Mundaring Cultural Hub

Concept Design Report
(REV B)

March 2026

Revision	Description	Date
A	Concept Design Report	20.08.2025
B	Concept Design Report	30.03.2026

COX

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i. Executive Summary

COX Architecture has been commissioned by the Shire of Mundaring to provide lead consultancy and associated services for the new Cultural Hub in Mundaring for Concept, Design Development, Documentation and Contract Administration phases.

The proposed development will occupy three mostly vacant plots, which are to be amalgamated into a single site. Located on Jacoby Street and adjacent the Sculpture Park, it is a prominent and culturally significant setting for the facility.

Following the completion of a Project Definition Plan (PDP) stage through architectural firm Taylor Robinson Chaney Broderick (TRCB), a reduced brief was established by the Shire of Mundaring which forms the basis of the scope of work for the Cultural Hub.

COX commenced the Concept phase in March 2025 and project progress has remained consistent with the preliminary program developed by COX Architecture and agreed upon by the Shire of Mundaring.

This Report documents the current status of design inception and development, which has included a series of stakeholder workshops held between April and July, along with the refinement and approval in principle of the Schedule of Accommodation (SoA) in early August 2025.

This report reflects the work to date and forms a milestone deliverable for approval and direction to continue to deliver the Final Concept Design (Schematic).

Matthew Batchelor
Director

ii. Project Description

Project Aspirations:

The proposed site is located adjacent to Jacoby Street, at the corner of Nichol Street, and is surrounded by prominent landmarks such as the Sculpture Park and the Mundaring Hotel. Currently, several community services including the Mundaring Library, Visitor Centre, Community Hall, and Historical Society, are dispersed throughout the town centre. This project aims to consolidate these services into a single Cultural Hub, establishing a new 'central heart' for Mundaring.

The objective is to deliver a multi-functional facility that meets the needs of its tenants, serves the local community, and welcomes visitors to the region.

The design aspires to create an innovative, contemporary, and flexible community hub that enhances the existing precinct while responding thoughtfully to Mundaring's climatic, social, cultural, and environmental context.

The design is to be 'of its place' and meet the performance requirements outlined in the Brief documents provided through the RFP.

Project Concept:

The concept for the Mundaring Cultural Hub draws inspiration from the natural narrative of the local landscape, where winding rivers, rocky outcrops, and dappled light filtering through eucalyptus trees create a distinctive sense of place.

This is reflected in the architectural composition, where the separation of building masses forms a dynamic central laneway symbolising a river—encouraging movement, interaction, and connection to the surrounding environment. The material palette further reinforces this narrative: natural pigmented pavers evoke the textures of the riverbed, rammed earth bases echo the rugged outcrops of the Hills. A perforated upper skin reflect the eucalyptus canopy, casting shifting patterns of light and shade throughout the site.

iii. Project Control Group and Consultant Team

The current Project Control Group (PCG) includes representatives from the Shire of Mundaring (SoM) and COX Architecture.

The PCG have met on several occasions from inception to evaluate and improve on the aspirational high-level Business Case planning, as well as maintain approved scope and budget allocation for the project.

Separate meetings with the sub-consultants have occurred and will continue through all project phases.

Our subconsultant team is:

Name	Company
Paatch Group	Stakeholder, Operations and Commercial
Plan-E	Landscape Architects
Arborist	Paperbark Technologies
FORTH	Structural and Civil
NDY	Electrical, Mechanical, Hydraulic, Fire services, Communications
CODE Group	BCA and NCC Compliance
BAL	Bushfire Prone Planning

Our team's collaborative inputs are summarised in reports and drawings in the appendices of this report and are submitted as a progress record of the Concept Design stage.

As the project develops through the design stages, additional advice may be sought from other specialist sub consultants such as:

- Fire Engineering
- Geotechnical
- Hazardous Materials
- Traffic Assessment

We advise that no sub-consultancy services were sought for the following and pending further development of the design review may be required in these areas:

- Surveys
- Planning & Title services
- Detailed Facade Engineering
- Archaeological Services

iv. Scope of Works Summary

COX Architecture commenced with review of the existing documents and assessment of site which developed several approaches to site that were presented and discussed with Council and informed the approach to design.

Upon agreement of the approach to site, several engagement workshops with the Stakeholder Reference Group (SRG) and the Community Working Group (CWG) occurred to test and develop the approaches.

From this engagement floor plans were developed and discussed with Council which led to further development of the design. Proposed floor plan options were explored and presented to the SRG, CWG and the SoM representatives by COX.

Each approach looked at the different relationships and considerations given to the current conditions of the site to provide the best outcome including but not limited to the flow of movement of both community members and staff, whilst providing the required accommodation as per the Schedule of Accommodation (SoA). Spatial planning was tested against key design constraints, brief requirements, operational considerations and as outlined by each end user group within the SoA.

This collaborative and iterative process has developed a functional and cohesive outcome across the various spaces. Key discussion points and outcomes from these workshops are summarised in Appendices 5, attached to this report.

As a result of the consultation process and confirmation through discussion with Council, several design elements were incorporated into the scope, including:

• A central Lobby / Foyer linkage that connects the MAC and Hall spaces on the ground floor and entry to the Library over, offering greater connectivity and covered community space.

• Broader multi-functional bookable event spaces for the Library and community with ability to flex and expand in some areas.

• Outdoor Terraces on the first Floor, allowing patrons to connect to the views and trees within the adjacent Sculpture Park.

Conversely, several elements were removed from the original scope including:

• Child's Health Clinic

• Toy Library

This portion of Concept Design has been completed in accordance with the Brief, inputs through meetings and the current Schedule of Accommodation (attached to Appendices). The Brief will continue to be tested during the next phase of work (Schematic) and a full Return Brief document with Room Data Sheets will be issued. Accessibility, sustainability and lifecycle including maintenance minimisation are key considerations as the design progresses.

v. Precinct & Site Planning

Since the project's inception, the physical characteristics of the site have played a significant role in shaping the design outcome, with a particular emphasis on capturing the natural beauty of the Mundaring region.

The adjacent Sculpture Park has been a key influence in the site planning, with the design aiming to establish a strong connection between this existing landmark and the new building through carefully considered ground treatments, landscaping, and shared visual sight lines. The proposed central foyer/lobby serves as a welcoming gesture for visitors.

During the Concept Design phase, investigations into site services including their locations, capacities, and load requirements were undertaken by sub-consultants. Their reports informed key decisions and strategies for the new build.

The site comprises three separate land titles and is bordered by Jacoby Street, which experiences mild traffic flow. Investigations into existing car parking bays throughout the precinct have enabled the project site to forgo dedicated parking, allowing for more natural landscaping to be integrated across the site.

vi. Option Studies

During the Concept Design phase, COX Architecture presented a range of design options to representatives from the Shire of Mundaring (SoM), the Community Working Group (CWG), and the Stakeholder Reference Group (SRG), aiming to achieve the most effective outcome. Each option explored spatial relationships and functional requirements, with the Schedule of Accommodation (SoA) actively updated to reflect changes (see Appendix 04). The design process involved iterative site planning, focused on strengthening connections to surrounding landmarks, particularly the adjacent Sculpture Park. Three core site planning approaches were developed in response to context and stakeholder feedback.

1. Fingers: This option explores the traditional block planning with the concept of having a clearly defined 'front and back'.

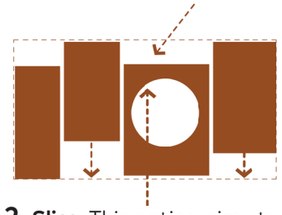
Pros:

- Achieves rectangular block areas making it easier for internal spatial planning.

Cons:

- Limited opportunities for flex of spaces.
- Interaction and connection with adjacent sites are poor.
- Limited ability to share spaces.

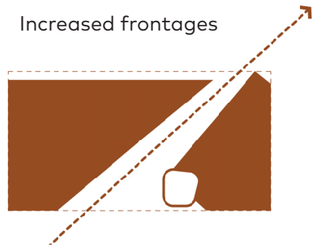
vi. Option Studies



2. Slice: This option aims to create a focal welcoming point by dividing the ground-plane, encouraging movement through the site and strong connections.

Pros:

- Greater interaction and connection with adjacent key sites.
- Greater flex.
- Greater ability to connect to shared spaces.
- Increased frontages



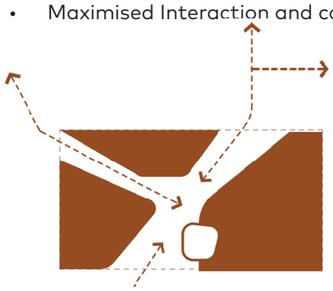
3. Connect: This option combines Option 1 & 2 and includes an additional connection back towards Mundaring Hotel and Town Centre.

Cons:

- Excessive frontages.
- Reduces the amount of floor area available for the building footprint.

Pros:

- Maximised Interaction and connection to adjacent sites.

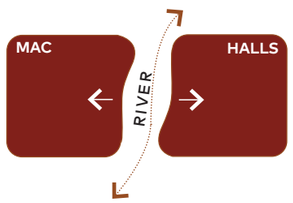


While exploring site planning strategies, COX Architecture simultaneously tested spatial layout options. Initial concept plans were presented to the Shire of Mundaring, with the 'Slice' Option 2 quickly emerging as the preferred approach, delivering the most effective design outcome.

vii. Design Proposal & Design Approach

Plan Composition:

The separation of the MAC and HALL The separation of the MAC and HALL buildings creates a dynamic central laneway that symbolically represents a "river." This spatial gesture not only connects the interior spaces to a central spine but also integrates the architecture with its surrounding landscape, encouraging movement, interaction, and a sense of journey through the site.



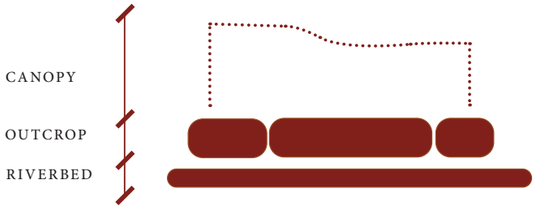
Sectional Composition:

The architectural language and material palette are deeply rooted in Mundaring's unique terrain:

Riverbed: Natural pigmented pavers evoke the earthy tones and textures of the riverbed.

Outcrop: Rammed earth forms the base of the buildings, echoing the rugged rock formations of the Hills.

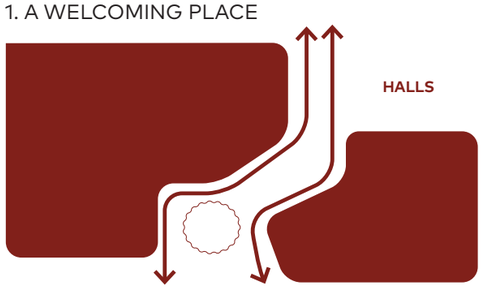
Canopy: A perforated upper skin reflects the eucalyptus canopy, casting dappled light and shifting shades of green throughout the space.



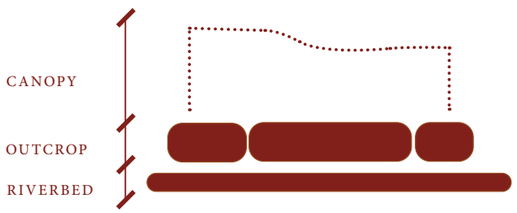
vii. Design Proposal & Design Approach

Operational Model - Design Principles:

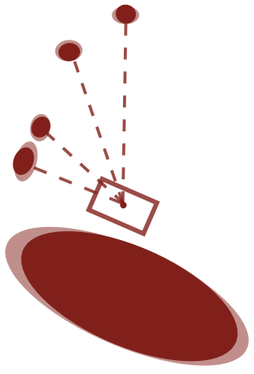
1. A WELCOMING PLACE



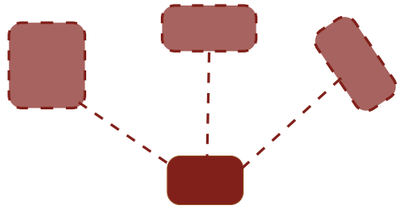
2. CELEBRATING NATURAL LANDSCAPE



3. PLACE FOR CONNECTION

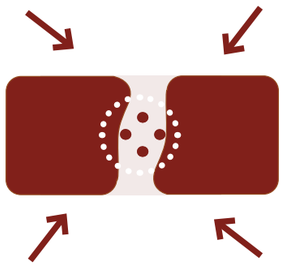


4. ADAPTABLE & MULTI-FUNCTIONAL

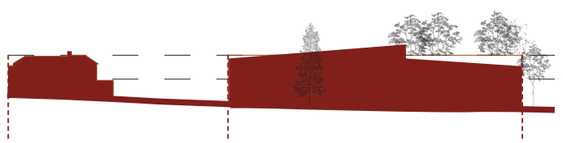


vii. Design Proposal & Design Approach

5. SENSE OF PLACE



6. SCALE



viii. Authorities

We have identified the following key Authorities required to be consulted in this project:

Local Authority	Development Application & Building License
Heritage Council	Not Applicable
DFES	
Western Power	Commenced with lodgements
Water Corp	

There has been limited discussion with Authorities to date due pending the agreement on Concept development of the project. During the next phase, all Authorities will be reviewed and consulted.

ix. Cost Plan

Shire of Mundaring project budget at date of award of commission was $23 Million excl. GST.

At commencement of Concept Design, a Cost Plan was prepared by RLB to confirm the budget by reviewing the Schedule of Accommodation, level of finishes, site and two storey construction.

This identified a required budget of $35 Million excl. GST dollars for the project which was discussed with Council and agreement provided to continue with design against this cost plan.

The Project Team have been working closely with the Shire and RLB to maintain the budget noting that the Concept Design Cost Plan dated 15 August 2025 advised that the Estimated Gross Project Total Cost for the design is $37,784,660.00 excl. GST.

Please refer Appendix 17 for RLB Cost Plan breakdown.

The project team have commenced Value Engineering (VE) assessments to return the project to the approved budget.

x. Safety in Design

COX, as part of its design process, undertakes Safe Design reviews at each design phase. We take our Duty of Care seriously and believe that an integrated approach to Safety in construction and building use is essential. These reviews are intended to meet harmonised national draft legislation, as now enforced by some States. The reviews are holistic and consider risks from project commencement, through demolition, site preparation and construction; to commissioning, occupancy and end-of-life. In projects with intensive operational uses, these are given special focus and reviewed closely with client representatives.

The SID reviews are conducted so that they are purposeful and inform the design by:

• Engaging stakeholders including the wider design team through focussed workshops;

• Engaging the client including operational staff where possible;

• Identifying exceptional risks specific to each design;

• Incorporating design solutions which mitigate or remove risks.

On completion of each future phase review, COX will prepare a summary Safety Report which is provided to the client. This identifies:

• Areas of risk assessed;

• Unusual or specific risks identified;

• Steps which are recommended for further action including construction and operational matters.

xi. Risk Management Plan

Our approach to Risk Management and our process in this regard is as follows:

• Reduce impact of “unknowns” by identifying the key risks for the project i.e. site access, operational site and buildings, staged construction;

• Instigate regular cost review regime to ensure alignment of project budget and scope of works;

• Project specific Risk Management report prepared at Schematic Design Phase; a workshop can be set up to follow if deemed necessary;

• Establish comprehensive stakeholder list and communication strategy for comprehensive consultation process;

• Assess and manage local planning and political factors through client meeting regime;

• Always propagate and manage effective communications with client.

A preliminary Risk Workshop was conducted with the full project subconsultant team and representatives from the Shire of Mundaring and is currently being drafted by Proven Project Management for issue and review during the next phase of the project.

xii. Program

During the Concept Design phase, an updated program was issued in May 2025 reflecting agreed revised phase completion dates as follows:

Project Milestones	Approx. Start Date
Concept Design	August 2025
Concept (Schematic) Design	October 2026
Design Development	December 2025
Contract Documentation/IFT	April 2026
Issue for Construction	August 2026

Please refer to appendix 03 for the project programme.

The deliverables for each stage have been agreed as per the following Table:

	PHASE 1: CONCEPT DESIGNS		PHASE 2: DETAILED DESIGN & DOCUMENTATION		PHASE 3: CONSTRUCTION
Program Dates	27th Oct 2025		15th April 2026		4th Sep 2026
Fine Grain Deliverable Dates	Aug-25	Oct-25	Dec-25	Apr-26	Aug-26
% of Total Design & Document Completion:	15%	30%	50%	85%	100%
Stage of Design:	Concept	Schematic Design	Design Development	Contract Documentation/ Issue for Tender	Issue for Construction
Architectural					
Site Plans	✓	✓	✓	✓	✓
Floor Plans	✓	✓	✓	✓	✓
Room Layouts		✓	✓	✓	✓
Reflected Ceiling Plans		✓	✓	✓	✓
Elevations	✓	✓	✓	✓	✓
Façade Details			✓	✓	✓
Sections	✓	✓	✓	✓	✓
Elevation Details		✓	✓	✓	✓
Plan Details		✓	✓	✓	✓
Section Details		✓	✓	✓	✓
Door Schedule			✓	✓	✓
Window Schedule			✓	✓	✓
Joinery			✓	✓	✓
Furniture Plans		✓	✓	✓	✓
FFE Schedule			✓	✓	✓
Finishes Plans	Mood board	✓	✓	✓	✓
Finishes Schedule	Mood board	✓	✓	✓	✓
Landscape					
Plans and Sections		✓	✓	✓	✓
Details		✓	✓	✓	✓
Planting & Material Schedules		✓	✓	✓	✓
Structure & Civil					
Plans and Sections		✓	✓	✓	✓
Details		✓	✓	✓	✓
Services (Electrical, Mechanical, Hydraulic, Fire, etc)					
Layouts		✓	✓	✓	✓
Details		✓	✓	✓	✓
Specifications & Reports					
Specifications				✓	✓
Operational Modelling Report		✓			
Service Delivery Report		✓			
Project Consultant Reports	✓	✓	✓	✓	✓
Presentation Material					
3D Renders	Block model	Detailed model			
Flythrough	Block model	Detailed model			

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Appendix		Consultant
01.	Architectural	COX Architecture
02.	Benchmarking Study	COX Architecture
03.	Programme	COX Architecture / SoM
04.	Schedule of Accommodation	COX Architecture
05.	Stakeholder Workshops Summary	COX Architecture
06.	Landscape Report	Plan - E
07.	Arborist Report	Paperbark Technologies
08.	Structural and Civil	Forth
09.	Electrical	NDY
10.	Mechanical	
11.	Hydraulics	
12.	Fire & Civil	
13.	ESD	
14.	BAL Assessment	Bushfire Prone Planning
15.	Waste	Encycle
15.	Operational & Service Delivery Models	Paatch Group
16.	BCA & NCC Compliance	CODE Group
17.	Cost Plan Report	RLB

COX

Mundaring Cultural Centre

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Appendices

01. Architectural / COX Architecture

Architectural Drawings

01. Site location and Overview
02. Site Plan
03. Site Plan & Existing Tree Overlay
04. Ground Floor Plan
05. First Floor Plan
06. Elevation
07. Section
08. 3D Views
09. Facade Testing Options
10. Schedule of Accommodation Summary
11. Brief Compliance & Deviation

HARTUNG ST

MANN ST

LIONS PARK

HARRY RISEBOROUGH PARK

GREAT EASTERN HWY

400m

200m

NICHOLSON ST

CRAIG ST

MUNDARING WEIR RD

FENTON ST

SITE

JACOBY ST

SCULPTURE PARK 7

MUNDA BIDDI TRAIL

PHILIPS RD

Mundaring Cultural Centre

HERITAGE SITES
1. Mundaring Visitor Centre
2. Mundaring Arts Centre
3. Mundaring Library
4. Mundaring Hall
5. Mundaring hotel
6. Mundaring Master's House
7. Sculpture Park

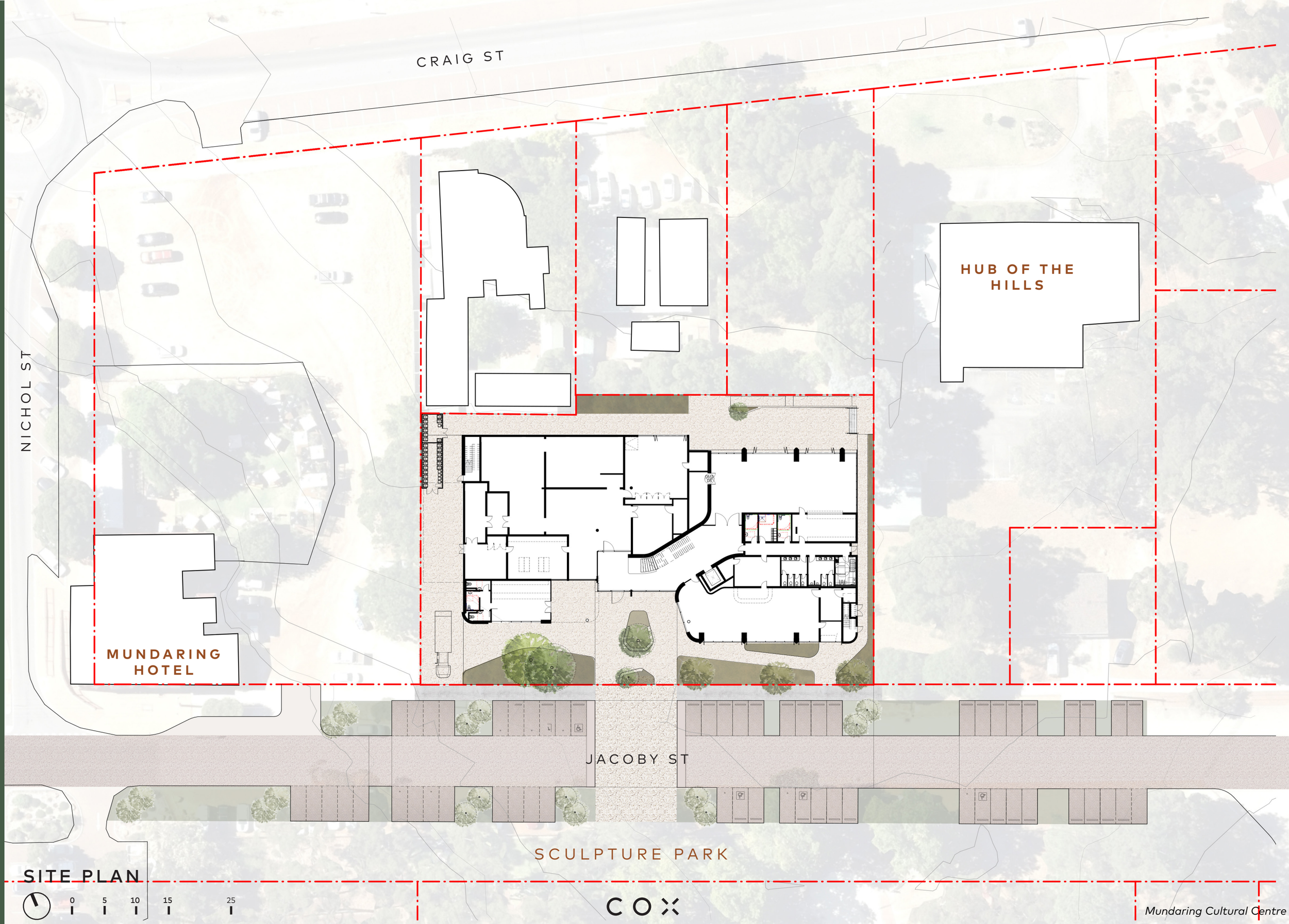
PARKS & GREEN ZONES

LANDMARKS / ATTRACTIONS
1. Munda Biddi Terminus & trail
2. Mundaring Rail Platform & Amphitheater
3. Town Centre

SITE LOCATION & OVERVIEW

0 20 40 60 100

COX



SITE PLAN

0 5 10 15 25

COX

CRAIG ST

NICHOL ST

HUB OF THE HILLS

JACOBY ST

SCULPTURE PARK

SCULPTURE PARK

MUNDARING HOTEL

TREE RETENTION VALUE

- HIGH - location based on survey
- MEDIUM - location based on survey
- LOW - location based on survey
- HIGH - location to be verified
- MEDIUM - location to be verified
- LOW - location to be verified

STRUCTURAL ROOT ZONE (SRZ)

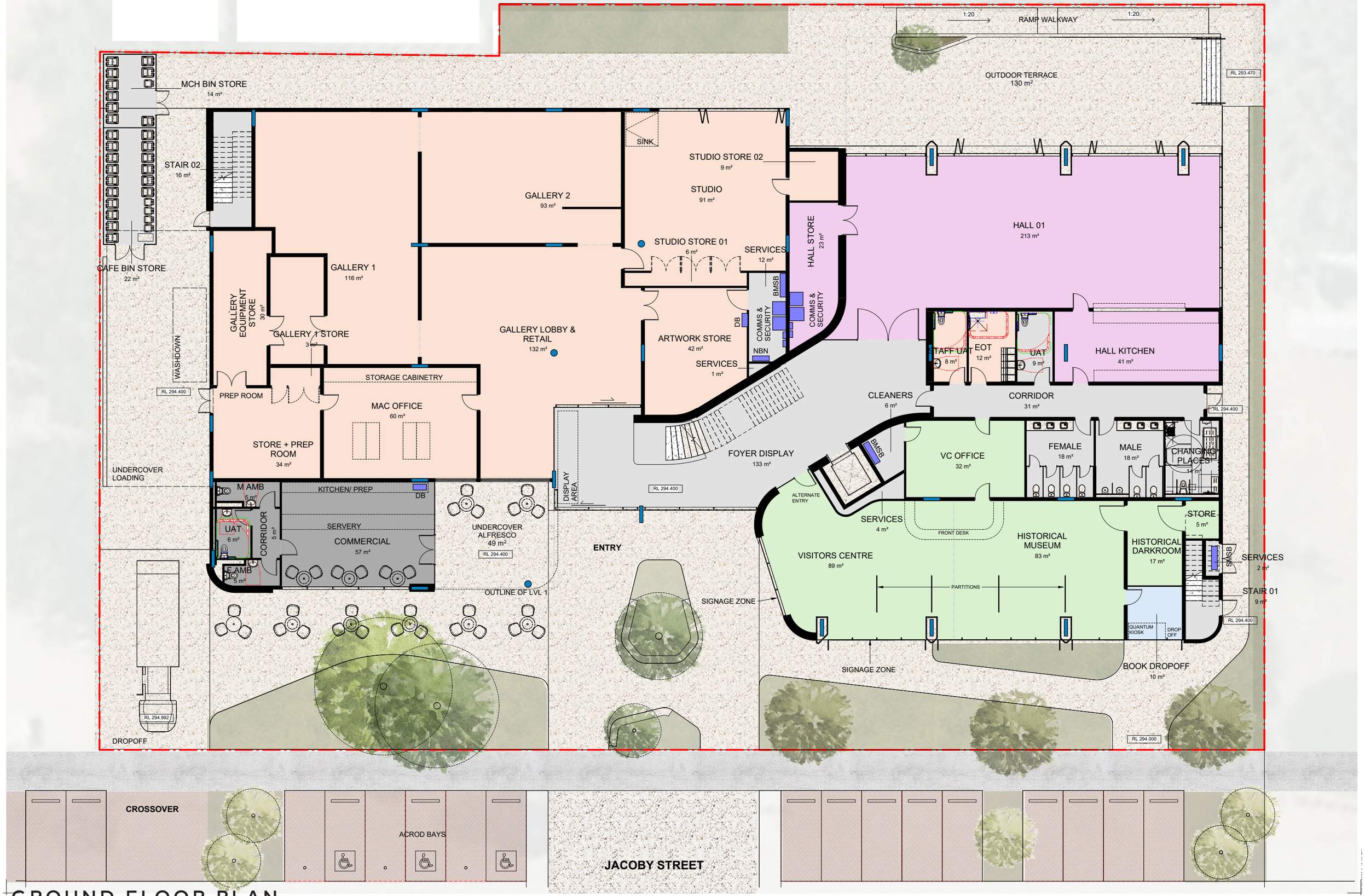
TREE PROTECTION ZONE (TPZ)

