1000m^2, unless specialist equipment with an annual power consumption of 100kwh/annum, is present in the building, a single meter for energy will comply with this minimum requirement.

– The monitoring system shall be:
  - Accurately and clearly present the metered data and include reports on consumption trends for the automatic monitoring system.
  - Be developed in accordance with a recognised Standard, such as CIBSE TM39 Building Energy Metering.
  - Raise an alarm when the energy or water use increases beyond certain parameters and automatically issue an instant alert to the facilities manager.
– All LED lighting installed has no observable effect as per the standard IEEE 1789-2015
– Lighting sources have a min. CRI 85 or higher
– Lighting sources shall meet best practice illuminance levels for each task within each space type with a maintained illuminance that meets the levels recommended in AS/NZS 1680.1:2006
– Maintained illuminance values shall achieve a uniformity of no less than that specified in Table 3.2 of AS/NZS 1680.1:2006
– All light sources shall have a min. of 3 MacAdam Ellipses.
– Glare from light sources shall be limited within the regularly occupied areas. Three options shall be provided for demonstrating compliance:
  - Performance method
  - Two prescriptive methods
– The building will use 10% less energy compared to a reference building. Energy use is measured as MJ/year.
– There is an opportunity to install PV cells on the north facing slope of the roof which is not visible from the ground level. This will be further investigated during the detailed design stage.
– All outdoor lighting shall comply with AS/NZS 4282:2019 Control of the obtrusive, at this stage, it is believed that compliance will be required to category A3 and R2. This will be reviewed during further design stages.
  - See extract of Table 3.1 and Table 3.2 of AS/NZS 4282 below.
– The system shall comply with both pre- and post-curfew requirements.
  - Control of direct illuminance - direct illuminance from external luminaires on the project produces a maximum initial point illuminance value no greater than 0.5 Lux to the site boundary and 0.1 Lux to 4.5 metres beyond the site into the night sky.

TABLE 3.1

ENVIRONMENTAL ZONES

Zones	Description	Examples
A0	Intrinsically dark	UNESCO Starlight Reserve. IDA Dark Sky Parks. Major optical observatories No road lighting -unless specifically required by the road controlling authority
A1	Dark	Relatively uninhabited rural areas No road lighting - unless specifically required by the road controlling authority
A2	Low district brightness	Sparsely inhabited rural and semi-rural areas
A3	Medium district brightness	Suburban areas in towns and cities
A4	High district brightness	Town and city centres and other commercial areas Residential areas abutting commercial areas
TV	High district brightness	Vicinity of major sports stadium during TV broadcasts
V	Residences near traffic routes	Refer AS/NZS1158.1.1
R1	Residences near local roads with significant setback	Refer AS/NZS 1158.3.1
R2	Residences near local roads	Refer AS/NZS 1158.3.1
R3	Residences near a roundabout or local area traffic management device	Refer AS/NZS 1158.3.1
RX	Residences near a pedestrian crossing	Refer AS/NZS 1158.4

NOTE: Recreational areas are not considered commercial.

TABLE 3.2

MAXIMUM VALUES OF LIGHT TECHNICAL PARAMETERS

Zones	Vertical illuminance levels (E_v) lx		Threshold increment (TI)		Sky glow
	Non-curfew	Curfew	%	Default adaptation level (L_{sd})	Upward light ratio
A0	See Note 1	0	N/A	N/A	0
A1	2	0.1	N/A	N/A	0
A2	5	1	20%	0.2	0.01
A3	10	2	20%	1	0.02
A4	25	5	20%	5	0.03
TV	See Table 3.4	N/A	20%	10	0.08
V	N/A	4	Note 2	Note 2	Note 2
R1	N/A	1	20%	0.1	Note 3
R2	N/A	2	20%	0.1	Note 3
R3	N/A	4	20%	0.1	Note 3
RX	N/A	4	20%	5	Note 4

NOTES:

1 For A0, E_v shall be as close to zero as practicable without impacting safety considerations.

2 Refer to AS/NZS 1158.1.1.

3 Refer to AS/NZS 1158.3.1.

4 Refer to AS/NZS 1158.4.

5 N/A means 'Not Applicable'.

6 For an internally illuminated sign in an A2 zone, $L_{sd} \leq 0.25$ cd/m^2.

4.3.6 Heritage Impact

The electrical services will be configured to minimise the impact on the heritage fabric of the CME Building. These considerations include:

– Provide illumination to enhance the external heritage façade of the building while minimising impact on the residences across the road and night light pollution.
– External goose neck heritage luminaires are currently subject to review for refurbishment if part of the heritage fabric or replacement with similar if not.
– Minimising penetrations in the ceilings and floors.
– Provision of containment in the roof space and sub floor space below the ground floor and first floor.
– Minimising service risers and locating the risers in consultation with the heritage consultants to minimise the impact on the Heritage fabric.
– Provision of a service zone in a dropped ceiling in the ground floor corridor to allow reticulation of the services to the first floor.
– The size of existing heritage door openings may impact the type of equipment which can be provisioned. The future design stages and construction will need to take this into account for equipment modularity and assembly.

5. Fire Services

5.1 Scope

The fire services are for the design and documentation of the proposed CME building development and include:

- Fire Sprinkler system
- Fire Hydrant System
- Fire Detection system
- Portable Fire extinguisher
- All co-ordination between Fire Services and other services trades including mechanical, hydraulics, irrigation and building structure.

5.2 Fire Hydrant System

The overall building footprint is more than 500 m^2 and will required fire hydrant system. A fire hydrant system will be provided with a fire hydrant booster assembly and internal fire hydrants.

Fire hydrant system will be installed in accordance with BCA E1.3 and AS2419.1-2005.

5.3 Fire Sprinkler System

The building is not required to provide fire sprinkler system. However due to the nature of the type of construction, a performance solution would require the installation of fire sprinkler system to the building.

The building will be provided with Light Hazard category.

A fire sprinkler booster will be installed at the entrance of the building. An alarm valve is proposed to be installed under the stair access. The current location is not compliant to the requirement of BCA Spec E1.5. However, it is proposed to support the location via a performance solution.

Sprinklers will be provided throughout the building including the concealed space in accordance with AS2118.1-2017.

5.4 Fire Alarm System

Fire detection and Alarm System will be provided throughout the building in accordance with AS1670.1-2018. An addressable Fire Indicator Panel will be provided at the entrance of the building.

The fire panel will be interlink to the fire sprinkler system and will be monitored and connected to fire brigade via ASE.

Fire detectors, speakers will be provided throughout to comply with the requirement of AS1670.1

5.5 Portable Fire extinguisher

Portable fire extinguisher shall be provided throughout the building in accordance with BCA E1.6 and AS2444. ABE Powder type will be provided to office area for Class A hazard and CO2 will be provided for electrical hazards.

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