SITE PLAN & TREE PROTECTION OVERLAY

0 5 10 15 25

COX

Mundaring Cultural Centre

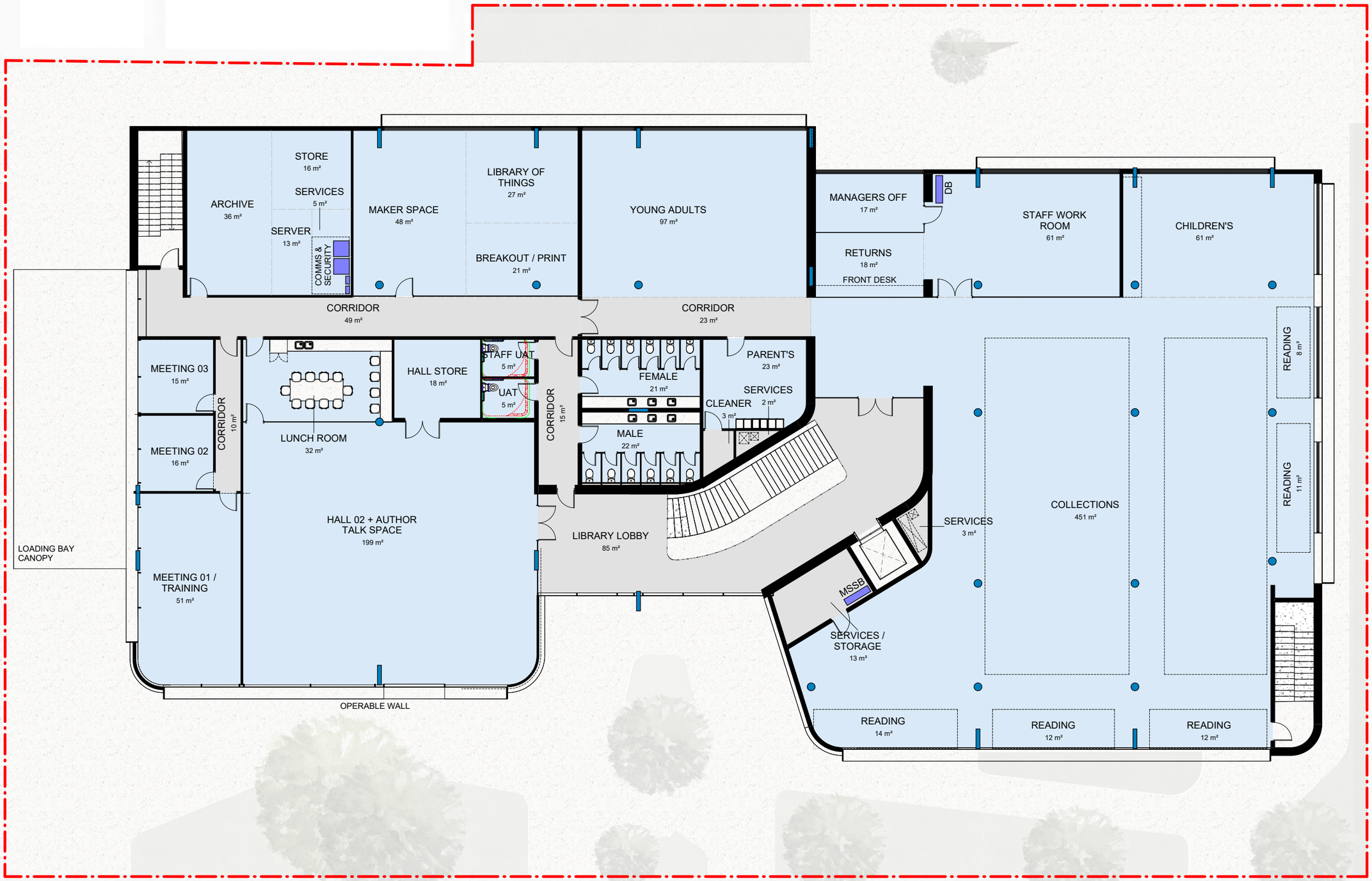


GROUND FLOOR PLAN

0 2 5 10 15

COX

Mundaring Cultural Centre



FIRST FLOOR PLAN

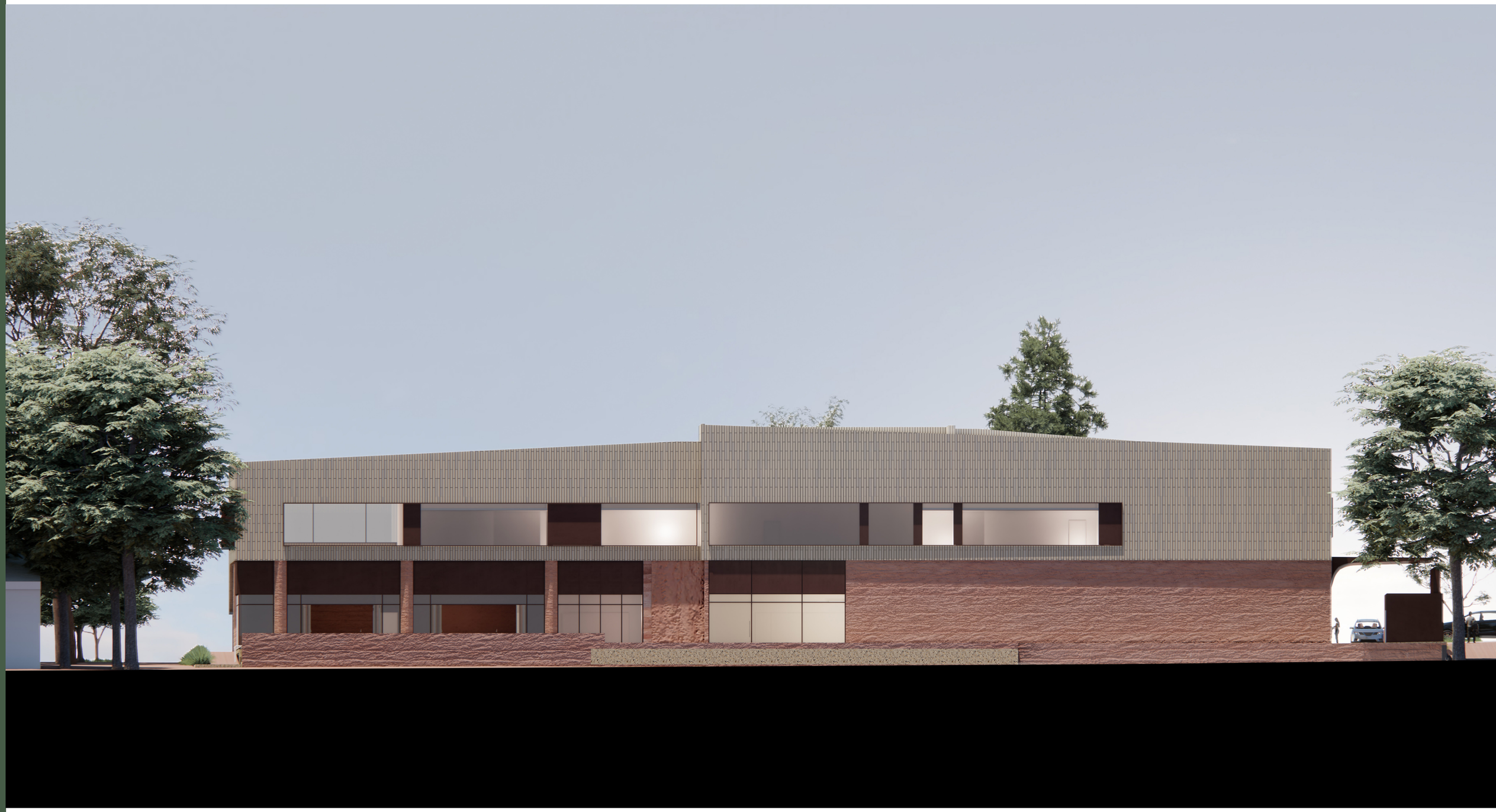
0 2 5 10 15

COX

Mundaring Cultural Centre

Note: Indicative only - To be resolved through next phase.

BUILDING ELEVATION - JACOBY STREET



Note: Indicative only - To be resolved through next phase.

NORTH ELEVATION

Note: Indicative only - To be resolved through next phase.

SECTION

Note: Indicative only - To be resolved through next phase.

3D VIEWS

Note: Indicative only - To be resolved through next phase.

3D VIEWS

Note: Indicative only - To be resolved through next phase.

3D VIEWS

Note: Indicative only - To be resolved through next phase.

3D VIEWS

Note: Indicative only - To be resolved through next phase.

3D VIEWS

Note: Indicative only - To be resolved through next phase.

1. RAMMED EARTH
2. FEATURE CLADDING
3. ANGLED STEEL REVEAL
4. TIMBER CEILING
5. FEATURE METALCLADDING
6. GLAZING
7. RENDERED BLOCKWORK

Note: Indicative only - To be resolved through next phase.

MATERIALS - EXTERIOR
PROPOSED LOOK & FEEL

COX

1. LIGHT GREEN TERRACOTTA WITH CARBON METAL REVEALS

2. **IVORY TERRACOTTA WITH DARK BURGUNDY METAL REVEALS (RECOMMENDED)**

3. BURGUNDY BROWN TERRACOTTA WITH CARBON METAL REVEALS

4. BASALT TERRACOTTA WITH BURGUNDY METAL REVEALS

Note: Indicative only - To be resolved through next phase.

CONCEPT SoA		
Facility	**Includes**	**Current Area m²**
Library	• Entrance • Returns • Staff offices / Meeting Rooms • Amenities • Youth Area • Children's Area • Main Collection • Study Rooms / Nooks • Outdoor Terrace • Group Study	921
Public Amenities	• Public Amenities • Changing Places • UATs • Parents Room • Services	332 (total between Halls and Library)
Mundaring Centre of Arts (MAC)	• Galleries 1 & 2 • Studio / Storage • Office • Lobby / Retail • MAC Amenities	633
Visitor / Historical Centre	• Staff Office & Tea-prep • Staff Amenities • Visitor Centre Reception Desk • Historical Display • Darkroom • Storage	227
Community Hall Rooms	• 1 x Large Hall (230 pax) • 1 x Large Hall / Author Talk Space • Meeting Rooms x 2 • Maker Space • Library of Things • Large Meeting / Training Room • Kitchen • Storage	679
Complementary Commercial	• Commercial Opportunity	78
Foyer / Courtyard	• Central Entry / Foyer • Vertical Circulation	220
Full Building Total Area m²		**3090**

BRIEF COMPLIANCE AND DEVIATION SUMMARY

- The following points of the brief have been adhered to:
    - Multi-storey approach
    - Inclusion of Library, Historical Society, Visitors Centre, Community Halls, Mundaring Arts Centre and public amenities
- The following changes to the brief have been noted:
    - Exclusion of Child Wellness Clinic and Toy Library
    - Amalgamation of community hall meeting rooms with Author Talk Space in Library
    - Amalgamation of Visitors Centre and Historical Museum
    - Inclusion of Level 1 terrace space

Mundaring Cultural Centre

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Appendices

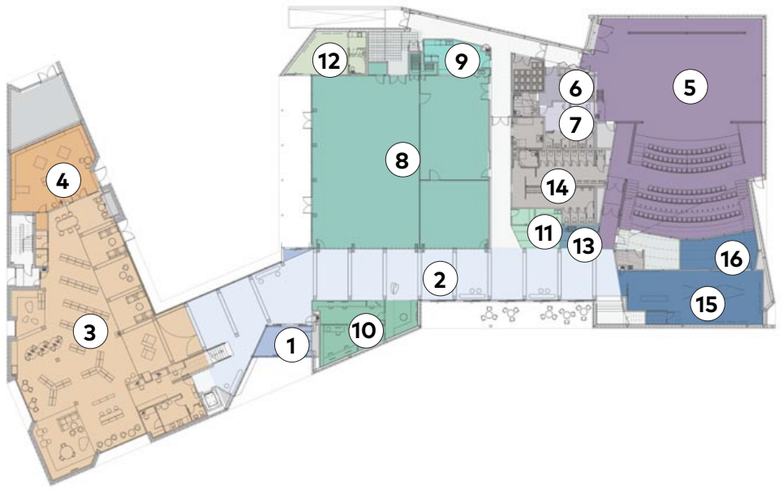
02. Benchmarking Study

/ COX Architecture

Benchmarking	
01.	Berninneit Cultural & Community Centre
02.	Boya Community Centre
03.	Manning Community Centre
04.	East Pilbara Arts Centre
05.	Newman Youth & Community Hub
06.	Pearsall Hocking Community Centre
07.	The Grove Library
08.	Dwellingup Trails & Visitor Centre
09.	Kalamunda Community Centre
10.	Walyup Civic Centre
11.	Inveresk Library
12.	Bilya Koort Booja
13.	Craigieburn Library
14.	Booboop Narrkwarren Nagarra-jarra-noun - The Family Healing Centre
15.	Belmont Hub
16.	Wickham Community Hub
17.	Zig Zag Cultural Centre
18.	Eva and Marc Besen Gallery & Cultural Centre

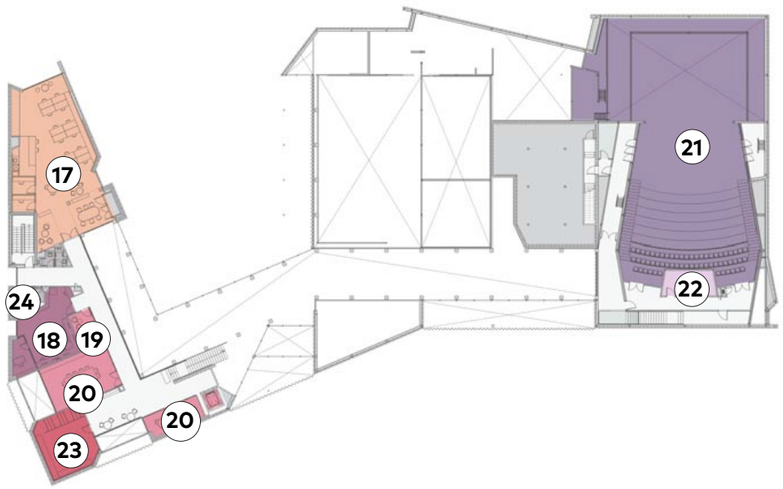
Berninneit Cultural & Community Centre

Ground Floor Plan



	Room Name	Area m²
1	Entry Lobby	24
2	Grand Hall	334
3	Library	458
4	Museum	81
5	Theatre	545
6	Green Room	21
7	Dressing Rooms	32
8	Function Room	404
9	Kitchen	25
10	Visitor Information	59
11	Cafe / Prep & Office	24
12	Community Enterprise Space	39
13	Bar / Box Office	11
14	Amenities	130
15	Gallery	92
16	Gallery Store	38

First Floor Plan

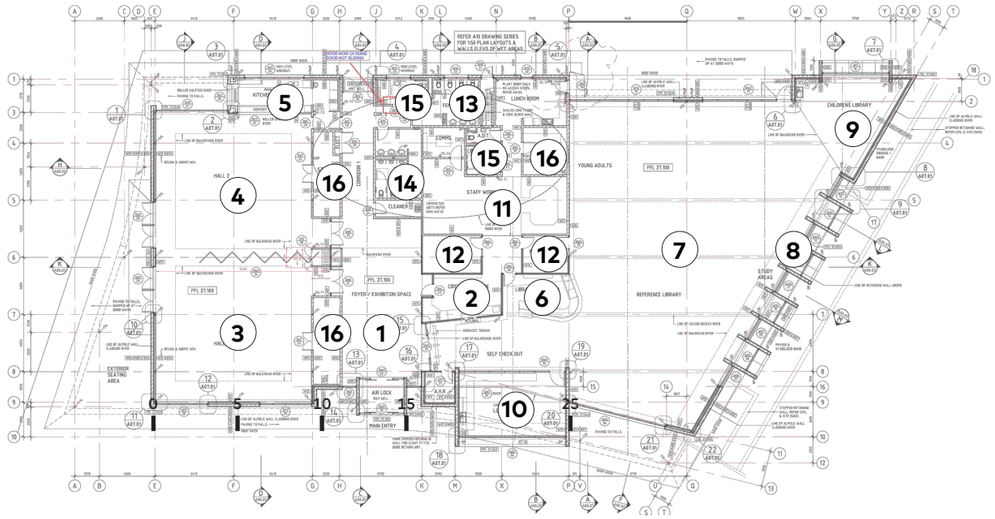


	Room Name	Area m²
17	Offices	162
18	Genealogy Society	54
19	Staff Kitchen	11
20	Board / Meeting Rooms	66
21	Theatre	inc. in GF
22	Control Room	18
23	Historical Society	49
24	Amenities	20

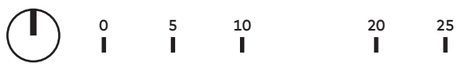
COX

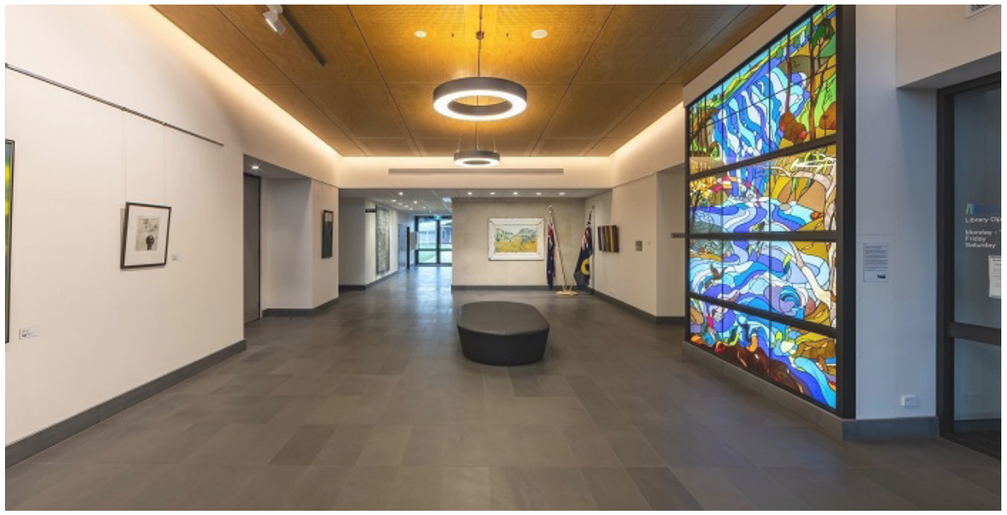
Boya Community Centre

Ground Floor Plan



	Room Name	Area m²
1	Foyer / Exhibition Space	113
2	Circulation Desk	20
3	Hall 1	155
4	Hall 2	155
5	Kitchen	24
6	Library Reception	22
7	Library Area	446
8	Study Area	36
9	Childrens'' Library	42
10	Lounge Area	43
11	Staff Work Room & Office	75
12	Meeting Room	10
13	Female WC	16
14	Male WC	20
15	UAT x 2	14
16	Stores	58





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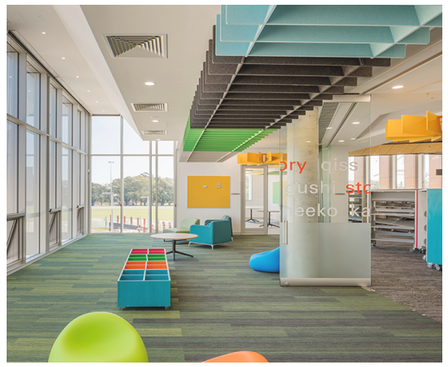
Manning Community Centre

Ground Floor Plan



	Room Name	Area m²
1	Library	850
2	Hall	281
3	Public Amenities	73
4	Sporting Club	219
5	Early Years	211
6	Child Health Clinic	110
7	Moorditj Keila (Healthy Dolphin)	145
	Total Area m²	1889

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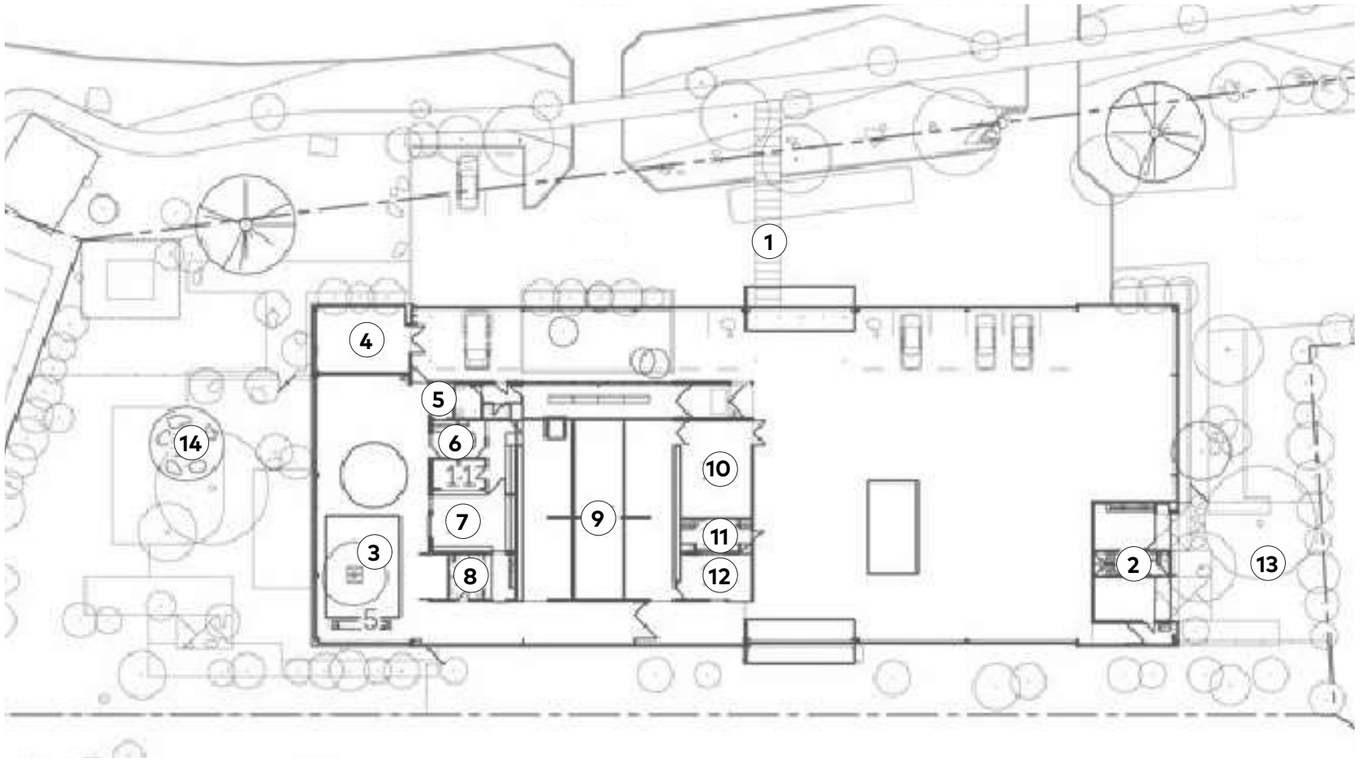
COX

East Pilbara Arts Centre

Ground Floor Plan



	Room Name	Area m²
1	Entry	n/a
2	Residence Studios	67
3	Artists' working desk	50
4	Camp Store	43
5	Paint Store	6
6	Managers' Office	14
7	Shared Working Space	33
8	Laundry	13
9	Gallery	222
10	Photographic Studio / Art Store	46
11	Kitchen	18
12	Meeting Room	24
13	Garden	136
14	Outdoor Fire Pit & Gathering Space	770

COX

Newman Youth & Community Hub

Library Ground Floor Plan

	Room Name	Area m²
1	Admin Book Processing	26
2	Admin Office	58
3	Tourist Nook	23
4	Children's Area / Creche	195
5	Break-out / Quiet Area	105
6	Physical Collection	115
7	Print / Computer Hub	80
8	Community Meeting Rooms	82
9	Community Seed Bank	36
10	Meeting Room	22
11	Manager / Open Office	111
12	Staff Room	48
13	Amenities	45
14	Stores	42
15	Comms / Plant	52
	Total Area m2	1040

Youth Hub Ground Floor Plan

	Room Name	Area m²
1	Lobby Space	41
2	Admin / Youth Office	50
3	Flexible Youth Space	163
4	Movie Room	40
5	Kitchen & Stores	86
6	Laundry	13
7	Sensory Room	32
8	Interangency Collab. Area	41
9	Recording Studio	68
10	Flexible Community Space	123
11	Amenities	50
12	Store	40
13	Meeting Rooms	43
	Total Area m2	790
	Overall Area m2	1830

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Pearsall Hocking Community Centre

Ground Floor Plan

	Room Name	Area m²
1	Lobby / Breezeway	108
2	Kitchen	30
3	MPA	65
4	Centre Office	12
5	Tea Prep	10
6	UGO	12
7	Meeting Room	23
8	Office 1	18
9	Office 2	18
10	Store 1 - 5	83
11	UAT x 2	10
12	EOT	17
13	Female WC	22
14	Male WC	20
15	Hall	170
	Total Area m²	618

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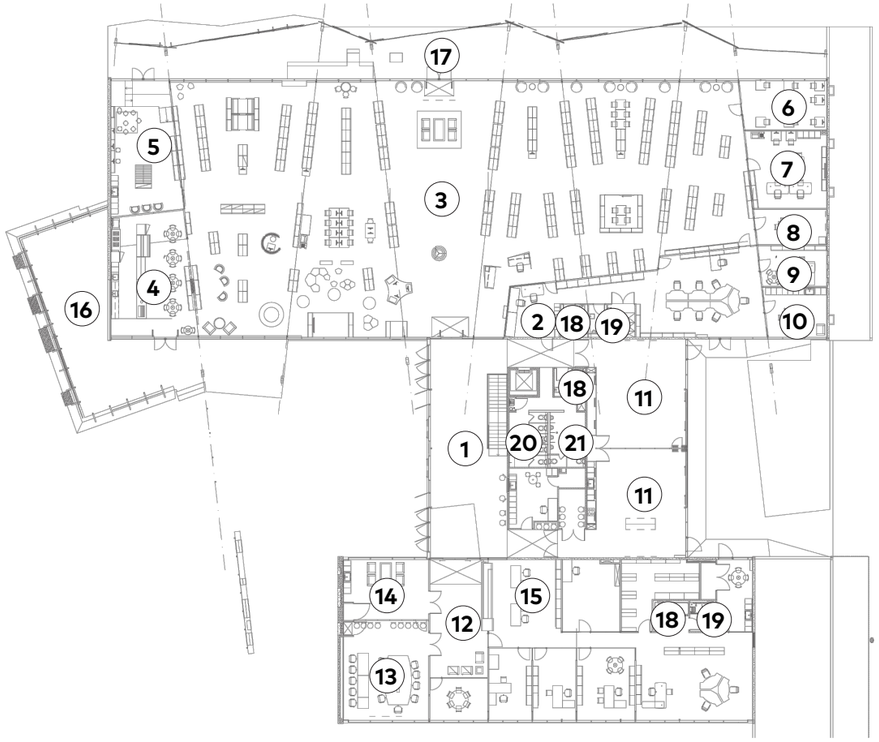
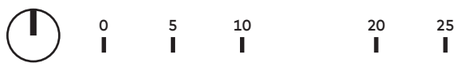
The Grove Library

Ground Floor Plan



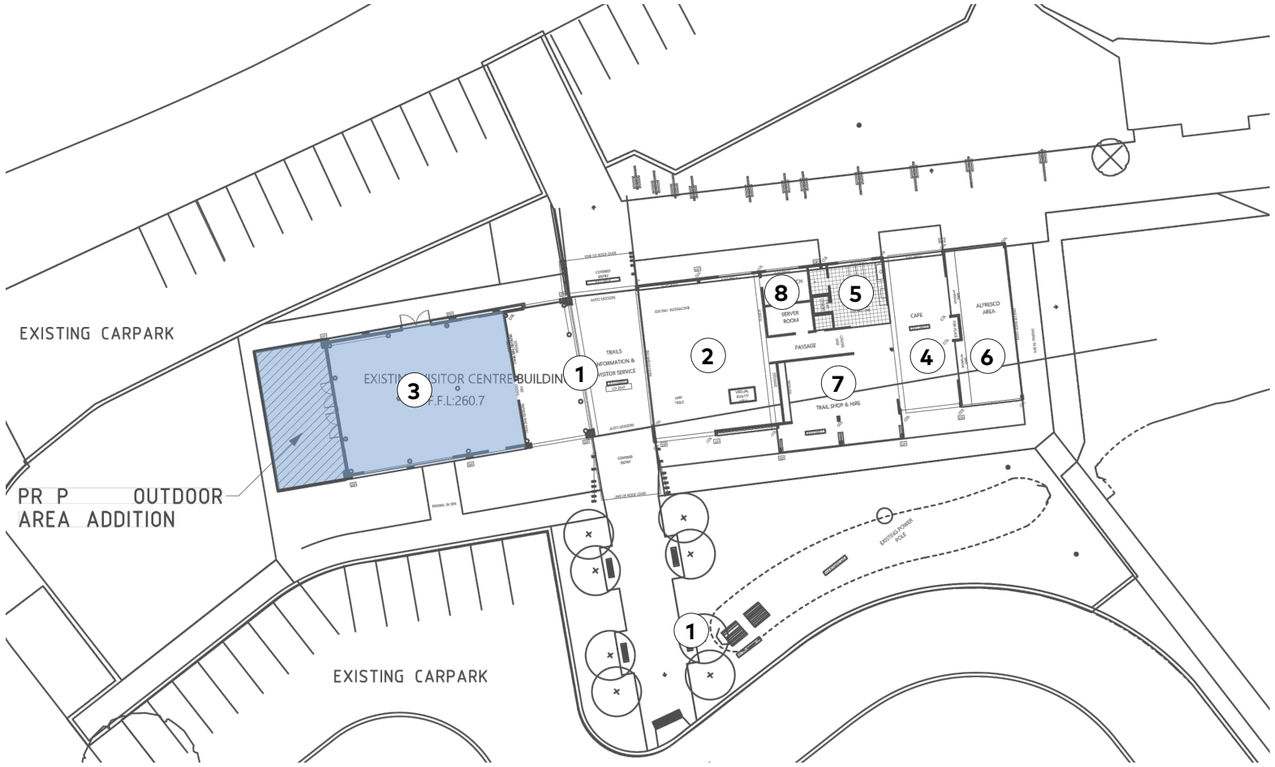
	Room Name	Area m²
1	Entry Foyer	140
2	Administration	100
3	Main Library	847
4	Cafe / Book Shop	66
5	Children's Storytelling	59
6	Quiet Study	28
7	Local History	39
8	Meeting Room	16
9	Office	17
10	Lunch Room	20
11	Community Rooms	150
12	Council Reception	44
13	Council Chambers	55
14	Lounge Bar	33
15	Council Offices	271
16	Cafe Deck	111
17	Outdoor Reading Area	250

	Room Name	Area m²
18	EOT x 3	17
19	UAT x 2	10
20	Female WC	18
21	Male WC	12



Dwellingup Trails & Visitor Centre

Ground Floor Plan



	Room Name	Area m²
1	Visitor Information Area	120
2	Virtual Reality Trail Experience	120
3	Historical Exhibit	165
4	Cafe	60
5	Kitchen	30
6	Alfresco	60
7	Trail Shop & Hire	95
8	Office / Lunch Room	10
	Public Toilets & Showers	n/a
	Public Lockers	n/a
	Laundromat Facilities	n/a
	Bike Service Stations	n/a
	Bike Wash Station	n/a
	Charging Stations	n/a

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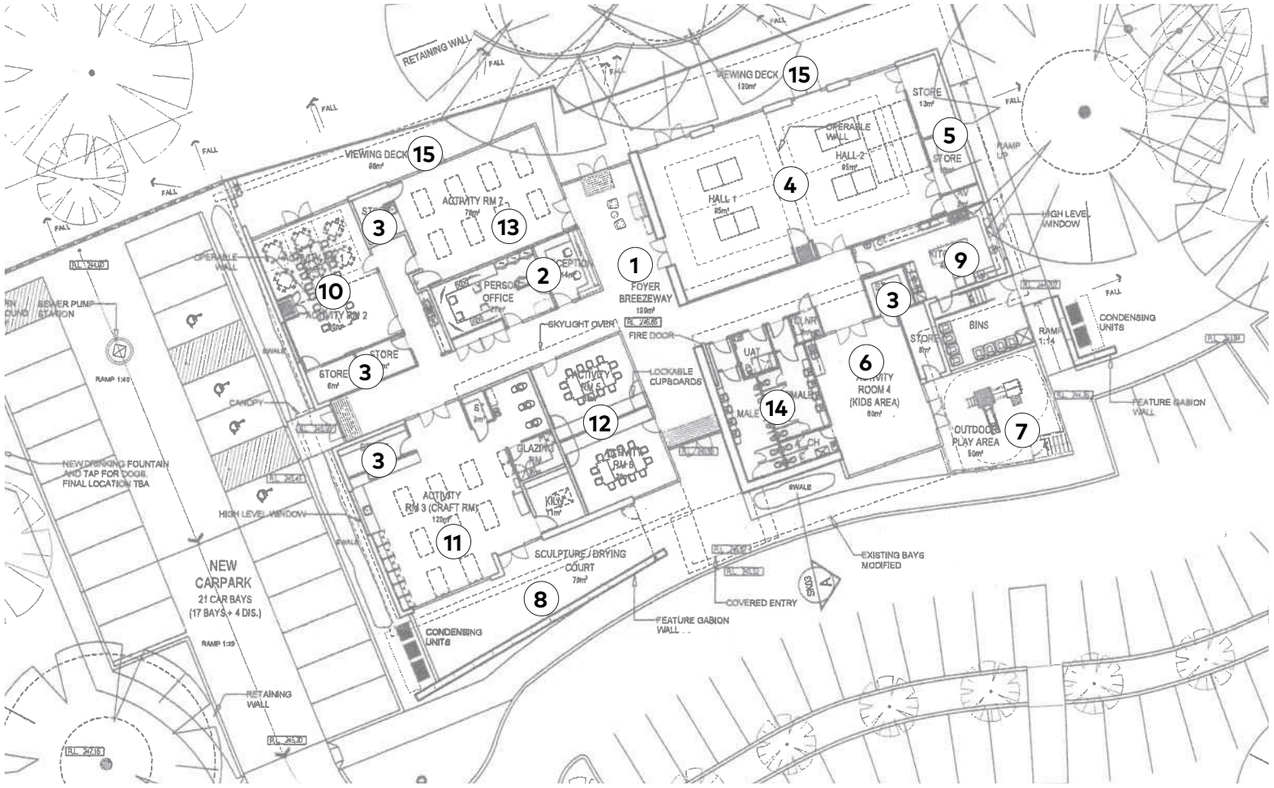
COX

Kalamunda Community Centre

Ground Floor Plan

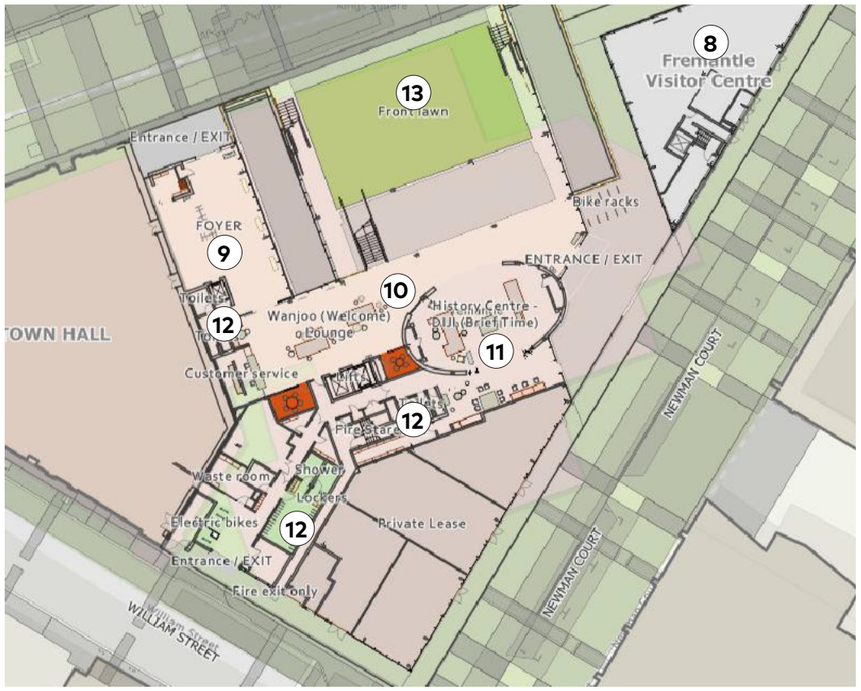


Walyup Civic Centre

Lower Ground Floor Plan

	Room Name	Area m²
1	Fremantle Library	1470
2	Gaming Zone	395
3	Children's Library	160
4	Quiet Study Area	135
5	Library Workroom	160
6	Courtyards x 2	680
7	Group / Meeting rooms	560

Ground Floor Plan



	Room Name	Area m²
8	Visitor Centre	1017
9	Foyer	525
10	Welcome Lounge / Service	570
11	History Centre	660
12	Amenities	230
13	Outdoor Front Lawn	1141

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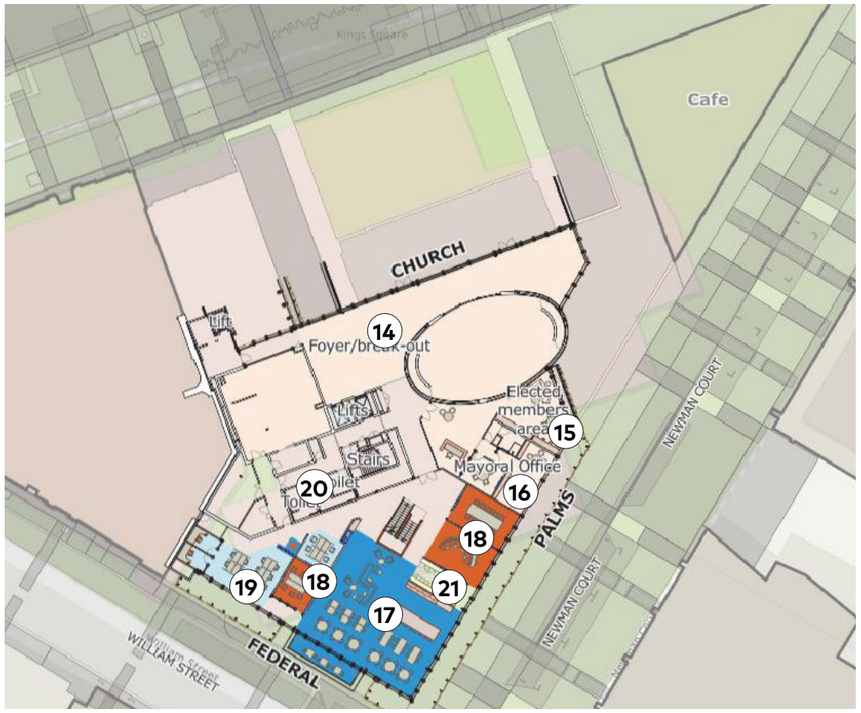
COX

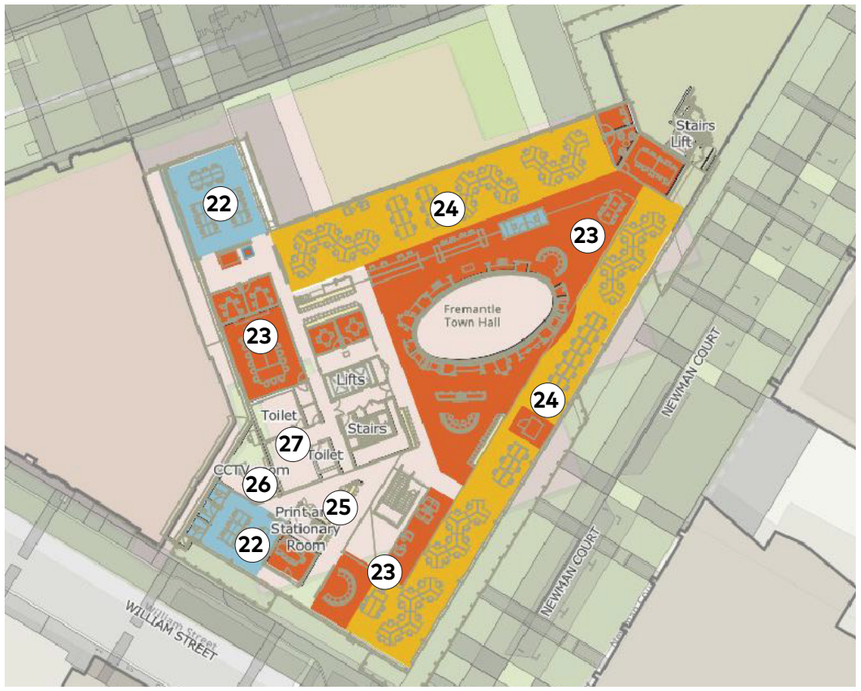
Walyup Civic Centre

First Floor Plan



	Room Name	Area m²
14	Foyer / Break-out	640
15	Elected Members Area	290
16	Mayoral Offices	170
17	Council Chambers Office	580
18	Meeting Rooms	250
19	Quiet Rooms	200
20	Amenities	85
21	Palms Locker Bank	60

Second Floor Plan

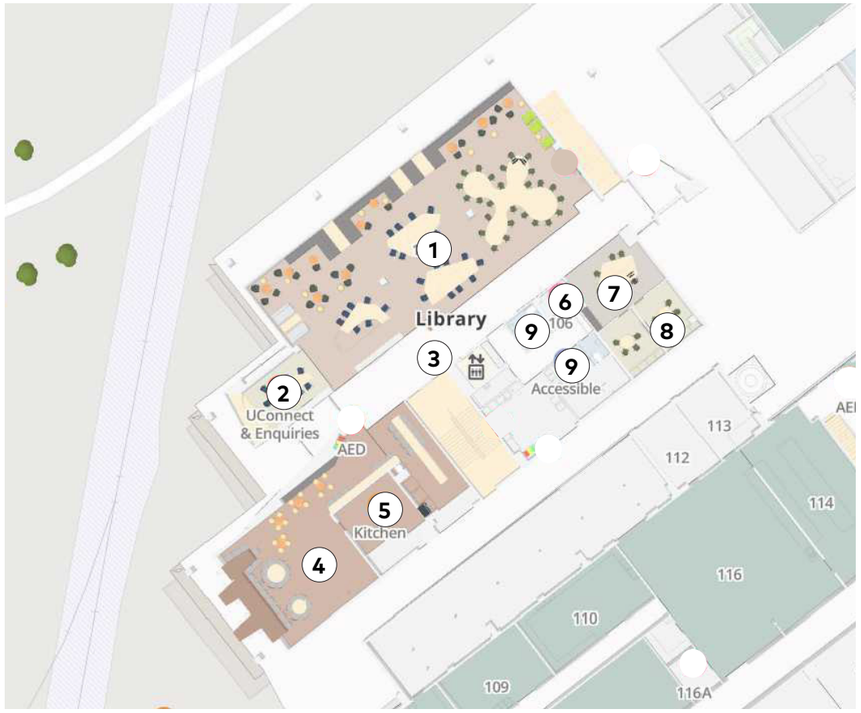


	Room Name	Area m²
22	Quiet Rooms	470
23	Collaborative Areas	1170
24	Open Plan Office	1750
25	Print & Stationary Room	40
26	CCTV Room	95
27	Amenities	200

COX

Inveresk Library

Ground Floor Plan



	Room Name	Area m²
1	Library	310
2	Enquiries	30
3	Foyer	110
4	Cafe	105
5	Kitchen	70
6	Printer / Copy Room	9
7	Meeting Room	35
8	Quiet Rooms	30
9	Amenities	17

First Floor Plan

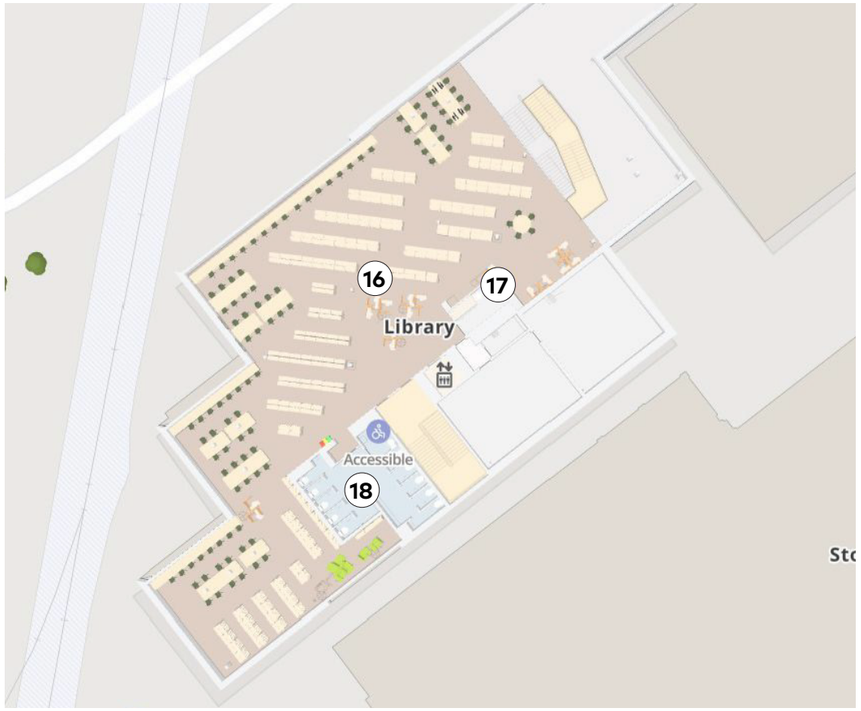
	Room Name	Area m²
10	Library	370
11	Offices	150
12	Quiet Rooms	100
13	Lobby	150
14	Printer & Copier Room	12
15	Meeting / Break-out Room	120

0 5 10 20 25

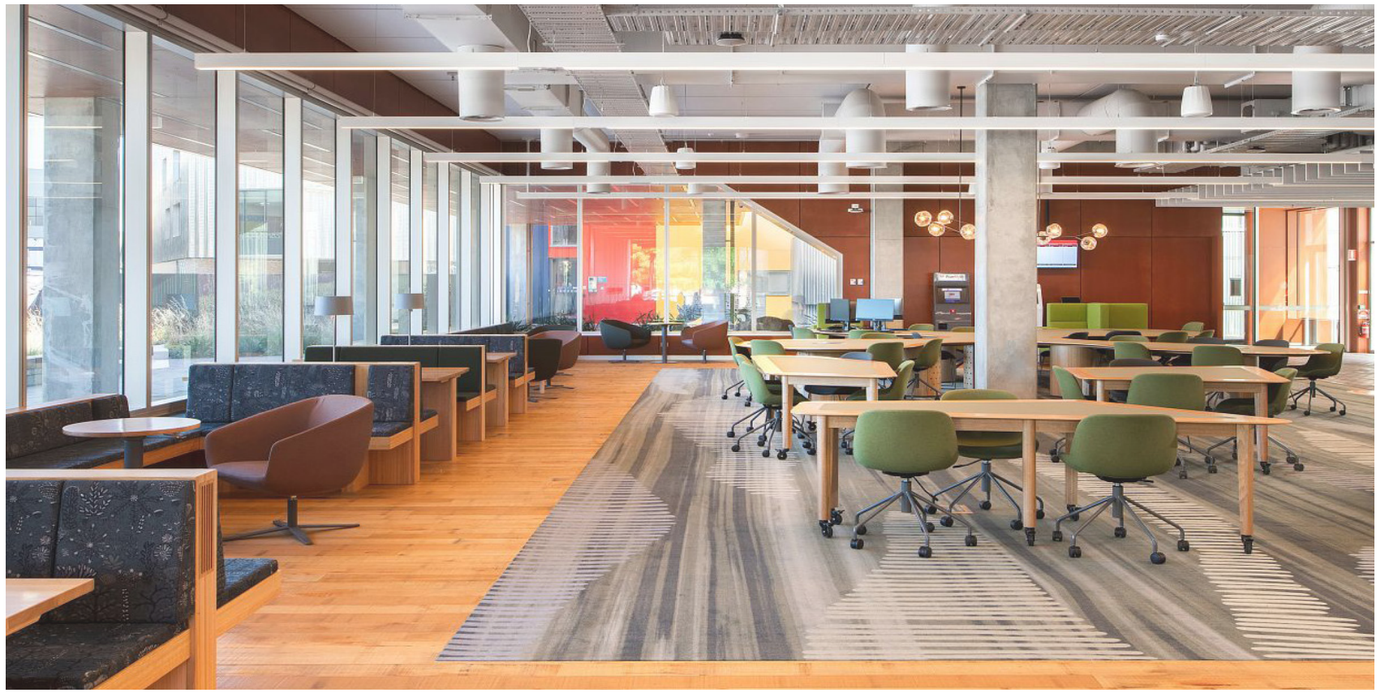
COX

Inveresk Library

Second Floor Plan



	Room Name	Area m²
16	Library	745
17	Printer Room	12
18	Amenities	60



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COX

Bilya Koort Booja

Ground Floor Plan

	Room Name	Area m²
1	Interpretive Exhibition	240
2	Light Lock Introduction	50
3	Exhibition Shop	20
4	Foyer	60
5	Reception	40
6	Community Meeting	180
7	Workshop	105
8	Meeting Rooms x 2	70
9	Amenities	35
10	Store	45

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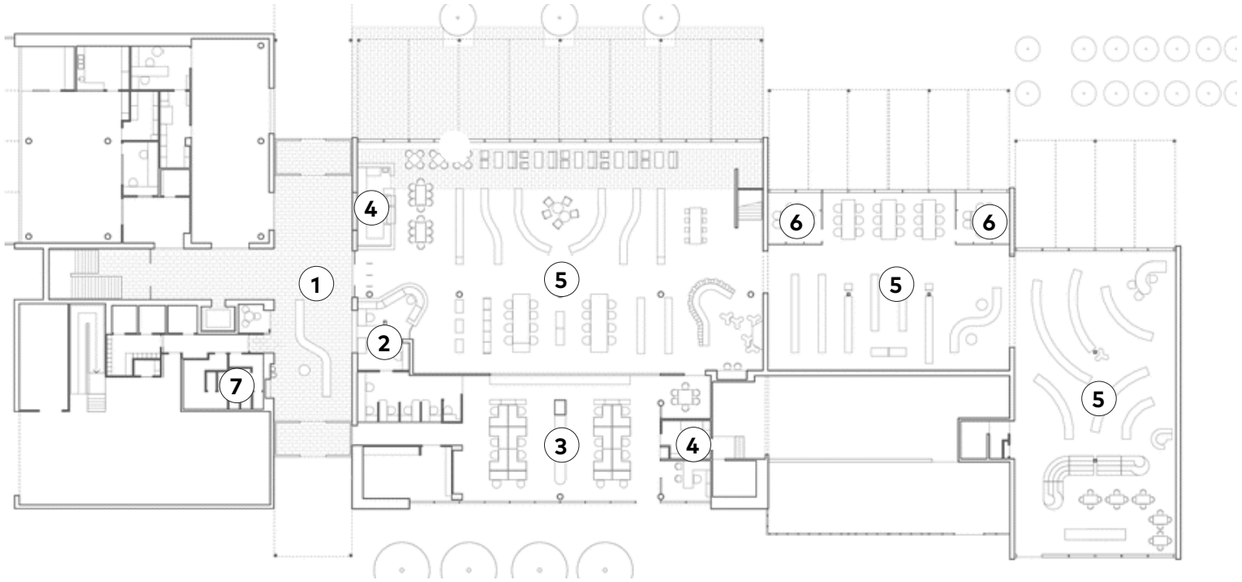
COX

Craigieburn Library

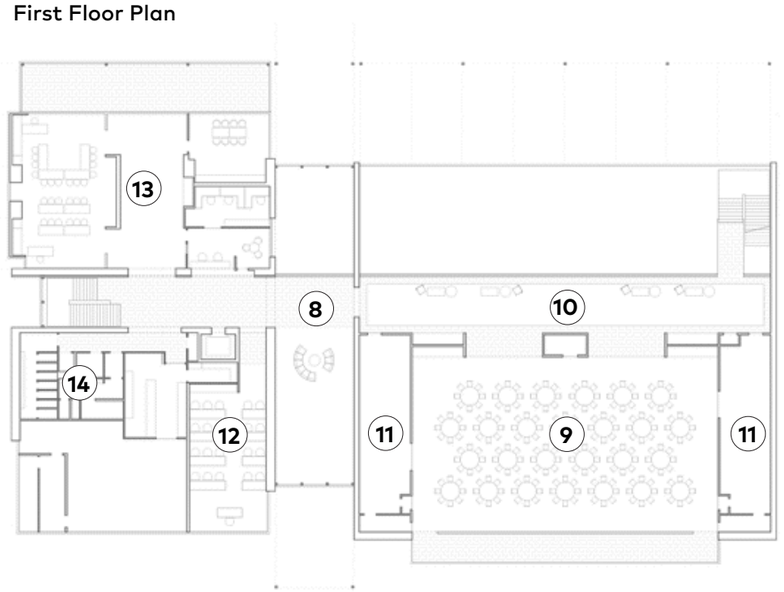
Francis-Jones Morehen Thorp

Ground Floor Plan

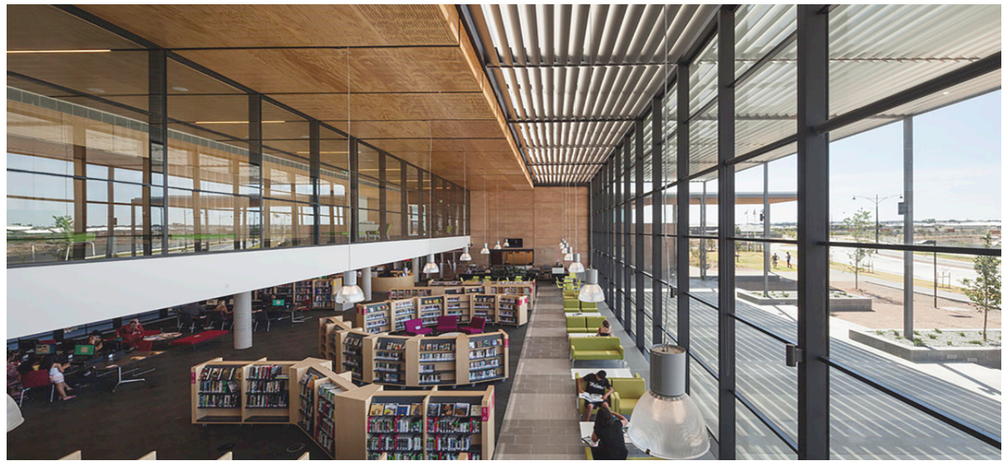


	Room Name	Area m²
1	Foyer	240
2	Reception	30
3	Offices	290
4	Printing Area	25
5	Library	1080
6	Quiet / Meeting Areas	40
7	Amenities	90

First Floor Plan



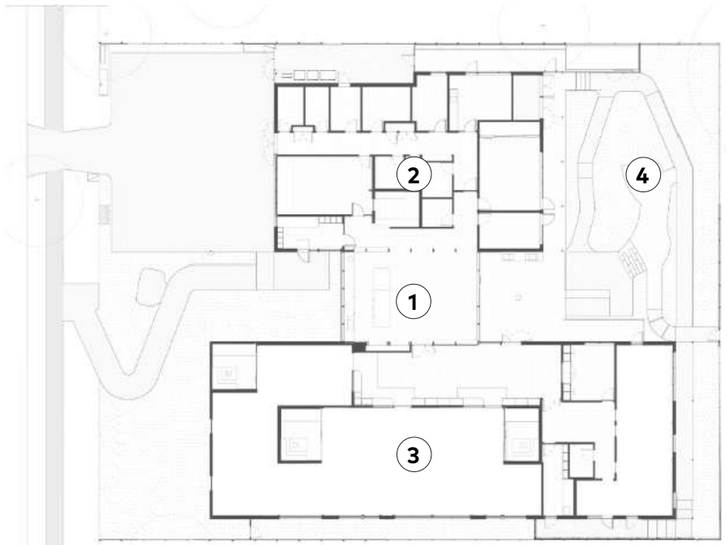
	Room Name	Area m²
8	First Level Foyer	240
9	Function Area	420
10	Function Lobby / Waiting	150
11	Function Store	120
12	Webinar / Class Room	75
13	Office	270
14	Amenities	60



Booboop Narrkwarren Nagarra-jarra-noun - The Family Healing Centre

_KTA

Ground Floor Plan



	Room Name	Area m²
1	Central Shared Space (Kitchen & dining)	80
2	Clinical Wing (Consulting rooms & offices)	270
3	Residential Wing (3 x private housing unit & courtyard)	520
4	Sensory Outdoor Play	360

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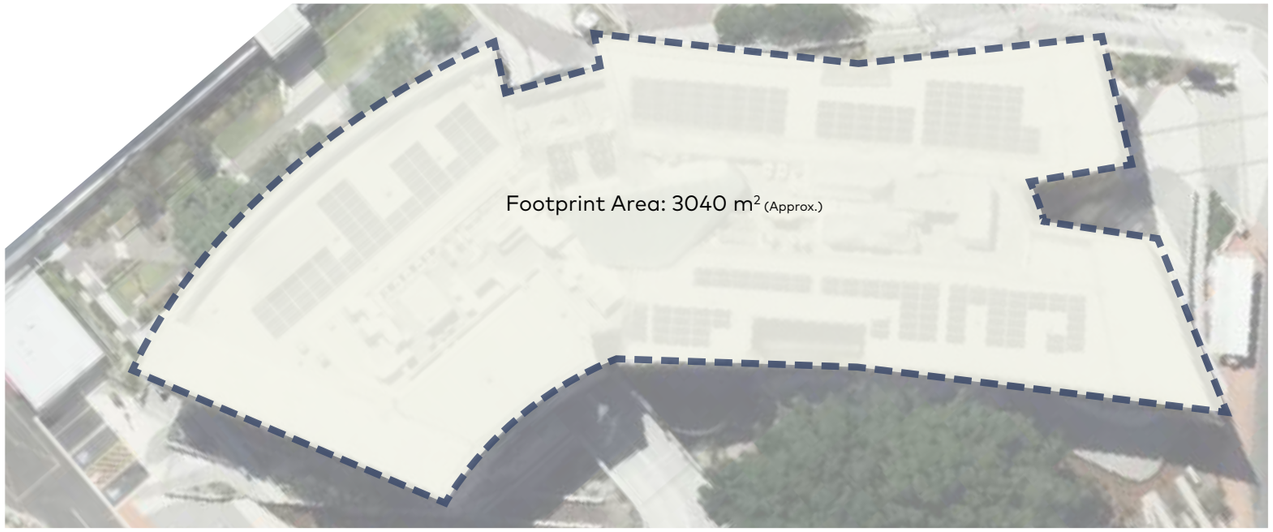
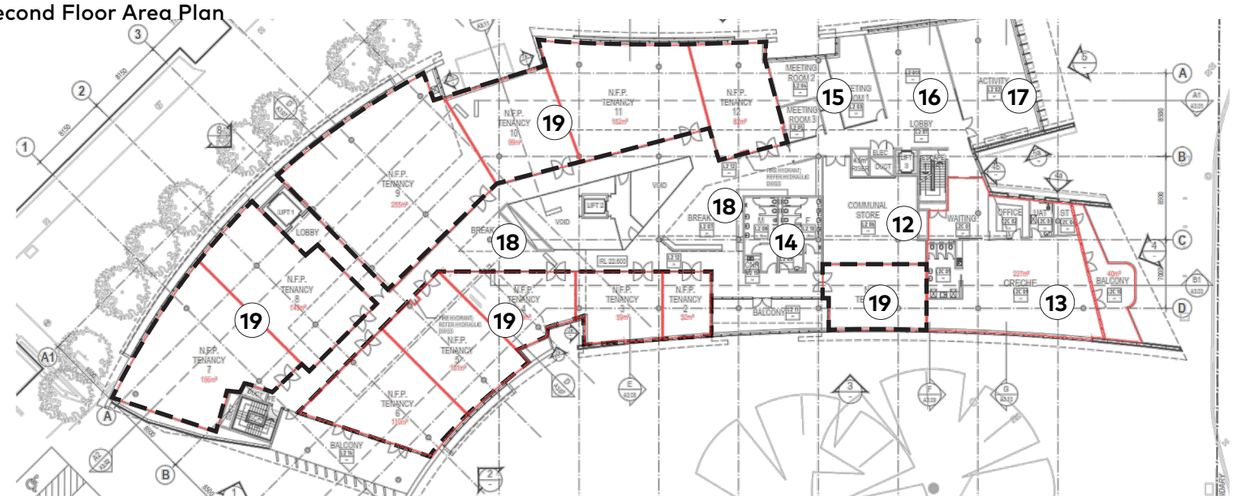
COX

Belmont Hub

Area Plan

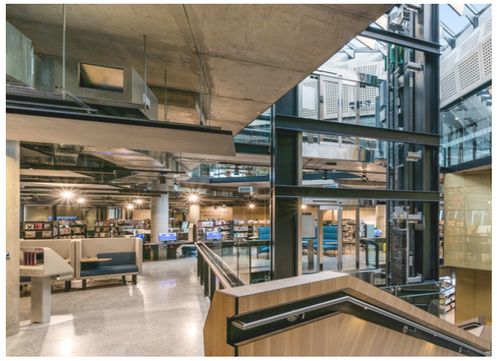


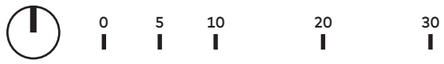
Second Floor Area Plan



	Overall Facilities / Areas
1	Ruth Faulkner Library
2	Belmont Museum
3	Seniors Hub
4	Shop
5	Gallery
6	Demonstration Kitchen
7	Events Room
8	Multimedia Recording Suite
9	Screening Room
10	Cafe
11	Offices

	Level 2 Room Name	Area m²
12	Communal Store	90
13	Creche & Amenities	225
14	Amenities	60
15	Meeting 1 - 3	80
16	Lobby	340
17	Activity Room	94
18	Break-out Areas	90
19	Tenancy Rooms	335





COX

Wickham Community Hub

Area Plan

	Room Name / Facilities
1	Wickham Library
2	Youth Centre
3	Early Learning Centre (50 pax)
4	Outdoor Play Area
5	Multi-Purpose Rooms (x 4)
6	Outdoor Gathering Space
7	Outdoor Play Area
8	Skatepark
9	Water Playground
10	Squash Centre

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COX

Zig Zag Cultural Centre

Area Plan

	Room Name / Facilities
1	Zig Zag Gallery
2	Visitor Centre
3	Cafe
4	Seminar Room (60 pax)

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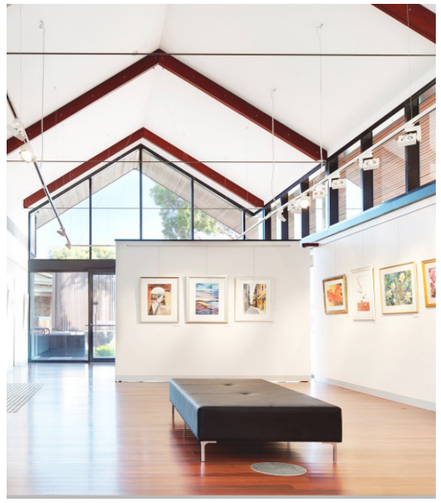

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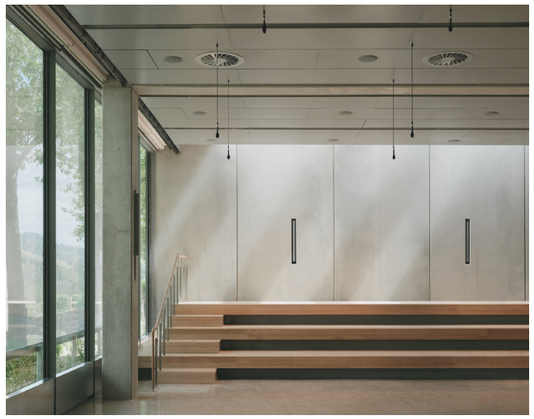
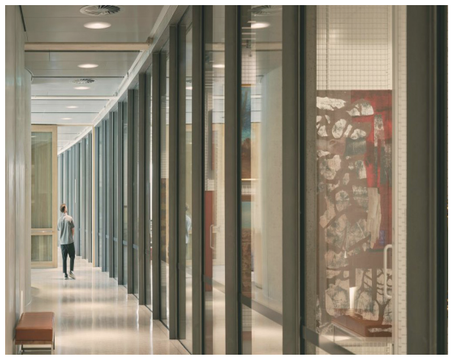
Eva and Marc Besen Gallery & Cultural Centre

_KTA

	Room Name / Facilities	Area m²
1	Gallery / Visible Art Storage	2545
	Multipurpose Performance Space	
	Foyer and Gathering Area	
2	Sculpture Walk	1450





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COX

Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

03. Programme

Project Plan

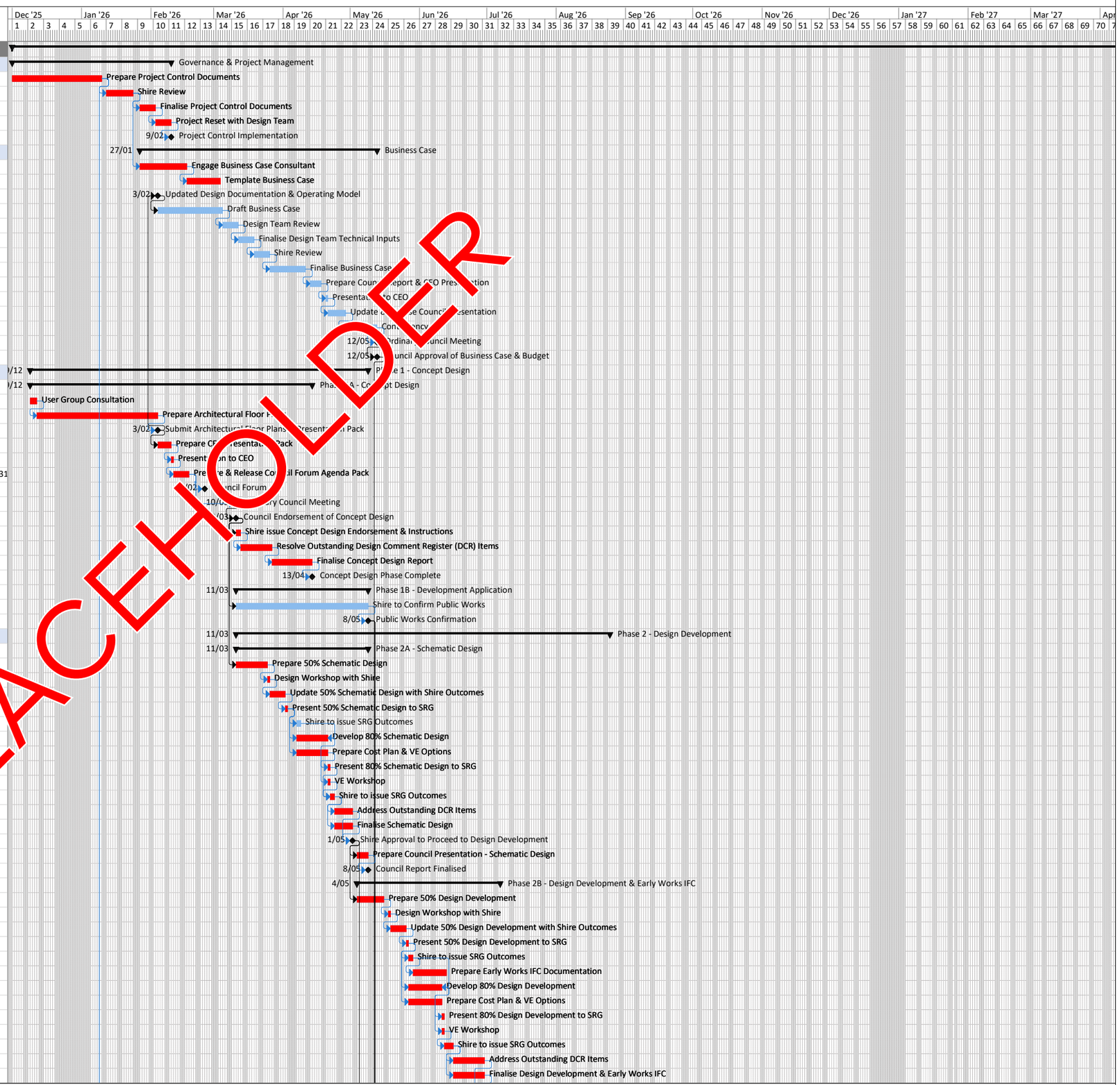
01.	Master Program (Draft C) - Axis Project Solutions
02.	Project Deliverables Plan

MUNDARING CULTURAL HUB

Master Program [Draft C]

AXIS PROJECT SOLUTIONS

ID	Task Name	Duration	Start	Finish	Predecessors	Successors
0	**Mundaring Cultural Hub - Master Program**	**777 days**	**Mon 1/12/25**	**Wed 7/02/29**		
1	**Governance & Project Management**	**40 days**	**Mon 1/12/25**	**Mon 9/02/26**		
2	Prepare Project Control Documents	20 days	Mon 1/12/25	Fri 9/01/26		3,83
3	Shire Review	10 days	Mon 12/01/26	Fri 23/01/26	2	4,8
4	Finalise Project Control Documents	5 days	Tue 27/01/26	Mon 2/02/26	3	5
5	Project Reset with Design Team	5 days	Tue 3/02/26	Mon 9/02/26	4	6
6	Project Control Implementation	0 days	Mon 9/02/26	Mon 9/02/26	5	
7	**Business Case**	**72 days**	**Tue 27/01/26**	**Tue 12/05/26**		
8	Engage Business Case Consultant	15 days	Tue 27/01/26	Mon 16/02/26	3	9
9	Template Business Case	10 days	Tue 17/02/26	Tue 3/03/26	8	
10	Updated Design Documentation & Operating Model	0 days	Tue 3/02/26	Tue 3/02/26	26	11
11	Draft Business Case	20 days	Wed 4/02/26	Wed 4/03/26	10	12
12	Design Team Review	5 days	Thu 5/03/26	Wed 11/03/26	11	13
13	Finalise Design Team Technical Inputs	5 days	Thu 12/03/26	Wed 18/03/26	12	14
14	Shire Review	5 days	Thu 19/03/26	Wed 25/03/26	13	15
15	Finalise Business Case	10 days	Thu 26/03/26	Fri 10/04/26	14	16
16	Prepare Council Report & CEO Presentation	5 days	Mon 13/04/26	Fri 17/04/26	15	17
17	Presentation to CEO	1 day	Mon 20/04/26	Mon 20/04/26	16	18
18	Update & Finalise Council Presentation	5 days	Tue 21/04/26	Tue 28/04/26	17	19
19	***Contingency***	***10 days***	***Wed 29/04/26***	***Tue 12/05/26***	***18***	***20***
20	Ordinary Council Meeting	0 days	Tue 12/05/26	Tue 12/05/26	19	21
21	Council Approval of Business Case & Budget	0 days	Tue 12/05/26	Tue 12/05/26	20	90
22	**Phase 1 - Concept Design**	**94 days**	**Tue 9/12/25**	**Fri 8/05/26**		
23	**Phase 1A - Concept Design**	**76 days**	**Tue 9/12/25**	**Mon 13/04/26**		
24	User Group Consultation	3 days	Tue 9/12/25	Thu 11/12/25		25
25	Prepare Architectural Floor Plans	27 days	Fri 12/12/25	Tue 3/02/26	24	26
26	Submit Architectural Floor Plans & Presentation Pack	0 days	Tue 3/02/26	Tue 3/02/26	25	27,10
27	Prepare CEO Presentation Pack	4 days	Wed 4/02/26	Mon 9/02/26	26	28
28	Presentation to CEO	1 day	Tue 10/02/26	Tue 10/02/26	27	29
29	Prepare & Release Council Forum Agenda Pack	5 days	Wed 11/02/26	Tue 17/02/26	28	30FS+1 wk,31
30	Council Forum	0 days	Tue 24/02/26	Tue 24/02/26	29FS+1 wk	
31	Ordinary Council Meeting	0 days	Tue 10/03/26	Tue 10/03/26	29FS+14 days	32
32	Council Endorsement of Concept Design	0 days	Tue 10/03/26	Tue 10/03/26	31	42,38,33
33	Shire issue Concept Design Endorsement & Instructions	2 days	Wed 11/03/26	Thu 12/03/26	32	34
34	Resolve Outstanding Design Comment Register (DCR) Items	10 days	Fri 13/03/26	Thu 26/03/26	33	35
35	Finalise Concept Design Report	10 days	Fri 27/03/26	Mon 13/04/26	34	36
36	Concept Design Phase Complete	0 days	Mon 13/04/26	Mon 13/04/26	35	
37	**Phase 1B - Development Application**	**40 days**	**Wed 11/03/26**	**Fri 8/05/26**		
38	Shire to Confirm Public Works	40 days	Wed 11/03/26	Fri 8/05/26	32	39
39	Public Works Confirmation	0 days	Fri 8/05/26	Fri 8/05/26	38	119,121
40	**Phase 2 - Design Development**	**115 days**	**Wed 11/03/26**	**Mon 24/08/26**		
41	**Phase 2A - Schematic Design**	**40 days**	**Wed 11/03/26**	**Fri 8/05/26**		
42	Prepare 50% Schematic Design	10 days	Wed 11/03/26	Tue 24/03/26	32	43
43	Design Workshop with Shire	1 day	Wed 25/03/26	Wed 25/03/26	42	44
44	Update 50% Schematic Design with Shire Outcomes	5 days	Thu 26/03/26	Wed 1/04/26	43	45
45	Present 50% Schematic Design to SRG	1 day	Thu 2/04/26	Thu 2/04/26	44	47,46,48
46	Shire to issue SRG Outcomes	2 days	Tue 7/04/26	Wed 8/04/26	45	47FF
47	Develop 80% Schematic Design	10 days	Tue 7/04/26	Mon 20/04/26	45,46FF	49
48	Prepare Cost Plan & VE Options	10 days	Tue 7/04/26	Mon 20/04/26	45	50
49	Present 80% Schematic Design to SRG	1 day	Tue 21/04/26	Tue 21/04/26		
50	VE Workshop	1 day	Tue 21/04/26	Tue 21/04/26	48	51
51	Shire to issue SRG Outcomes	2 days	Wed 22/04/26	Thu 23/04/26	49,50	53,52
52	Address Outstanding DCR Items	5 days	Fri 24/04/26	Fri 1/05/26		54
53	Finalise Schematic Design	5 days	Fri 24/04/26	Fri 1/05/26	51	54
54	Shire Approval to Proceed to Design Development	0 days	Fri 1/05/26	Fri 1/05/26	53,52	58,90,55
55	Prepare Council Presentation - Schematic Design	5 days	Mon 4/05/26	Fri 8/05/26	54	56
56	Council Report Finalised	0 days	Fri 8/05/26	Fri 8/05/26	55	
57	**Phase 2B - Design Development & Early Works IFC**	**45 days**	**Mon 4/05/26**	**Mon 6/07/26**		
58	Prepare 50% Design Development	10 days	Mon 4/05/26	Fri 15/05/26	54	59
59	Design Workshop with Shire	1 day	Mon 18/05/26	Mon 18/05/26	58	60
60	Update 50% Design Development with Shire Outcomes	5 days	Tue 19/05/26	Mon 25/05/26	59	61
61	Present 50% Design Development to SRG	1 day	Tue 26/05/26	Tue 26/05/26	60	64,62,65
62	Shire to issue SRG Outcomes	2 days	Wed 27/05/26	Thu 28/05/26	61	64FF,63
63	Prepare Early Works IFC Documentation	10 days	Fri 29/05/26	Fri 12/06/26	62	
64	Develop 80% Design Development	10 days	Wed 27/05/26	Wed 10/06/26	61,62FF	66,67
65	Prepare Cost Plan & VE Options	10 days	Wed 27/05/26	Wed 10/06/26	61	
66	Present 80% Design Development to SRG	1 day	Thu 11/06/26	Thu 11/06/26	64	
67	VE Workshop	1 day	Thu 11/06/26	Thu 11/06/26	64	68
68	Shire to issue SRG Outcomes	2 days	Fri 12/06/26	Mon 15/06/26	67	70,69
69	Address Outstanding DCR Items	10 days	Tue 16/06/26	Mon 29/06/26	68	71
70	Finalise Design Development & Early Works IFC	10 days	Tue 16/06/26	Mon 29/06/26	68	71



PLACEHOLDER

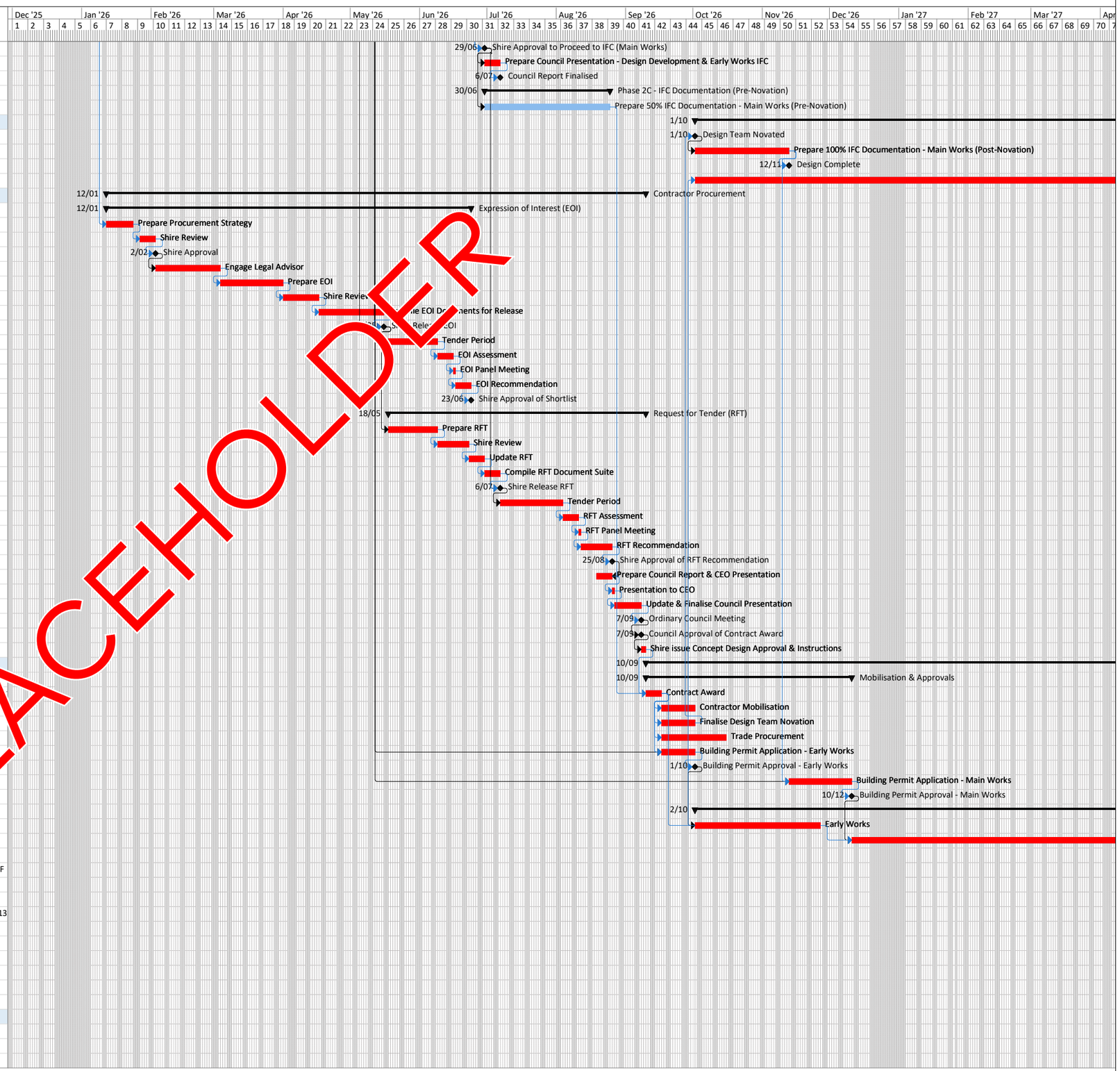
MASTER PROGRAM - AXIS PROJECT SOLUTIONS

MUNDARING CULTURAL HUB

Master Program [Draft C]

AXIS PROJECT SOLUTIONS

ID	Task Name	Duration	Start	Finish	Predecessors	Successors
71	Shire Approval to Proceed to IFC (Main Works)	0 days	Mon 29/06/26	Mon 29/06/26	69,70	75,101,72
72	Prepare Council Presentation - Design Development & Early Works	5 days	Tue 30/06/26	Mon 6/07/26	71	73
73	Council Report Finalised	0 days	Mon 6/07/26	Mon 6/07/26	72	
74	**Phase 2C - IFC Documentation (Pre-Novation)**	**40 days**	**Tue 30/06/26**	**Mon 24/08/26**		
75	Prepare 50% IFC Documentation - Main Works (Pre-Novation)	40 days	Tue 30/06/26	Mon 24/08/26	71	115
76	**Phase 3 - Design Finalisation & Construction Support**	**360 days**	**Thu 1/10/26**	**Wed 29/03/28**		
77	Design Team Novated	0 days	Thu 1/10/26	Thu 1/10/26	117	78
78	Prepare 100% IFC Documentation - Main Works (Post-Novation)	30 days	Fri 2/10/26	Thu 12/11/26	77	121,79
79	Design Complete	0 days	Thu 12/11/26	Thu 12/11/26	78	
80	Construction Support Services	18 mons	Fri 2/10/26	Wed 29/03/28	124SS	
81	**Contractor Procurement**	**167 days**	**Mon 12/01/26**	**Wed 9/09/26**		
82	**Expression of Interest (EOI)**	**111 days**	**Mon 12/01/26**	**Tue 23/06/26**		
83	Prepare Procurement Strategy	10 days	Mon 12/01/26	Fri 23/01/26	2	84
84	Shire Review	5 days	Tue 27/01/26	Mon 2/02/26	83	85
85	Shire Approval	0 days	Mon 2/02/26	Mon 2/02/26	84	86
86	Engage Legal Advisor	20 days	Tue 3/02/26	Tue 3/03/26	85	87
87	Prepare EOI	20 days	Wed 4/03/26	Tue 31/03/26	86	88
88	Shire Review	10 days	Wed 1/04/26	Thu 16/04/26	87	89
89	Compile EOI Documents for Release	20 days	Fri 17/04/26	Fri 15/05/26	88	90
90	Shire Release EOI	0 days	Fri 15/05/26	Fri 15/05/26	54,89,21	91,97
91	Tender Period	15 days	Mon 18/05/26	Mon 8/06/26	90	92
92	EOI Assessment	5 days	Tue 9/06/26	Mon 15/06/26	91	93
93	EOI Panel Meeting	1 day	Tue 16/06/26	Tue 16/06/26	92	94
94	EOI Recommendation	5 days	Wed 17/06/26	Tue 23/06/26	93	95
95	Shire Approval of Shortlist	0 days	Tue 23/06/26	Tue 23/06/26	94	
96	**Request for Tender (RFT)**	**82 days**	**Mon 18/05/26**	**Wed 9/09/26**		
97	Prepare RFT	15 days	Mon 18/05/26	Mon 8/06/26	90	98
98	Shire Review	10 days	Tue 9/06/26	Mon 22/06/26	97	99
99	Update RFT	5 days	Tue 23/06/26	Mon 29/06/26	98	100
100	Compile RFT Document Suite	5 days	Tue 30/06/26	Mon 6/07/26	99	101
101	Shire Release RFT	0 days	Mon 6/07/26	Mon 6/07/26	71,100	102
102	Tender Period	20 days	Tue 7/07/26	Mon 3/08/26	101	103
103	RFT Assessment	5 days	Tue 4/08/26	Mon 10/08/26	102	104
104	RFT Panel Meeting	1 day	Tue 11/08/26	Tue 11/08/26	103	105
105	RFT Recommendation	10 days	Wed 12/08/26	Tue 25/08/26	104	106
106	Shire Approval of RFT Recommendation	0 days	Tue 25/08/26	Tue 25/08/26	105	107FF
107	Prepare Council Report & CEO Presentation	5 days	Wed 19/08/26	Tue 25/08/26	106FF	108
108	Presentation to CEO	1 day	Wed 26/08/26	Wed 26/08/26	107	109
109	Update & Finalise Council Presentation	8 days	Thu 27/08/26	Mon 7/09/26	108	110
110	Ordinary Council Meeting	0 days	Mon 7/09/26	Mon 7/09/26	109	111
111	Council Approval of Contract Award	0 days	Mon 7/09/26	Mon 7/09/26	110	112
112	Shire issue Concept Design Approval & Instructions	2 days	Tue 8/09/26	Wed 9/09/26	111	115
113	**Design Finalisation & Construction**	**585 days**	**Thu 10/09/26**	**Wed 31/01/29**		
114	**Mobilisation & Approvals**	**65 days**	**Thu 10/09/26**	**Thu 10/12/26**		
115	Contract Award	5 days	Thu 10/09/26	Wed 16/09/26	112,75	116,119,1
116	Contractor Mobilisation	10 days	Thu 17/09/26	Thu 1/10/26	115	
117	Finalise Design Team Novation	10 days	Thu 17/09/26	Thu 1/10/26	115	77
118	Trade Procurement	20 days	Thu 17/09/26	Thu 15/10/26	115	
119	Building Permit Application - Early Works	10 days	Thu 17/09/26	Thu 1/10/26	115,39	120
120	Building Permit Approval - Early Works	0 days	Thu 1/10/26	Thu 1/10/26		4
121	Building Permit Application - Main Works	20 days	Fri 13/11/26	Thu 10/12/26	78,39	12
122	Building Permit Approval - Main Works	0 days	Thu 10/12/26	Thu 10/12/26	121	125
123	**Construction**	**455 days**	**Fri 2/10/26**	**Tue 15/08/28**		
124	Early Works	2 mons	Fri 2/10/26	Thu 26/11/26	11	80SS,125
125	Main Works	11 mons	Fri 11/12/26	Mon 8/11/27	122,12	126
126	Fitout	2 mons	Tue 9/11/27	Mon 17/01/28	125	127
127	Testing & Commissioning	1 mon	Tue 18/01/28	Tue 15/02/28	126	128FF,129FF
128	Shire Access for Fitout	1 mon	Tue 18/01/28	Tue 15/02/28	127FF	
129	Final Completion & Defect Management	1 mon	Tue 18/01/28	Tue 15/02/28	127FF	130
130	Practical Completion	0 days	Tue 15/02/28	Tue 15/02/28	129	134,138FF,13
131	*Project Contingency*	*6 mons*	*Wed 16/02/28*	*Tue 8/08/28*	*130*	*132*
132	Handover to Shire	1 wk	Wed 9/08/28	Tue 15/08/28	131	
133	**Defect Liability Period**	**240 days**	**Wed 16/02/28**	**Wed 31/01/29**		
134	Defect Management	12 mons	Wed 16/02/28	Wed 31/01/29	130	135FF
135	Commercial Close Out	1 mon	Thu 4/01/29	Wed 31/01/29	134FF	136
136	Final Completion	0 days	Wed 31/01/29	Wed 31/01/29	135	139FF
137	**Project Close Out**	**265 days**	**Tue 18/01/28**	**Wed 7/02/29**		
138	Prepare Practical Completion Report	20 days	Tue 18/01/28	Tue 15/02/28	130FF	
139	Prepare Final Completion Report	20 days	Thu 4/01/29	Wed 31/01/29	136FF	140
140	Financial Reconciliation	5 days	Thu 1/02/29	Wed 7/02/29	139	



PLACEHOLDER

	PHASE 1: CONCEPT DESIGNS		PHASE 2: DETAILED DESIGN & DOCUMENTATION		PHASE 3: CONSTRUCTION
Program Dates	**27th Oct 2025**		**15th April 2026**		**4th Sep 2026**
Fine Grain Deliverable Dates	**Aug-25**	**Oct-25**	**Dec-25**	**Apr-26**	**Aug-26**
% of Total Design & Document Completion:	**15%**	**30%**	**50%**	**85%**	**100%**
Stage of Design:	**Concept**	**Schematic Design**	**Design Development**	**Contract Documentation/ Issue for Tender**	**Issue for Construction**
Architectural					
Site Plans	✓	✓	✓	✓	✓
Floor Plans	✓	✓	✓	✓	✓
Room Layouts			✓	✓	✓
Reflected Ceiling Plans		✓	✓	✓	✓
Elevations	✓	✓	✓	✓	✓
Façade Details			✓	✓	✓
Sections	✓	✓	✓	✓	✓
Elevation Details		✓	✓	✓	✓
Plan Details		✓	✓	✓	✓
Section Details		✓	✓	✓	✓
Door Schedule			✓	✓	✓
Window Schedule			✓	✓	✓
Joinery			✓	✓	✓
Furniture Plans		✓	✓	✓	✓
FFE Schedule			✓	✓	✓
Finishes Plans	Mood board	✓	✓	✓	✓
Finishes Schedule	Mood board	✓	✓	✓	✓
Landscape					
Plans and Sections		✓	✓	✓	✓
Details		✓	✓	✓	✓
Planting & Material Schedules		✓	✓	✓	✓
Structure & Civil					
Plans and Sections		✓	✓	✓	✓
Details		✓	✓	✓	✓
Services (Electrical, Mechanical, Hydraulic, Fire, etc)					
Layouts		✓	✓	✓	✓
Details			✓	✓	✓
Specifications & Reports					
Specifications				✓	✓
Operational Modelling Report		✓			
Service Delivery Report		✓			
Project Consultant Reports	✓	✓	✓	✓	✓
Presentation Material					
3D Renders	Block model	Detailed model			
Flythrough	Block model	Detailed model			

PLACEHOLDER

DELIVERABLES - PROJECT PLAN

Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

04. SoA

/ COX Architecture

Architectural Drawings

01. Schedule of Accommodation

Library	Historical Society	Commercial
Visitors Centre	Child Wellness Clinic	Toy Library
Mundaring Arts Centre (MAC)	Community Halls	

- Not fullfilling the Brief / req some more sufficient logic and justification
- Mitigating or close to meeting requirements
- Meets Requirements
- Outside of Functional Brief requirements

		BRIEFED PROGRAMME	ORIGINAL TRCB AREAS m²	ORIGINAL COMMENTS	PROJECT PRODUCT DESCRIPTION AREAS m²	PROJECT DESCRIPTION COMMENTS	FUNCTIONAL DESIGN BRIEF AREAS m²	LIBRARY COMPLIANCE (NSW) m²	CONCEPT DESIGN SCHEME FINAL (COX) AREAS m²	COMPLIANCE ACHIEVED?	COMPLIANCE COMMENTS
	1	**LIBRARY**									
	1.1	**Collection**									
SOM -	1.1.1	**After Hours Book Return**	10	Accessed externally	**10**				**11.00**		Was included behind lift in original concept design however undersised. Included in the alternative options at the right size.
SOM -	1.1.2	**Collection space**	600	Nom. double primary collection space for Boya (ex. Youth & Children's)	**600**			**449**	**510.00**		Includes reading space. Remaining space allocated to areas requested by stakeholders outside of functional brief.
SOM -	1.1.3	**Returns**	25		**25**			**20**	**18.00**		Includes front desk
LCNSW -		**Display & Information**	Excluded		Excluded			**43**	Excluded		
LCNSW -		**Service Desk**	Excluded		Excluded			**15**	Excluded		
LCNSW -		**History Museum**	Excluded		Excluded			**43**	Excluded		
LCNSW -	1.1.7	**Archive Storage**	Excluded		Excluded			**31**	**36.00**		Archive merged with Storage + Server Room
	1.2	**Administration & Back of House (BOH)**									
SOM -	1.2.1	**Staff Work Room**	75		**75**			**62**	**61.00**		Shared with Reception and Returns for a total 78sqm. **Revised Area approved as per stakeholder review with SoM**
Removed		**Staff Amenities**	15		**15**				**-**		Staff Toilets were originally ommitted from Concept Design Scheme, but are included in the alternative scheme, and are to be included in the design moving forward. 1 staff UAT provided.
SOM -	1.2.2	**Staff Store**	15		**15**			**31**	**18.00**		Meets functional design brief requirements but not the library compliance (NSW) recommendations. **Revised Area approved as per stakeholder review with SoM**
LCNSW -		**Stack Area**	Excluded		Excluded			**25**	**-**		
LCNSW -		**Mobile Library Service Area**	Excluded		Excluded			**30**	**-**		Merged within Staff Work Room
LCNSW -	1.2.3	**Server Room**	Excluded		Excluded			**31**	**13.00**		Server merged with Storage + Archives
LCNSW -		**Photocopiers + Maintenance**	Excluded		Excluded			**31**	**-**		Within breakout space
		Quiet Room							Excluded		Quiet rooms omitted in favour of library of things + Breakout
LCNSW -		**Plant Room**	Excluded		Excluded			**43**	Excluded		Services included in item 83,84
SOM -	1.2.4	**Lunch room**	25		**25**		**1460**		**32.00**		
SOM -	1.2.5	**Managers Office**	20		**20**				**18.00**		

Library | Historical Society | Commercial
Visitors Centre | Child Wellness Clinic | Toy Library
Mundaring Arts Centre (MAC) | Community Halls

Not fullfilling the Brief / req some more sufficient logic and justification
Mitigating or close to meeting requirements
Meets Requirements
Outside of Functional Brief requirements

Removed		**Meeting Room**	15		**15**				Excluded	Removed as part of stakeholder review to prioritise Library of Things Space. Staff meeting occurs in common Staff work Room
Removed		**Group Study**							Excluded	
		Loading + Garbage Store						**43**		SoM to confirm the inclusion of this area.
	1.3	**Children's Area**								
SOM -	**1.3.1**	**Collection and play area**	120	Includes internal Toy Library Display	**120**			**43**	**61.00**	Noted that functional brief area provision is significantly higher than Library Compliance (NSW) requirements. Meeting with Library Stakeholders suggested collection area only needs to be around 90sqm. Store room merged with Hall & Author space storage. **Revised Area approved as per stakeholder review with SoM**
SOM -		**Store**	10		**10**				Part of Hall / Author Store	
	1.3.2	**Parents Room**	20	Baby change, WC, Feeding Chairs.	**20**				23.00	
COX	**1.3.3**	**Quiet Room**	Excluded		Excluded			Excluded	Excluded	Exclused based on stakeholder comments. **Excluded Area approved as per stakeholder review with SoM**
	1.4	**Young Adults Area**								
SOM -	**1.4.1**	**Collection and reading area**	64		**64**			**43**	**97.00**	Noted that functional brief area provision is significantly higher than Library Compliance (NSW) requirements
SOM -		**Breakout room 1**	12		**12**					
SOM -		**Breakout room 2**	12		**12**					
SOM -		**Breakout room 3**	12		**12**					
		Other Compliance Items								
SOM -		**Spaces for Self Study**							Excluded	Quiet Spaces Allocated in Alternative Scheme
SOM -		**Natural Light to Staff Work / Rest**							Excluded	
SOM -		**Terrace Western**							Excluded	Merged with Hall/ Author talk space as operable façade.
COX -		**Terrace Eastern**							Excluded	
	1.5	***Circulation & Other***	207		230				23.00	
		TOTAL AREA (FECA)	**1257**		**1280**		**1460.00**		**921.00**	
		TOY LIBRARY								
Removed		**Internal toy display / store**			Excluded				Excluded	
Removed		**External toy display / store**	50	50m2 allocation nominally. Allowed for in the Children's Collection area. Refer above	Excluded				Excluded	
Removed		**Workshop**	25	For toy repair, cleaning etc. Located adjacent external toy display / store	Excluded				Excluded	
Removed		**Equipment store**	-	enclosed storage for chairs, table, equipment	Excluded				Excluded	
Removed		***Circulation & Other***							Excluded	
		TOTAL AREA (FECA)	**75**		**0**				**0**	
	2	**MUNDARING ARTS CENTRE**								
	2.1	**Gallery, Reception & Back of House (BOH)**								
SOM -	**2.1.1**	**Reception area / foyer**	25		**-**				**131.00**	Reception Area / Foyer combined with Gallery retail space. Oversized in Concept Design Scheme
SOM -	**2.1.2**	**Gallery Space 1**	200	Adjacent to primary MAC gallery spaces. To be dedicated space; Display conditions - climate control/lux levels/pest mgmt - as per National Standards for Australian Museums and Galleries. Preferably no natural light	**180**	Main Gallery		**180**	**144.00**	Includes Gallery Equipment Store and General Gallery Store. **Revised Area approved as per stakeholder review with SoM**

		Library		Historical Society		Commercial				Not fullfilling the Brief / req some more sufficient logic and justification	
		Visitors Centre		Child Wellness Clinic		Toy Library				Mitigating or close to meeting requirements	
		Mundaring Arts Centre (MAC)		Community Halls						Meets Requirements	
										Outside of Functional Brief requirements	
	2.1.3	**Gallery 1 Store**							**4.00**		
	2.1.4	**Gallery Store + Prep Room**							**34.00**		Includes Prep room. **Revised Area approved as per stakeholder review with SoM**
SOM -	2.1.5	**Gallery Space 2**	100	To be adjoined to Gallery 2 via operable wall. G1 & G2 to be adjoining with acoustic operable wall between. Display conditions as per Gallery Space 1.	**100**	Temporary Gallery		**100**	**91.00**		**Revised Area approved as per stakeholder review with SoM**
	2.1.6	**Gallery Equipment Store**							**21.00**		
Removed		**Gallery Space 3**	50	To be adjoined to Gallery 1 via operable wall. Dark space/media room/audio visual, requires custom inbuilt tech storage/access	Excluded				Excluded		
Removed		**Gallery Space 4 (Community Gallery / Foyer Gallery)**	Excluded	Project space to host programming and activations with less stringent display requirements (pop-up displays, collaborative programming, community projects)Standard power, AV, data requirements & hanging infrastructure. Can have some natural light	Excluded				Excluded		
SOM -	2.1.7	**Artwork Storage**	40	Foyer gallery Climate controlled for artwork storage	**40**				**42.00**		Larger storage space included. **Revised Area approved as per stakeholder review with SoM**
Removed		**Artist in Residency Studio Apartment 1**	40	Nominal allowance for a "twin-key" suite for family accommodation. Studio apartment with kitchen, bedroom, WC etc.	Excluded				Excluded		
Removed		**Artist in Residency Studio Apartment 2**	40	Nominal allowance for a "twin-key" suite for family accommodation. Studio apartment with kitchen, bedroom, WC etc.	Excluded				Excluded		
Removed		**Artist Storage**	-		**15**				Excluded		
SOM -	2.1.8	**Studio 1**			**90**	exclusive-use studio			**91.00**		Includes 6sqm studio art storage. 5sqm general studio storage, 30sqm gallery and internal wash area. **Revised Area approved as per stakeholder review with SoM**
	2.1.9	**Studio Store 1**					**725**		**6.00**		
	2.1.10	**Studio Store 2**							**9.00**		
Removed		**External Washdown**							Excluded		Relocated to internal area
Removed		**External Washdown**							Excluded		
Removed		**Studio 2**			**90**	exclusive-use studio (1x wet/1x dry)			Excluded		
	2.2	**Administration / Offices**									
SOM -	2.2.1	**Open plan office**	80	Space for 8 workspaces	**70**				**60.00**		Office Layout TBC
SOM -		**Hot-desking locations**	30	Space for 3 workspaces	**10**				**-**		10sqm of hotdesk combined with 50sqm of office to achieve Product Description Brief Area
Removed		**Meeting room (Small)**	35	AV/data requirements for conference & online meetings, inbuilt cabinetry/tea prep OR co-location to Kitchenette. Small and large combined. Operable wall between.	Excluded				Excluded		

Library | Visitors Centre | Mundaring Arts Centre (MAC) | Historical Society | Child Wellness Clinic | Community Halls | Commercial | Toy Library

Not fullfilling the Brief / req some more sufficient logic and justification

Mitigating or close to meeting requirements

Meets Requirements

Outside of Functional Brief requirements

Removed	**Meeting room (Large)**	-	AV/data requirements for conference & online meetings, inbuilt cabinetry/tea prep OR co-location to Kitchenette	Excluded				Excluded		
Removed	**Kitchenette**	15	Use commercial kitchen for functions. Functions in community spaces / use the combined gallery space.	Excluded				Excluded		
Removed	**Public amenities**	80	6 Male Pans, 6 Female pans, UAT	**40**	Additional to existing			Excluded		Combined with Hall public amenities as Shared Amenities
SOM -	**Retail Space**							-		Reception Area / Foyer combined with Gallery retail space. Oversized in Concept Design Scheme
	Other Compliance Items									
SOM - 55	**Climate Control to Storage**				Classification system for Galleries; Art on the Move Touring Strategy 2024-2028					Provision for climate control to storage and Gallery at Concept Design by NDY
SOM - 56	**Secure Spaces**				*Detailed requirements to be confirmed via collaboration with Mundaring Arts Centre during Concept Design.					To be confirmed by stakeholder engagement at SD
SOM - 57	**Location**				Co-located with other high traffic uses. E.g. retail/café/visitor centre; dual staffed.					
SOM - 58	**Ground Floor Galleries**				Galleries on ground floor with high accessibility loading via storage for large artwork					
SOM - 59	**Access to Kitchen**				Access to kitchen for catering events					
SOM - 51	**Covered Loading Access**				Classification system for Galleries; Art on the Move Touring Strategy 2024-2028					3D modelling accounts for a rear loading access canopy at Concept Design
SOM - 70	**Security System**				Classification system for Galleries; Art on the Move Touring Strategy 2024-2028					
	Circulation & Other	110.25		95.25						
	TOTAL AREA (FECA)	**845.25**		**730.25**		**725**		**633**		
	3 VISITORS CENTRE									
SOM - 3.1	**Office Space**	60	Including storage, staff WC's etc. Office for 3-4 people.					**33.00**		Staff Office's area not provided in the Project Product Description. Cox has assumed a target of 10sqm per person for office + toilet. Office to accommodate 3 people. **Revised Area approved as per stakeholder review with SoM**
SOM -	**Shop**	100	Store space included To serve the whole facility	**100**	Store space included To serve the whole facility					
SOM -	**Café**	100	Related to primary external public space	Excluded		**130**	**50**			
SOM - 3.2	**Visitors Centre**	100	To have street presence	**100**			**100**	**88.00**		Visitors Centre area slightly under provision from functional brief. **Revised Area approved as per stakeholder review with SoM**
SOM -	**Amenities**	50	3 x MWC, 3 x FWC, 1 x UAT Public amenities for visitors, shared by café	Excluded						
SOM -	**Parent Room**			Excluded						
	Circulation & Other	61.5		30						
	TOTAL AREA (FECA)	**471.5**		**230**		**130**		**121**		
	4 HISTORICAL SOCIETY									
Removed	**Administration space**	100	Equivalent to station masters house	Excluded	Remains in Stationmaster		**160**	Excluded		This was ommitted from functional brief area. **SoM confirmed the exclusion of this space**
Removed	**Local History Room - Research**	50	PC's for review. Acoustically separate. Large format review table.	Excluded	Use library area			Excluded		

Library
Visitors Centre
Mundaring Arts Centre (MAC)
Historical Society
Child Wellness Clinic
Community Halls
Commercial
Toy Library

Not fullfilling the Brief / req some more sufficient logic and justification
Mitigating or close to meeting requirements
Meets Requirements
Outside of Functional Brief requirements

SOM -	4.1	**Museum Display 1 - Permanent Gallery**	100	Current museum space 50 sq.m. Located to accommodate with others.	**75**			**50**	**84.00**	Meets Brief + Compliance
Removed		**Museum Display 2 - Rotating display**	100	Current museum space 50 sq.m. Located to accommodate with others.	Excluded				Excluded	
SOM -	4.2	**Museum Storage**							**5.00**	Store to be shared by Darkroom space
SOM -	4.3	**Museum Dark Room**							**17.00**	SoM to confirm the inclusion of this area. Can be used as additional storage.
		Other Compliance Items								
Removed		**Room Finishes**				Museum room requirements: hard flooring, temperature controlled, high ceilings, moveable 'track' lighting	**100**		Excluded	Finishes to be confirmed in SD
Removed		**Light & Location**				Museum room requirements: no natural lighting, moveable walls/panels, located in high-traffic area			Excluded	Additional Dark Room in alternate scheme is provided to ensure compliance here.
Removed		**Co-Location**				Museum collocated with another service that is staffed full-time			Excluded	Co-Located with Visitors Centre
Removed		**Loading Access**							Excluded	Compliant
Removed		**Shared Space for Education**							Excluded	
Removed		**Storage**	100		**100**	Located with loading dock. Goods lift required if galleries and/or storage are off ground.			Excluded	
		Circulation & Other	67.5		26.25					
		TOTAL AREA (FECA)	**517.5**		**201.25**		**100**		**106**	
	5	**COMMUNITY HALLS**								
SOM -	5.1	**Hall 1**	200	Adjoined to Hall 2 via operable wall. Able to operate as a light-touch performance space / auditorium.	**300**				**222.00**	Hall spatial planning as per discussions with SoM. **SoM have confirmed area allocation based on stakeholder sketch plan.**
Removed		**Green Room**	25		Excluded					
Removed		**Green Room**	25	Storage for furniture and equipment for regular users.	Excluded					
SOM -	5.2	**Hall 1 Store**	70	Adjoined to Hall 1 via operable wall	Excluded				**23.00**	Hall now included as per discussions with SoM
Removed		**Hall 2**	150	Storage for furniture and equipment for regular users.	**100**					Combined with Author Talk Space on level 1.
Removed		**Hall 2 Store**	50		Excluded					Store room not required by brief but added for Hall functionality. To be utilised by both
SOM -	5.3	**Kitchen + Cool Room**	50	Storage for furniture and equipment for regular users.	**30**			**30**	**40.00**	Kitchen Serves Hall 1 and 2 directly. Hall 1 has dedicated Servery bench within Hall 1 Space. Additional space has been allocated for Cool Room to be confirmed
	5.4	**Breakout Space / Print Area**							**21.00**	

Library | Historical Society | Commercial
Visitors Centre | Child Wellness Clinic | Toy Library
Mundaring Arts Centre (MAC) | Community Halls

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	5.5	Library of Things	Excluded		Excluded				27.00	Included at stakeholder request
SOM -	5.6	Training Room	60	Computers and training	60		450	160	51.00	Revised Area approved as per stakeholder review. Training room reduced however added Maker space, Library of Things and Breakout added in.
SOM -		Meeting Room 1	15		15			50	-	
SOM -	5.7	Meeting Room 2	15		15				15.00	
SOM -	5.8	Meeting Room 3	15		15				15.00	
LCNSW -	5.9	Maker Space	Excluded		Excluded			120	48.00	Now included based on stakeholder feedback
	5.1	Hall Storage							17.00	
SOM -	5.11	Hall 02 + Author talk space			150	New item in this version			200.00	Author Talk Space to occupy L1 2x100 Meeting Halls, combined via operable wall plus 15sqm store
Removed		Hall 3	150		100				Excluded	
Removed		Hall 3 Store	50		Excluded				Excluded	
Removed		Hall Flex							Excluded	Additional Area within Foyer/Laneway that can be used as Hall Flex Space. Halls have capability to open fully onto laneway
Removed		*Circulation & Other*							Excluded	
		TOTAL AREA (FECA)	***875***		**785**		**450**		**679**	
	6	**COMMERCIAL**								
SOM -	6.1	Complimentary Commercial	50		50		50		57.00	Undercover Outdoor Alfresco 49sqm as additional tenancy space.
	6.2	Commercial Amenities	Excluded		Excluded		Excluded		21.00	Includes 1 UAT, 1 Male ambulant toilet and 1 Female ambulant toilet
		TOTAL AREA (FECA)	**50**		**50**		**50**		**78**	
		CHILD HEALTH WELLNESS								
Removed		Consult Room 1	20	To Australasian HFG Standard Components: CONS-UN	20	One consulting room			Excluded	
Removed		Consult Room 2	20	To Australasian HFG Standard Components: CONS-UN	Excluded				Excluded	
Removed		Waiting Room	20		20				Excluded	
Removed		Reception	10		Excluded				Excluded	
Removed		Kitchenette	10		10		60	60	Excluded	This was ommitted from functional brief area. SoM to confirm whether it is now included.
Removed		Public Amenities	15	1 MWC, 1FWC, 1 UAT	Excluded				Excluded	
Removed		Staff Amenities	6	1 UAT	6				Excluded	
Removed		Storage	20		10				Excluded	
Removed		Activity Space			50	shared space for activities			Excluded	
Removed		*Circulation & Other*	18		17					
		TOTAL AREA (FECA)	**139**		**133**		**60**		**0**	
		TOY LIBRARY								
Removed		Internal toy display / store			Excluded				Excluded	

Library	Historical Society	Commercial
Visitors Centre	Child Wellness Clinic	Toy Library
Mundaring Arts Centre (MAC)	Community Halls	

	Not fullfilling the Brief / req some more sufficient logic and justification
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	Meets Requirements
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Removed	**External toy display / store**	50	50m2 allocation nominally. Allowed for in the Children's Collection area. Refer above	Excluded					Excluded			
Removed	**Workshop**	25	For toy repair, cleaning etc. Located adjacent external toy display / store	Excluded					Excluded			
Removed	**Equipment store**	-	enclosed storage for chairs, table, equipment	Excluded					Excluded			
Removed	***Circulation & Other***								Excluded			
	TOTAL AREA (FECA)	**75**		**0**					**0**			
	TOY LIBRARY											
Removed	**External toy display / store**	50	50m2 allocation nominally.	**50**		**75**	**75**					Toy Library removed for this Option and proposed they stay in existing location with more store area.
Removed	**Workshop**	25	For toy repair, cleaning etc. Located adjacent external toy display / store	**25**								
Removed	**Equipment store**	-	enclosed storage for chairs, table, equipment	Excluded								
	TOTAL AREA (FECA)	**75**		**75**		**75**						
	7	**FOYER**										
SOM -	**7.1**	**Foyer (Ground Floor)**							**134.00**			
SOM -	**7.2**	**Entrance, Foyer, Lobby**	40		**40**			**43**	**86.00**			
									220			
	8	**SHARED AMENITIES & BOH**										
	8.1	**Cleaners Room**							**6.00**			Included at the request of SoM
SOM -	**8.2**	**Cleaners Room (upper)**							**3.00**			
SOM -	**8.3**	**Electrical / Mechanical Services GF**							**18.00**			
SOM -	**8.4**	**Electrical / Mechanical Services Lvl 1**							**19.00**			
	8.5	***Circulation & Other***							29.00			Stair 01 and Stair 02
Removed	**Foyer Total (Ground + Level 1)**			200		200			Excluded			Foyer space forms an internal secure lane connecting Jacoby Street to Hub of the Hills to the North of our site.
	8.6	***Upper Corridors***							71.00			
	8.7	***Lower Corridors***							31.00			
		TOTAL AREA (FECA)			**200**		**200**		**177.00**			
	9	**Amenities**										
SOM -	**9.1**	**Public Amenities lower**			115		115		**45.00**			18m² Male, 18m² Female and 9m² UAT
SOM -	**9.2**	**Public Amenities upper**	80	2 MWC + 3 UR, 5 FWC, 1 UAT, Cleaners. Access from shared foyer, close to Library entry.	**80**			**90**	**53.00**			Toilet numbers are meeting requirements from NCC consultant
SOM -	**9.3**	**Changing Places Facility**	15		**15**	Dependent on Grant			**14.00**			Provided on Ground
SOM -	**9.4**	**Staff amenities**							**8.00**			Combined with Hall staff amenities
	9.5	**Parents Room**							**23.00**			

	Library		Historical Society		Commercial					
	Visitors Centre		Child Wellness Clinic		Toy Library					
	Mundaring Arts Centre (MAC)		Community Halls							

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	Outside of Functional Brief requirements									

9.6	EOT							12.00		
Removed	Substation							Excluded		
Removed	Bin Store							Excluded		
	TOTAL AREA (FECA)			610		515		155.00		
	FULL BUILDING TOTAL	4016.25		4086.50		3630.00		3090.00		

Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

05. Stakeholder Workshops / COX Architecture

Stakeholder Workshop Summary

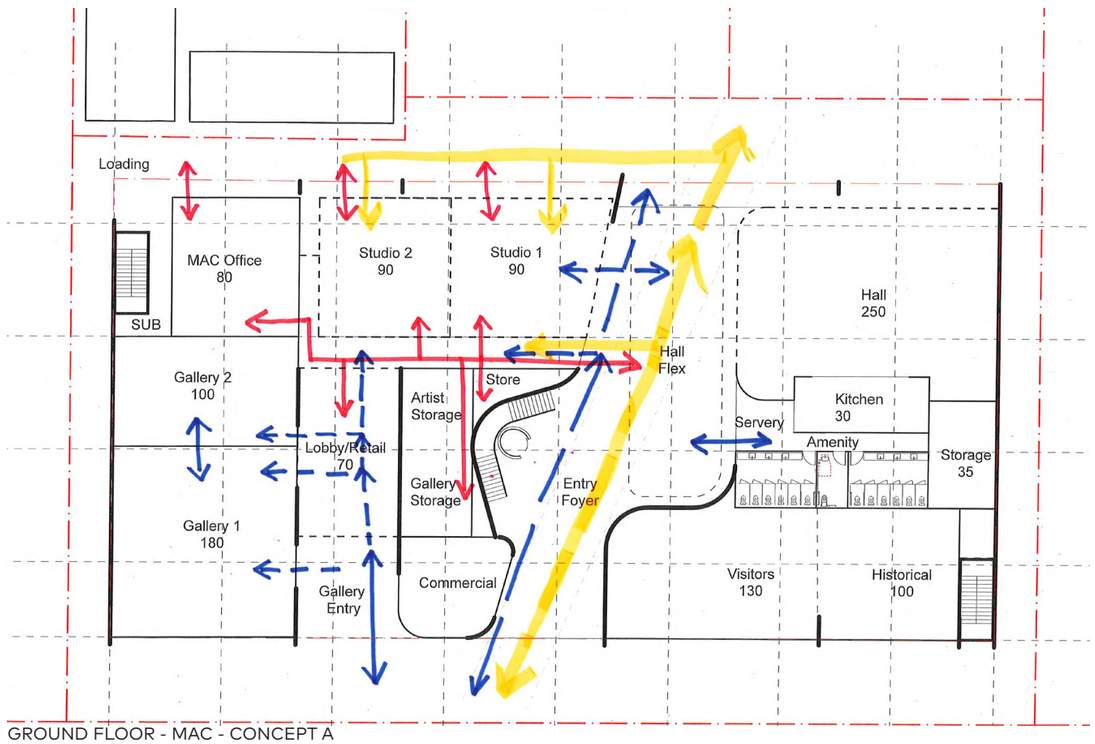
01. Workshop 1 - Mundaring Arts Centre (MAC)
02. Workshop 2 & 3 - Historical & Visitor Centre
03. Workshop 4 - Library

Stakeholder Workshop 1.

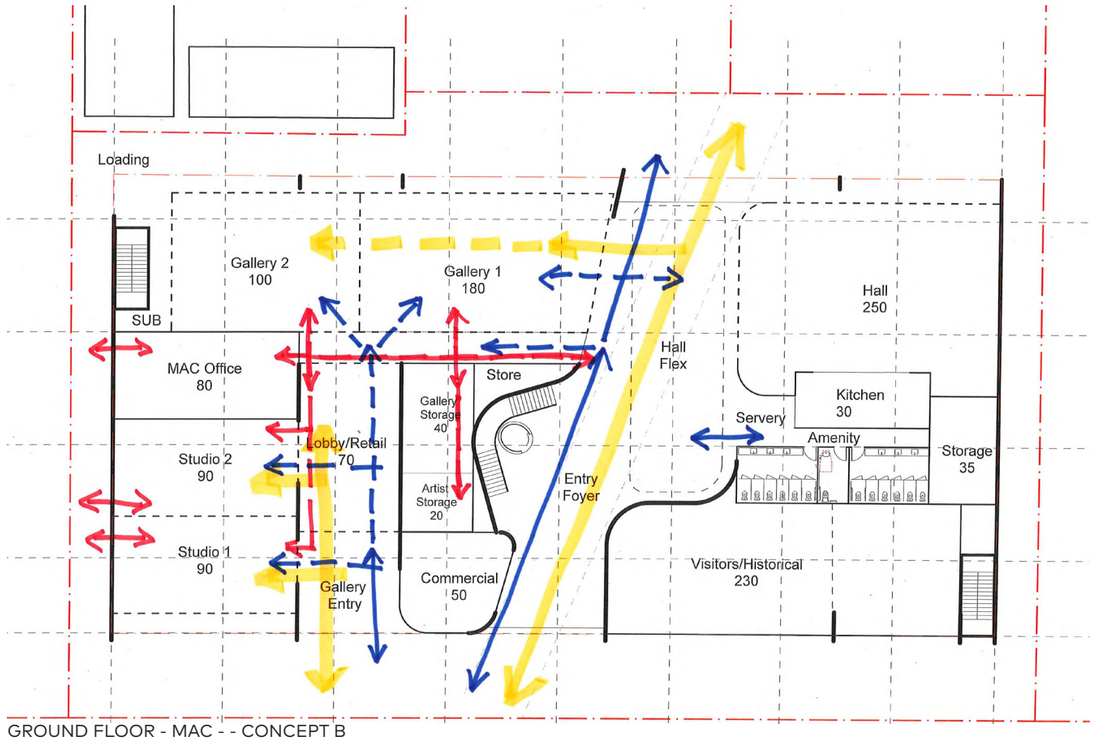
MAC

Discussion Summary:

- Internal central corridor: To accommodate bump-in circulation and double up as display wall.
- Egress points within proposed MAC area – controlled.
- Entry façade: Glazing for maximum exposure.
- Retail shop: Racks for display, ensure patrons easy access.
- Studio along Jacoby St. to have window treatment, high window(s) to host more sensitive classes.
- More plasterboard walls to allow for hanging and display flexibility.
- Provision for a projection area/ room for digital art, etc.
- Wet studio to be integrated with Staff's kitchenette, if possible, to consolidate wet amenities.
- Print and Ceramic Studio: Ideal size is circa 50sqm.
- Loading activities/ requirements: Daily and ideally to be undercover. Double doors for ease of access.
- Floor finishes must be able to accommodate deliveries, bump-in, heavy traffic, etc.



GROUND FLOOR - MAC - CONCEPT A



GROUND FLOOR - MAC - - CONCEPT B

Stakeholder Workshop 2.

HISTORICAL SOCIETY

Discussion Summary:

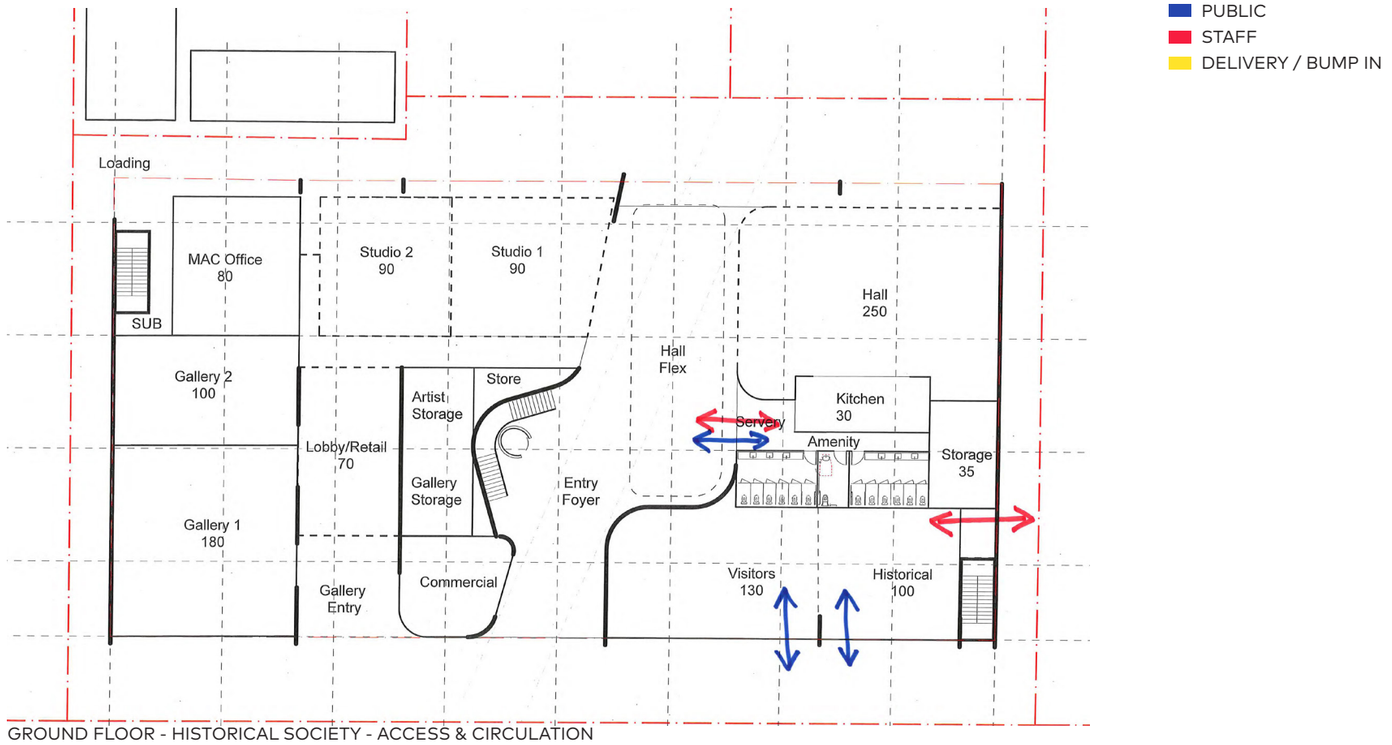
- Loading activities/ requirements: Double doors for ease of access but can be via Visitor Centre (V.C.) area, as the two areas are integrated.
- Dedicated staff access, if possible.
- Display requirements: Bulky item(s) – railway cart, costumes, predominantly static and will require wall space/ display cabinets and drawers. Setup is shifting to a semi-permanent display.
- Display area to have the flexibility to close off from the V.C. for school group, tour group, etc.
- Entry façade: Glazing for maximum exposure.
- Small area for digital content display.
- No climate control requirement.
- Display layout needs to form part of a discovery process approach.

Stakeholder Workshop 3.

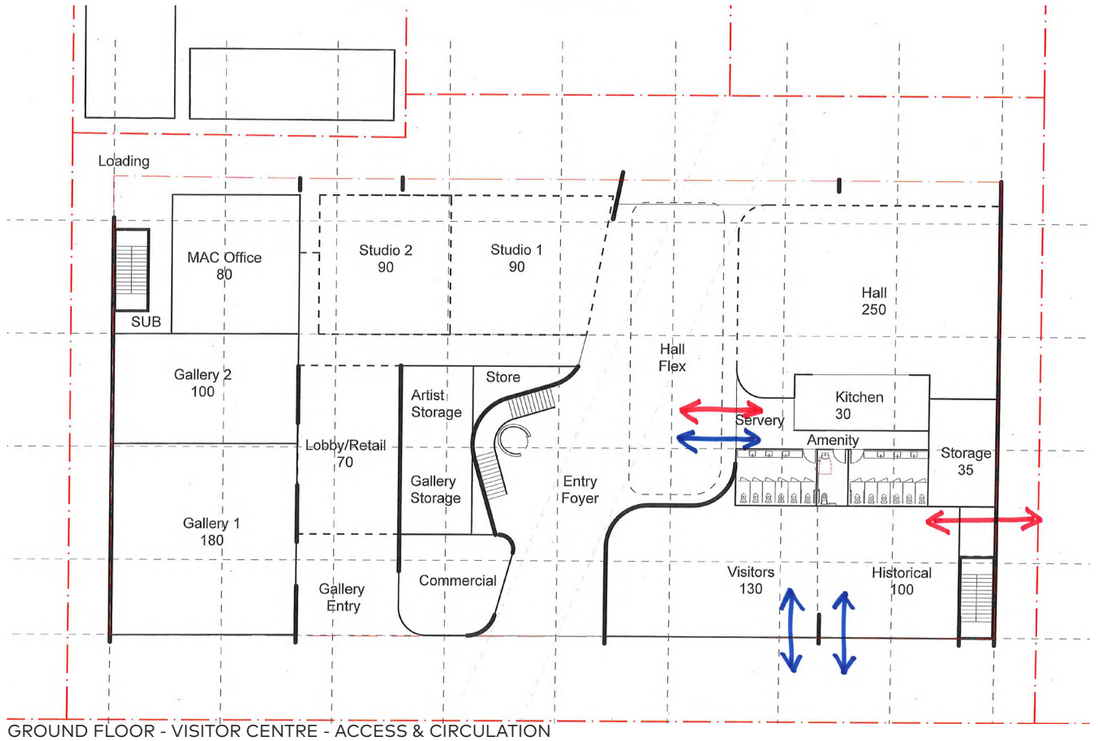
Visitor Centre

Discussion Summary:

- 7 days operation.
- Important to include SoM branding on facade.
- Reception must have access directly to a secured/ lock-able office for sensitive, financial and security/duress matters. Reception desk must provide passive supervision to the Historical Museum area and to MAC reception. Preferably with a secondary access point.
- Display racks for brochures and AV interface are essential for operational requirement to showcase all major visitor attractions.



GROUND FLOOR - HISTORICAL SOCIETY - ACCESS & CIRCULATION



GROUND FLOOR - VISITOR CENTRE - ACCESS & CIRCULATION

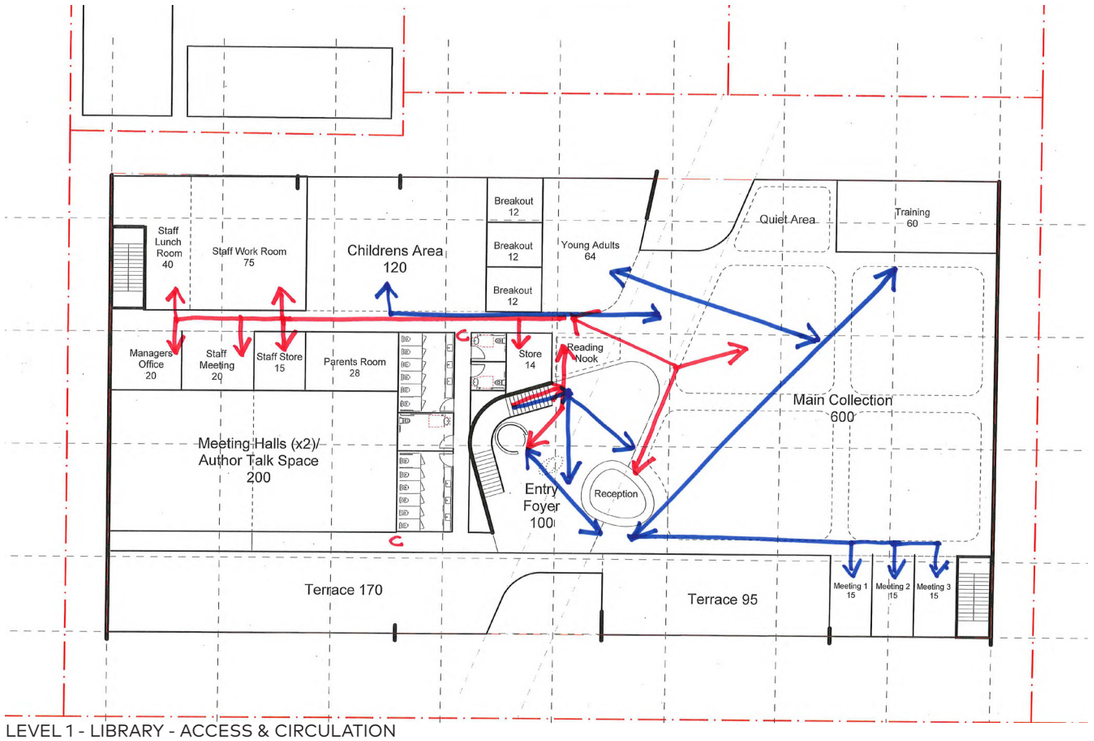
Stakeholder Workshop 4.

LIBRARY

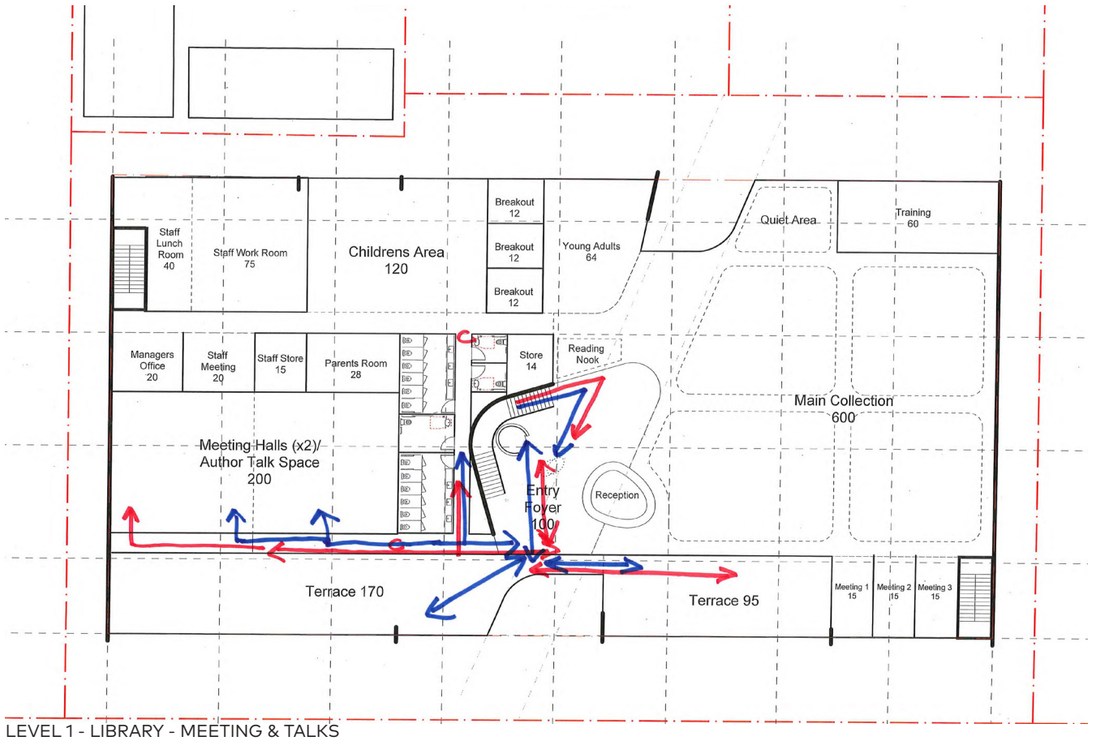
Discussion Summary:

- Reception desk must have good line of sight to entry and patrons areas, with short direct access path to Staff office and/or break room.
- Desk must also include a return setup facility, including trolley access.
- Approx. 7 staff members – TBC.
- Reading nooks to face Sculpture Park is preferred.
- Natural light to Staff areas is preferred.
- Library preferred a counting device to monitor patrons rather than a security "gate" approach.
- Acoustic rating is essential.
- All allocated "zones" must have dedicated collection area.
- Access is important – must be inclusive to all patrons.
- Afterhours returns only have moderate usage during weekdays. More usage during the weekends. Return storage room needs to be able to accommodate a trolley.
- Deliveries and Transfer: Twice per week. Access path potentially via the Hub of the Hills car park – TBC.

COX



LEVEL 1 - LIBRARY - ACCESS & CIRCULATION



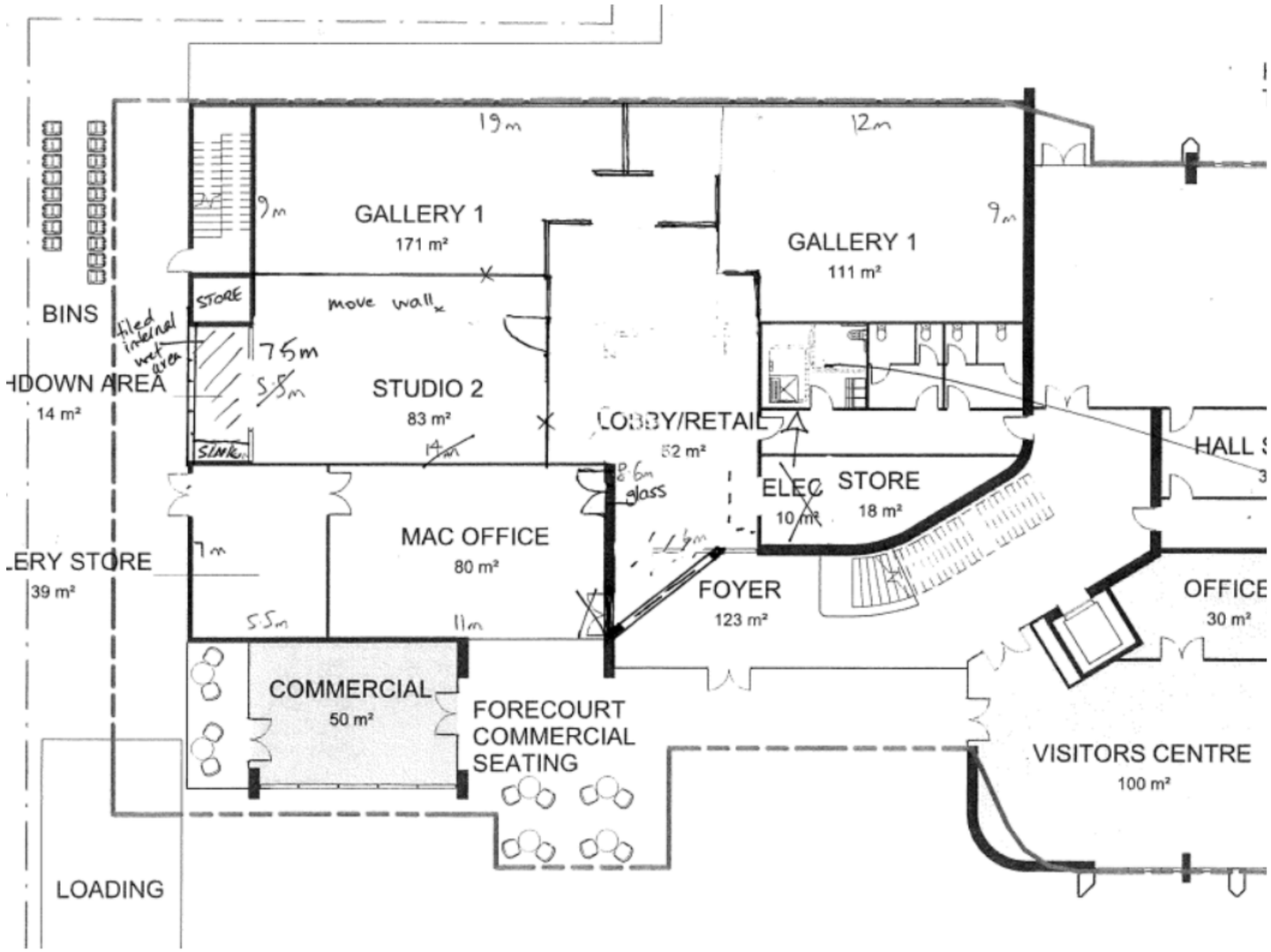
LEVEL 1 - LIBRARY - MEETING & TALKS

Stakeholder Workshop 5.

MAC

Discussion Summary:

- Updated sketch layout provided by MAC stakeholder
- Studio to be minmum 7.5m wide
- Gallery to have more internal wall area for display
- Studio Washdown area to be internal
- Rationalise MAC toilet locations away from lobby space
- Lobby entry off Foyer space to be considered. Gallery Lobby in general is seen to be too small.



Stakeholder Workshop 6.

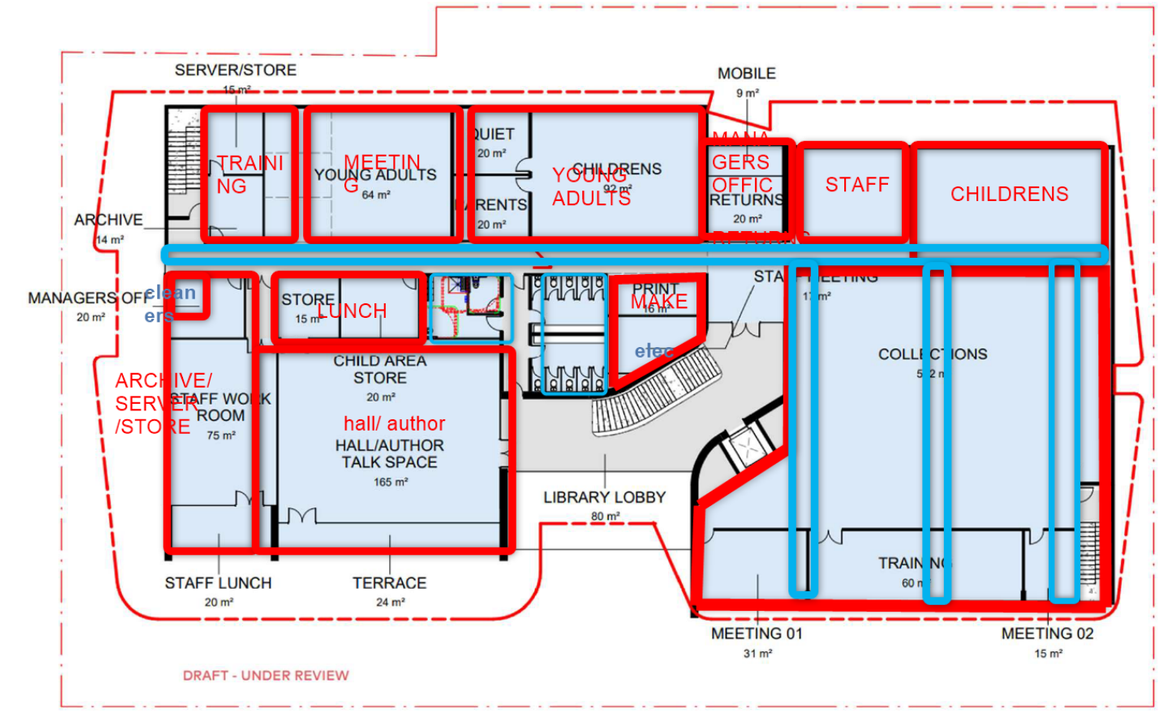
LIBRARY + VISITORS CENTRE

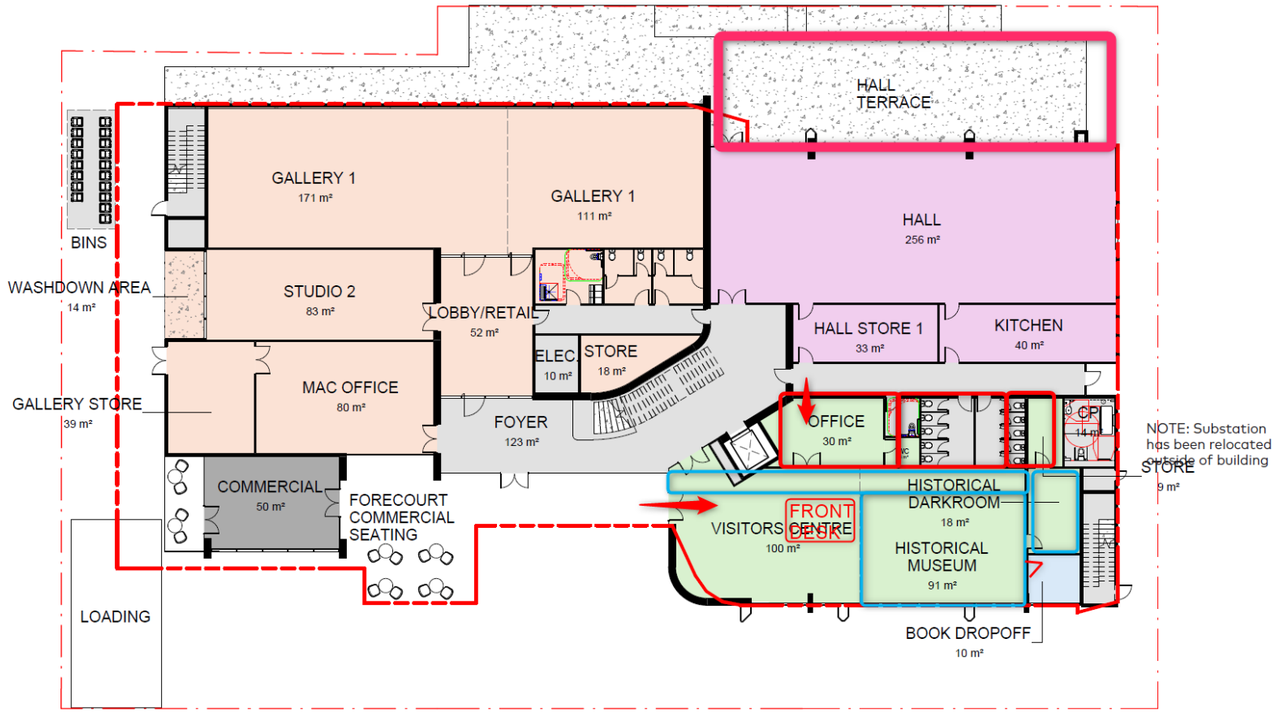
Library Discussion Summary:

- Combine staff room, managers office, returns into one big room where current returns is located
- Move childrens to eastern edge
- Training + meetings to go where young adults and server/ store is
- Staff work room becomes Archive/Server
- Child store becomes lunch room adjacent hall/author (possible dual function)
- Childrens becomes Young Adults.
- Print area becomes larger “maker” space

Visitors Centre Discussion Summary:

- Move office toilet to location of store room.
- Centrally located front desk
- Quantum book dropoff
- book dropoff to have access off visitors centre





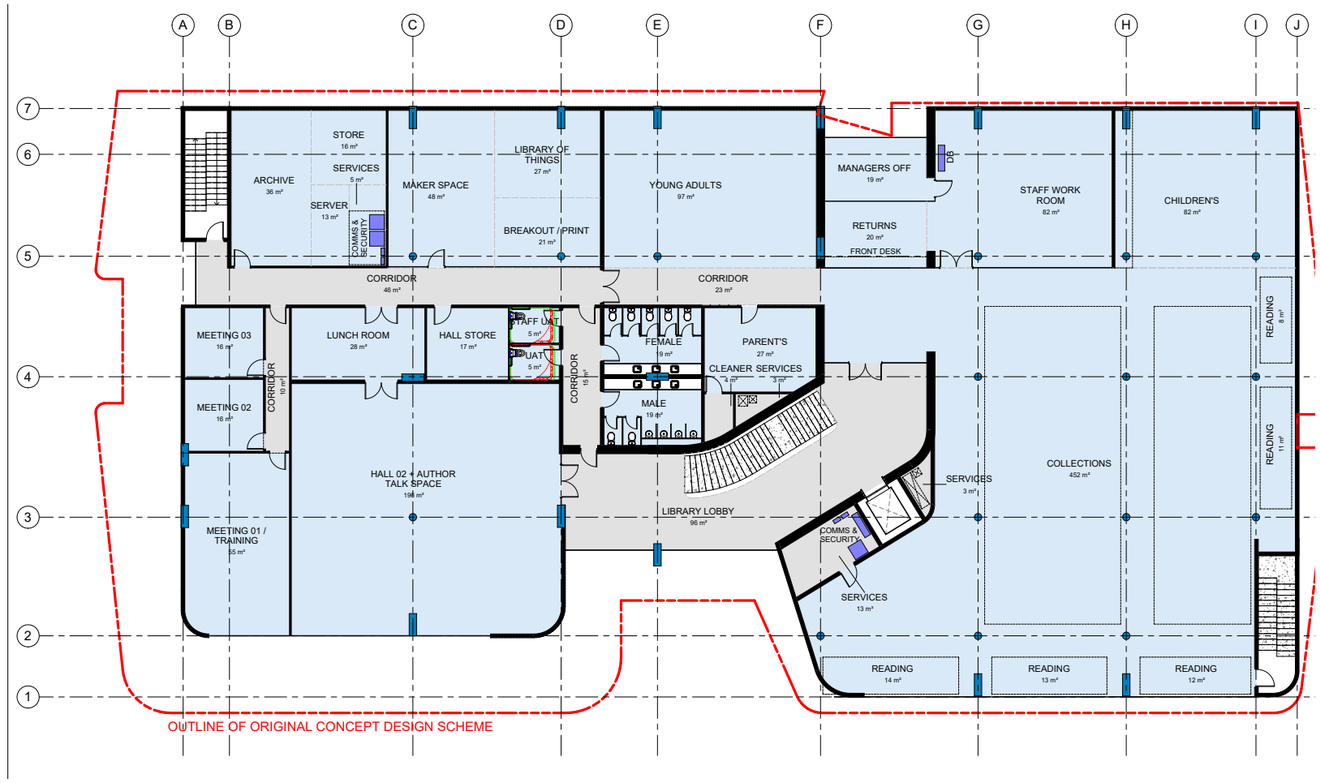
Stakeholder Workshop 7.

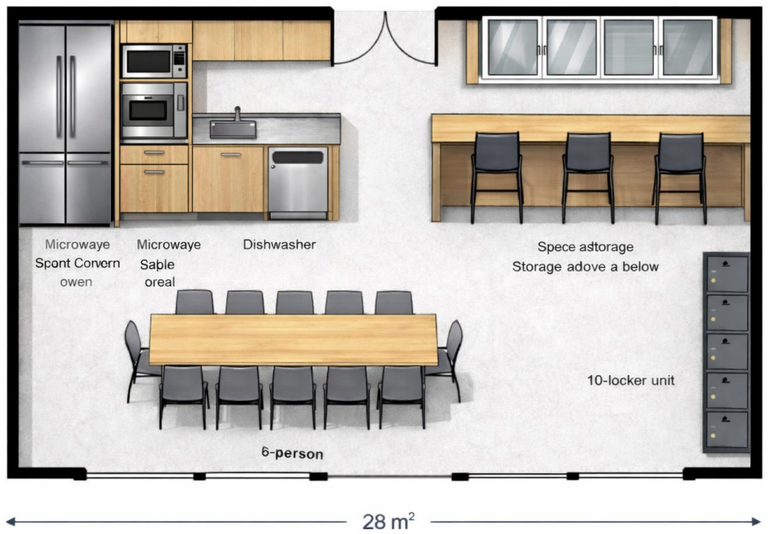
LIBRARY

Discussion Summary:

- Lunch room to be test-fit to ensure adequate space is provided
- Library requested pans be provided in leu of urinals
- Library requested comms + security be rationalised and amalgamated into 1 space.
- Staff lockers to be included in parents room
- Library provided markups of front desk area
- Quantum Library location to be specified

COX



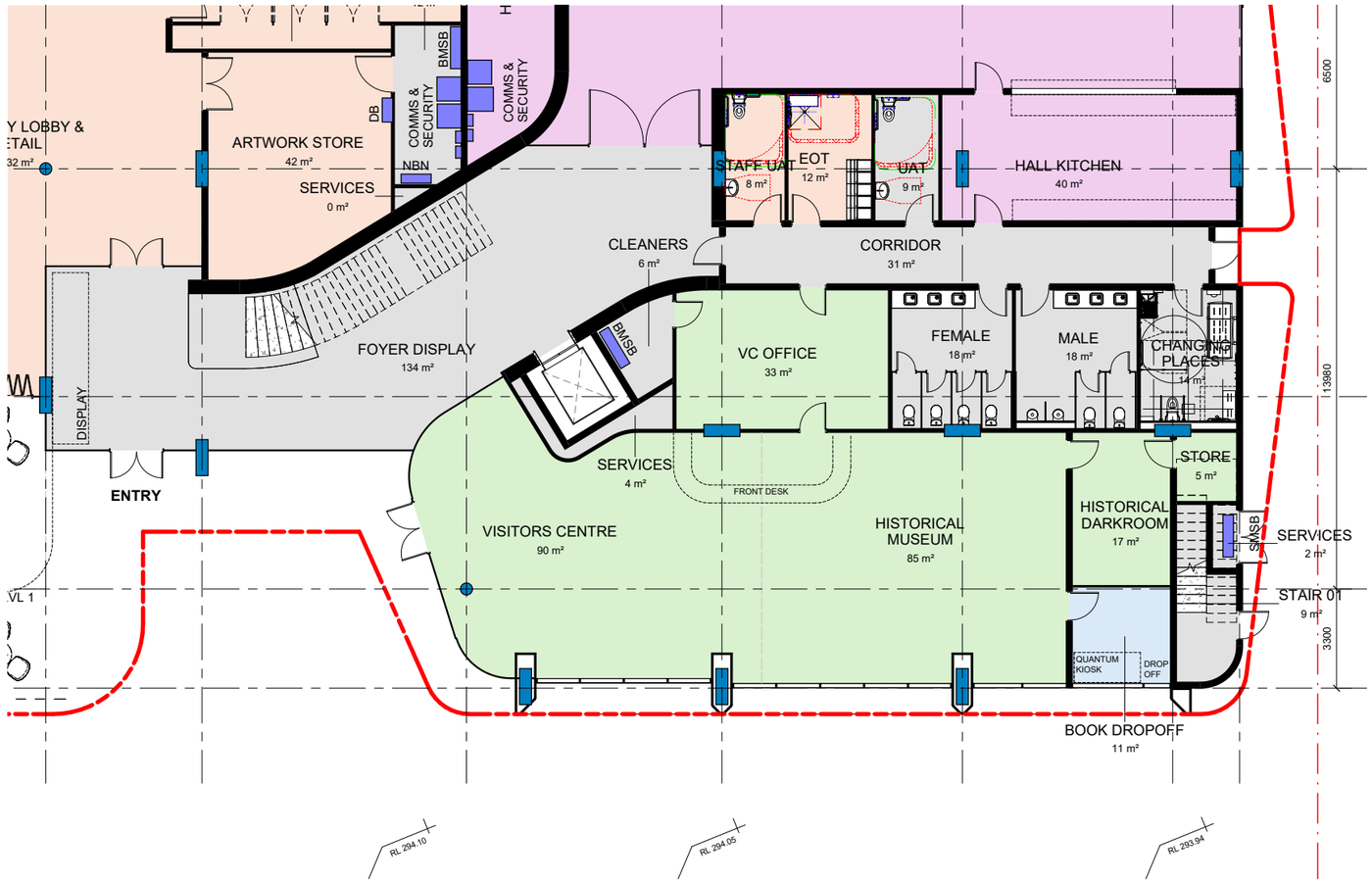


Stakeholder Workshop 8.

VISITORS CENTRE

Discussion Summary:

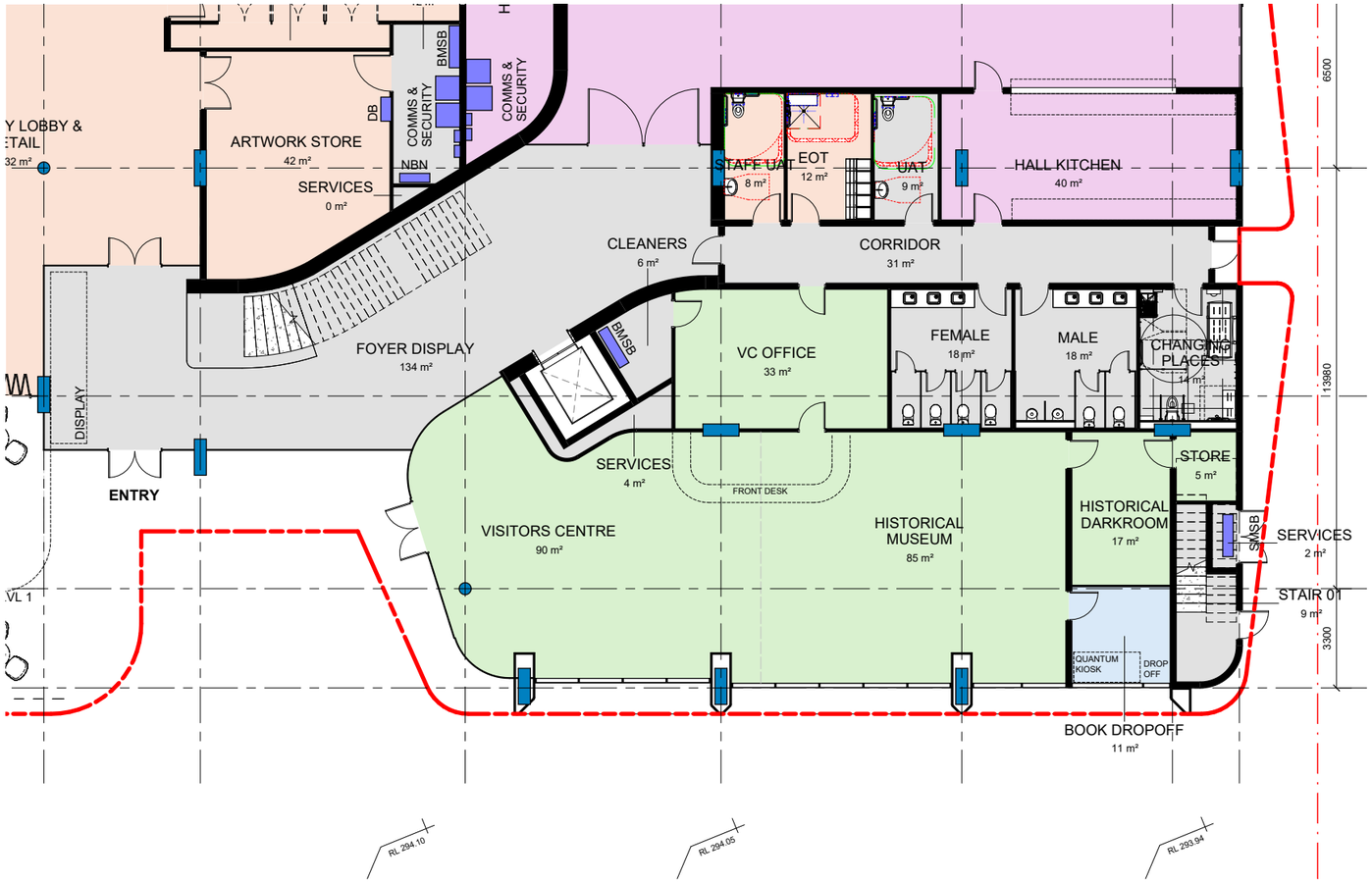
- Relocate entry to enable access within foyer
- Provide external signage area
- naming of visitors centre + historical society to be considered as one entity.



Stakeholder Workshop 9.
HISTORICAL SOCIETY

Discussion Summary:

- Potential for dark room to be used for AV displays
- External access required for after-hours access
- Maximise hanging space
- Lighting to be considered for display purposes
- Shire to provide specialist advice for functional planning of the space

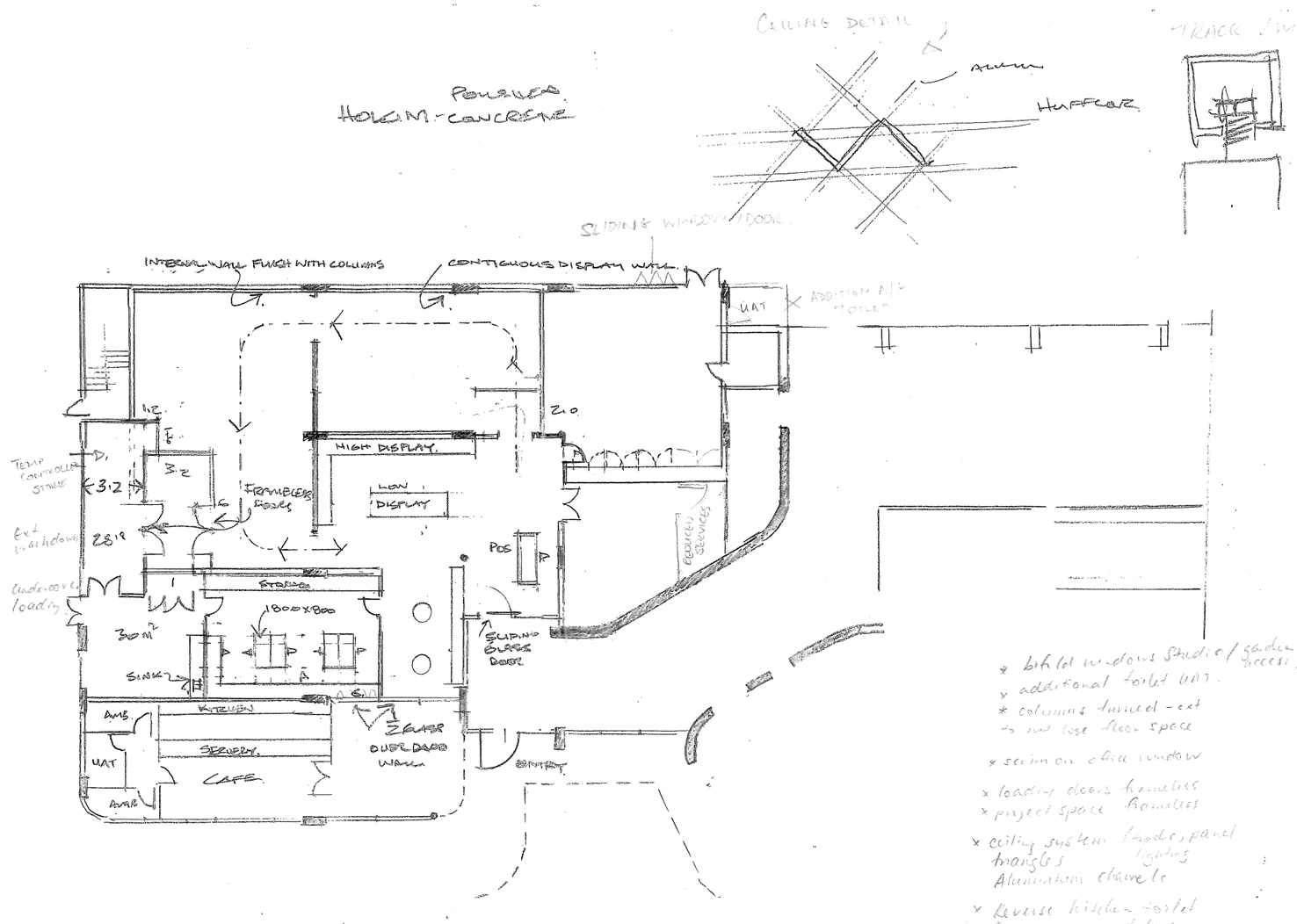


Stakeholder Workshop 10.

MAC

Discussion Summary:

- Internal configuration sketch provided by MAC
- Direct access from Lobby to alfresco not required
- Requested Impact-Resistant Gyprock to gallery walls
- No windows to Gallery spaces
- Loading Bay to be positioned to comply with Category A requirements
- MAC office to have glazing that provides privacy screening



Mundaring Cultural Centre

Concept Design Report
(REV B)

March 2026

Appendices

06. Landscape / PLAN - E

Landscape Services

01. Landscape Report

Mundaring Cultural Centre

Landscape Concept | February 2026 [I]

01 | COLONIAL HISTORIC SIGNIFICANCE

1898
MUNDARING RAILWAY STATION

EUROPEAN COLONISERS MOVED INTO THE AREA IN THE LATE 1890S WHEN A SPUR LINE WAS CONSTRUCTED FROM THE EASTERN RAILWAY LINE TO THE SITE WHERE A RESERVOIR FOR THE GOLDFIELDS WATER SUPPLY WAS TO BE BUILT; WHAT IS NOW KNOWN AS MUNDARING WEIR.
SCULPTURE PARK OCCUPIES THE FORMER MUNDARING RAILWAY STATION RESERVE. IT HAS BEEN TRANSFORMED INTO A LANDSCAPED AREA WITH A PLAYGROUND, ARTWORKS, AND RAILWAY FEATURES THAT LINK TO THE AREA'S HISTORY

1899
MUNDARING HOTEL

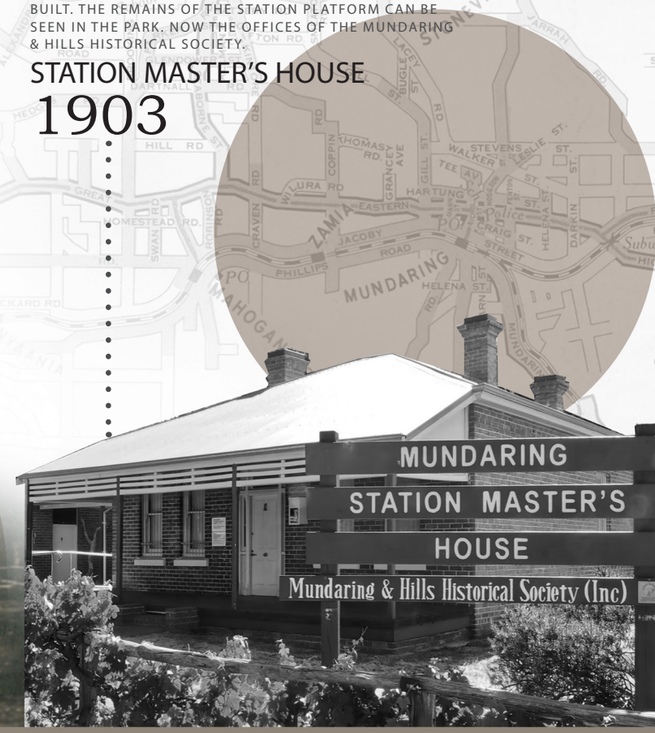
BUILT BY H A HUMMERSTON IN 1899, THE 2 STOREY BRICK BUILDING BECAME A POPULAR WEEKEND RETREAT IN THE 1920S AND 1930S DUE TO ITS PROXIMITY TO THE RAILWAY STATION.

1901
MUNDARING HALL

BUILT IN 1901, THE LESSER HALL UNDERWENT ADDITIONS IN 1937 TO CREATE THE BUILDING WE SEE NOW. IT HAS BEEN USED FOR SCHOOL LESSONS, CHURCH SERVICES, DANCES, CWA MEETINGS, AND AS A PICTURE THEATRE.

1903
STATION MASTER'S HOUSE

AFTER THE CONSTRUCTION OF A NEW RAILWAY STATION, A BRICK & IRON RESIDENCE FOR THE STATION MASTER WAS BUILT. THE REMAINS OF THE STATION PLATFORM CAN BE SEEN IN THE PARK. NOW THE OFFICES OF THE MUNDARING & HILLS HISTORICAL SOCIETY.



PLAN E

LANDSCAPE ARCHITECTS

LEVEL 1 278 RAILWAY PDE WEST LEEDERVILLE WA 6007
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LANDSCAPE CONCEPT

PREPARED FOR SHIRE OF MUNDARING
FEBRUARY 2026

C1.102

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01 | HERITAGE SIGNIFICANCE

HERITAGE SIGNIFICANCE

- EXCEPTIONAL SIGNIFICANCE
- MODERATE SIGNIFICANCE
- SUBJECT SITE

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02 DESIGN PRINCIPLES

The design principles for the Mundaring Cultural Centre have been selected to reflect its cultural significance and meet the needs of the community. Celebrating Mundaring's rich heritage will embed local identity into the fabric of the cultural centre, fostering pride and connection. Community connection is prioritised to create a welcoming place where people can come together, share experiences, and collaborate. Enhancing linkages—both physical and visual—will strengthen connections between the centre, its surroundings, and the wider precinct. Sensory stimulation through thoughtful use of landscape elements will create engaging and memorable experiences for visitors. Flexible, adaptable spaces will allow the centre to host a variety of cultural programs and events over time, while the use of robust, durable materials will ensure longevity and low maintenance in a high-use environment.

CELEBRATE RICH HERITAGE

FOSTER COMMUNITY CONNECTION

ENHANCE LINKAGES

ENGAGE THE SENSES

- TOUCH
- SMELL
- SIGHT

FLEXIBILE SPACES

- MULTI FUNCTIONAL

ROBUST

- DURABLE

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03 ZONING PLAN

ZONING LEGEND

- 01 ENTRY PLAZA
- 02 EXTERNAL SPACE
- 03 ALFRESCO ZONE
- 04 LOADING ZONE
- 08 TRANSITION ZONES

- PEDESTRIAN ACCESS
- EXISTING FOOTPATH ACCESS

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0 4 8 16 24 40m

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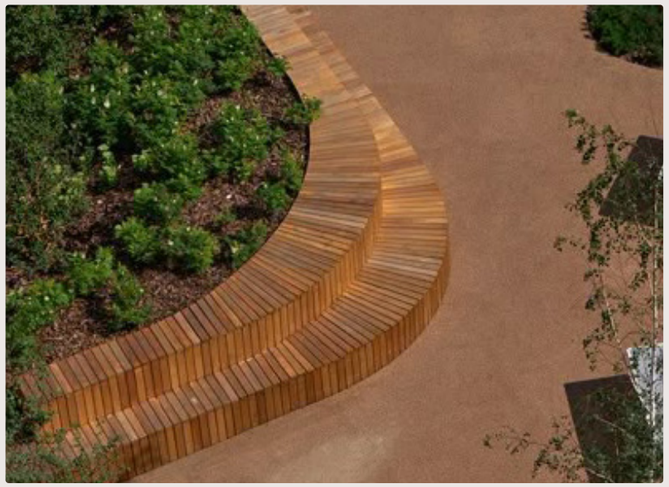
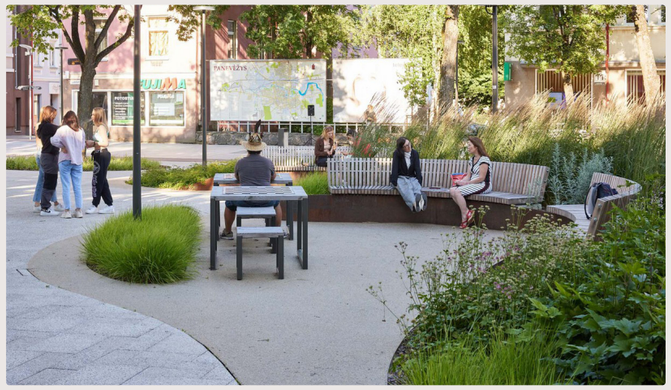
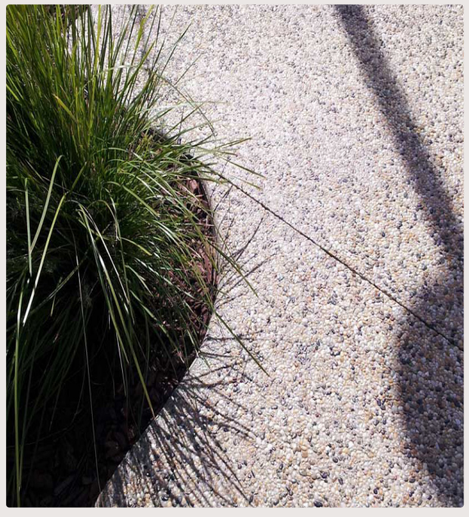
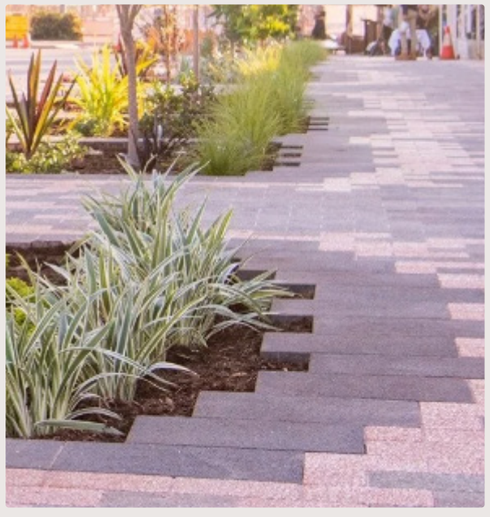
04 ZONING IMAGERY - ENTRY PLAZA + OUTDOOR SEATING AREA









ZONING LEGEND

01 ENTRY PLAZA

KEY PLAN / NTS

PLAN E

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FEBRUARY 2026

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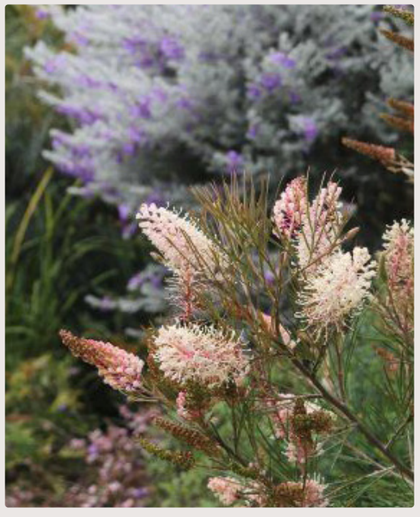
04 ZONING IMAGERY - BUFFER PLANTING + FENCING



ZONING LEGEND

- 03 BUFFER PLANTING
- 05 FEATURE PLANTING

KEY PLAN / NTS

PLAN E

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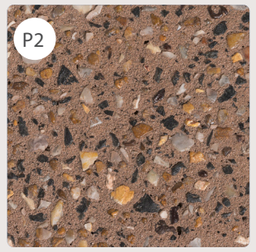
05 | MATERIALS PALETTE

HARDSCAPE MATERIALS

EXPOSED AGGREGATE
MAKE: BGC CONCRETE/ GEOSTONE
COLOUR: C161 (BGC) OR SIMILAR



EXPOSED AGGREGATE
MAKE: BGC CONCRETE/ GEOSTONE
COLOUR: A151 (BGC) OR SIMILAR

COLOURED IN-SITU CONCRETE PAVEMENT

PLAN E

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06 CONCEPT PLAN - VALUE ENGINEERED OPTION

LEGEND

01 ENTRY PLAZA WITH FEATURE PAVING TO CREATE A SENSE OF ARRIVAL TO THE CULTURAL CENTRE

02 GARDEN BED WITH INTEGRATED SEATING WALL AT ENTRY PROVIDING AN OPPORTUNITY TO SIT.

03 GARDEN BED TO ACCOMODATE LEVEL DIFFERENCE

04 ARBORIST TO PRUNE EXISTING TREES TO REMOVE DEADWOOD, UP-PRUNE AND BRANCHES CLASHING WITH BUILDING

05 INTEGRATED SEATING + GARDEN BED PLANTING TO PROVIDE OUTDOOR SEATING AREA TO VISITOR CENTRE.

06 BIN STORAGE AREA

07 RETAIN EXISTING PARKING ALONG JACOBY STREET

08 BUFFER PLANTING

09 PEDESTRIAN RAMP ACCESS

10 FLEXIBLE EXTERNAL SPACE FROM HALL

11 RETAINING WALL TO ACCOMMODATE LEVEL DIFFERENCE

12 RETAIN EXISTING FOOTPATH ACCESS

13 LOADING ZONE

14 RAMP TO ACCOMODATE LEVEL DIFFERENCE

P1 EXPOSED AGGREGATE
MAKE: BGC CONCRETE/ GEOSTONE
COLOUR: C161 (BGC) OR SIMILAR

P2 EXPOSED AGGREGATE
MAKE: BGC CONCRETE/ GEOSTONE
COLOUR: A151 (BGC) OR SIMILAR

P3 COLOURED IN-SITU CONCRETE PAVEMENT

EXISTING TREES TO BE RETAINED

PROPOSED TREES

PROPOSED RETAINING WALL TO ACCOMODATE LEVEL DIFFERENCE

SITE BOUNDARY

PLAN E

LANDSCAPE ARCHITECTS

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FEBRUARY 2026

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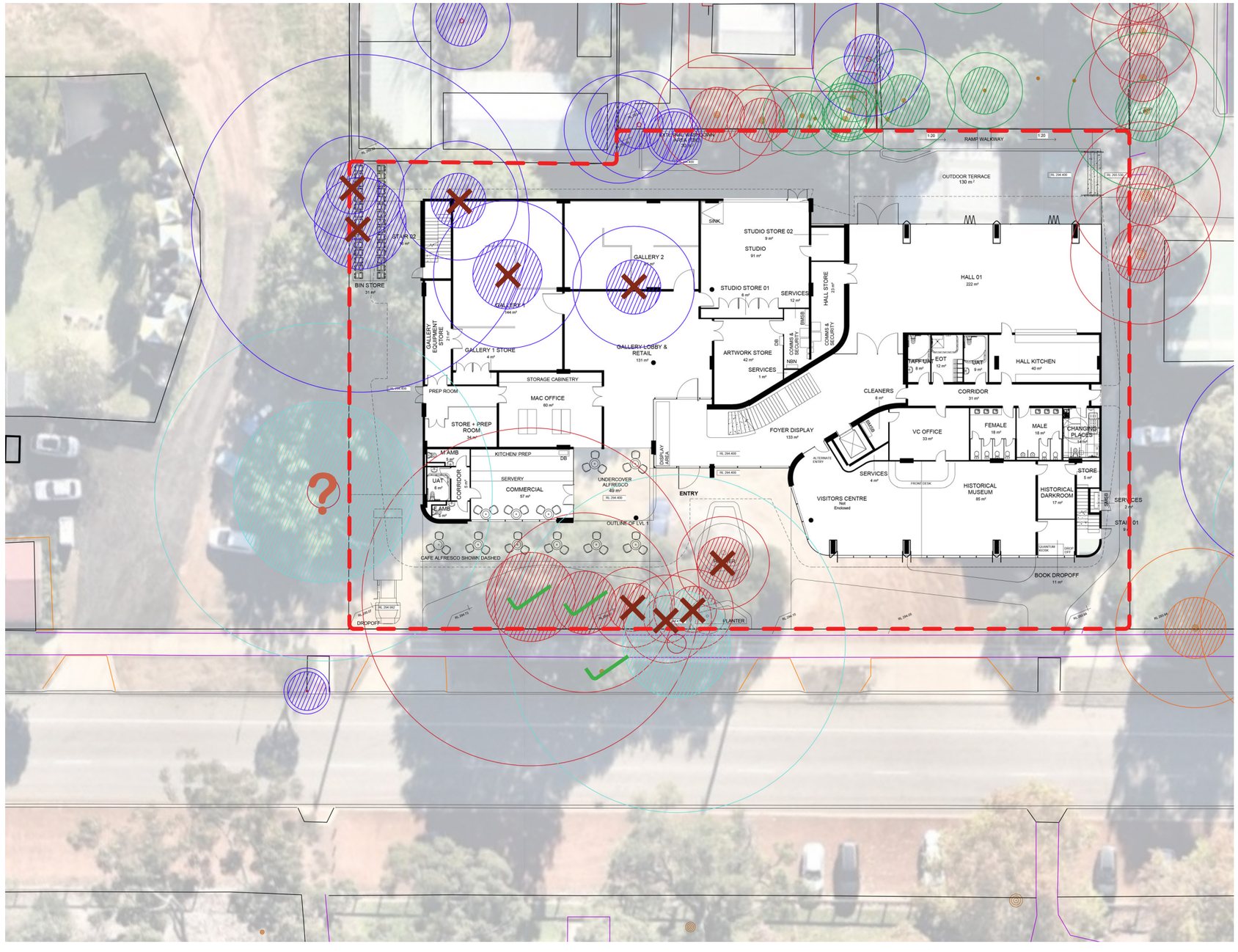
07 | EXISTING TREES



LEGEND

- HIGH RETENTION VALUE TREES - LOCATION BASED ON SURVEY
- MEDIUM RETENTION VALUE TREES - LOCATION BASED ON SURVEY
- LOW RETENTION VALUE TREES - LOCATION BASED ON SURVEY
- HIGH RETENTION VALUE TREES - LOCATION TO BE VERIFIED
- MEDIUM RETENTION VALUE TREES - LOCATION TO BE VERIFIED
- LOW RETENTION VALUE TREES - LOCATION TO BE VERIFIED
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- EXISTING TREES TO BE REMOVED - AS PER SHIRE OF MUNDARING REQUEST
- EXISTING TREES TBC

NOTE - COMMUNITY CONSULTATION REGARDING REMOVAL OF EXISTING TREES IS HIGHLY RECOMMENDED TO BE UNDERTAKEN BY THE SHIRE.

PLAN E

LANDSCAPE ARCHITECTS

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LANDSCAPE CONCEPT

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FEBRUARY 2026

C1.1010

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1:400 @ A3

0 4 8 16 24 40m

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Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

07. Arborist / Paperbark Technologies

Arborist Services

01. Aboricultural Report
02. Map of Trees
03. Tree Works List

Arboricultural Report – Mundaring Hub Project

13th & 14th of May 2025
Total Tree Count: 100

Brief

This consultant has been commissioned by Plan E to carry out an inspection of 100 remnant trees located between Craig and Jacoby Street, Mundaring to submit a report on the trees health and structural condition and recommend any remedial works that are required.

The objective of the audit was to undertake an inspection of each tree, carry out an examination of each tree as delineated upon the map attached; to assess each trees health & structure and itemise remedial tree surgery works in relation to surrounding targets.

The survey scope requires:

- The identification of tree species.
- Measurement of the height & canopy spread of the trees.
- Measurement of trunk diameters.
- Tree age.
- Current health and structural condition of the trees.
- Problems identified and itemised.
- Retention Value (Low, Medium, High).
- ULE (Useful Life Expectancy).
- Tree Protection Zone Radius (TPZ).
- Structural Root Zone Radius (SRZ).
- Works priority rating.
- Recommended remedial pruning or other works that may be required.

All trees are digitally mapped and tagged, and this consultant confirms that the site inspection was carried out on the 13th and 14th of May 2025 with a total of 100 trees audited.

Scope of works

Subdivision construction works are currently planned in the area between Craig and Jacoby Street as part of the Mundaring Hub project. No plans were provided for the site as yet and some of the trees inspected may require removal depending on building footprints. All remaining trees are to be retained and protected while the construction works are being completed.

The TPZ and SRZ radius details for each tree provided in the report are based upon AS 4970-2009 *Protection of trees on development sites* and provide a guide to assist with the care and protection of trees to be retained.

A list of remedial works and maps displaying the TPZ and SRZ accompany this report.

Summary/Remedial works

36 trees are recommended for some remedial works which consist predominantly of:

- Entire tree removal.
- The removal of deadwood greater than 30mm in diameter held in the canopy.
- The addition of mulch, nutrients and supplementary watering to support tree health.
- The removal of hanging branches held in the canopy.
- The reduction of excess limb loading.

Tree 62 contains deadwood overhanging a children's play area; deadwood removal has been recommended as a high priority.

Tree 4 exhibits significant bark degradation extending from the base upward; it is recommended that this tree be monitored for signs of ongoing decline.

Priority rating

This consultant has categorised the pruning works as low, moderate and high. The trees that require remedial works have been prioritised into the following category. These works will need to be completed prior to the commencement of the construction works and it is recommended to have these trees reinspected periodically throughout construction and again a completion to ensure they remain in good health and structural condition.

The trees that require remedial works have been prioritised into the following category:

- **Low** – 12 trees with defects or problems requiring works within the next 12 months.
- **Moderate** – 23 trees with defects or problems requiring works within the next 6 months.
- **High** – 1 tree with defects or problems requiring works within the next 3 months.
- **Urgent** – 0 trees requiring works as soon as possible.

Pruning is to be carried out by a qualified Arborist in a manner consistent with AS 4373-2007 *Pruning of Amenity Trees.*

Pruning of trees is to be limited to required works indicated within this report and approved by the project manager. No additional pruning is recommended to be undertaken without further arborist consultation and all approved pruning is to be carried out by a qualified Arborist in accordance with AS4373 – 2007 *Pruning of Amenity Trees*.

Excavation in proximity of trees to be retained is to be carried out by small, tracked machinery fitted with a flat bladed bucket with an Arborist Spotter wherever practicable. The initial use of smaller machinery adjacent trees to be retained is likely to limit root damage by allowing roots to be exposed and cleanly cut prior to larger machinery working the area, thereby preventing splitting and tearing of roots that may extend back to the base of the tree.

The proposed works are to be located outside the SRZ of all trees. Where works are proposed inside the TPZ of the trees, an Arborist Spotter would be required on site to oversee for tree roots which may be found. If roots are located, then the Arborist can assess the roots for pruning. Roots are to be cleanly cut using a hand saw or secateurs. Roots above 30mm diameter are not to be cut without authorisation from a qualified Arborist.

The removal of live canopy and major limbs may significantly damage the trees. Therefore, work methods and equipment must be suitable to the scale of works and operating space to ensure accidental canopy and structural damage are prevented.

It is also recommended that all trees are protected by temporary fencing to delineate tree protection areas consistent with AS4970-2009 (refer to below 'Appendix - Tree Protection Fencing') and that it is installed prior to works commencing. It is to be an area of tree and root protection with no digging and no storage of equipment or tools. No filling, trenching or other earthworks shall be carried out unless there is written arborist approval. Soil is not to be lowered or raised within this zone and no washing of tools or cement/paint or chemicals is to be deposited in this zone.
Where temporary fencing cannot be achieved due to the restricted amount of practicable space within the site during the development works, it is recommended to provide at least trunk/branch and ground protection to avoid mechanical injuries from small and large machinery.

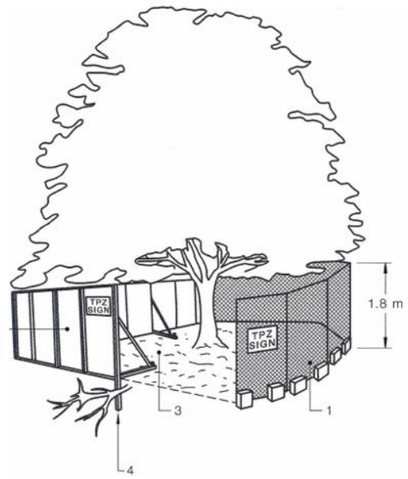
Supplementary watering of the retained trees is required to minimise stress on the trees associated with site disruption and root loss. It is generally recommended to water once per week with a minimum of 600 liters per tree, however this may vary. Water is to be applied in a manner that minimises runoff and it is recommended that the initial watering incorporates a wetting agent to assist water infiltration.

Storage of tools and equipment and the storage of materials are recommended to be located within an open area, preferably not within 6m of trees to be retained. The parking of vehicles shall be located within open areas a minimum of 6.0m from the base of all adjacent trees.

The future management, maintenance and condition of the trees have a considerable bearing on their location, with safety to property and persons the main priority. Therefore, each tree retained is recommended to be re-inspected annually to ensure that the trees remain healthy and in a structurally sound condition with a level of risk that is acceptable.

Appendix - Tree Protection Fencing

(AS4970- 2009 *Protection of trees on development sites*)

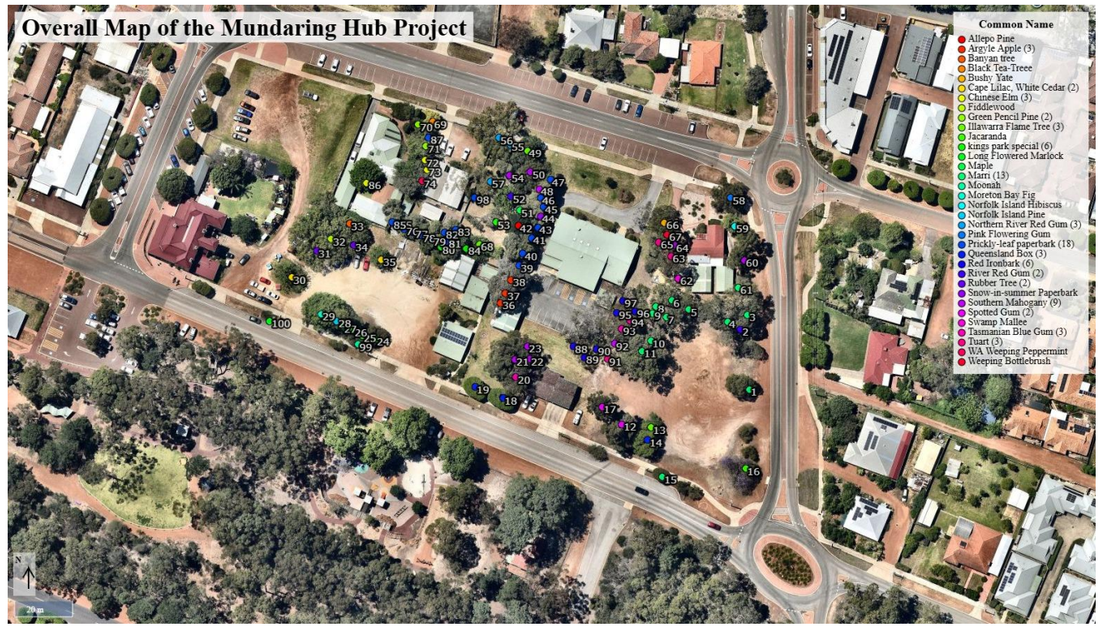


LEGEND:
1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

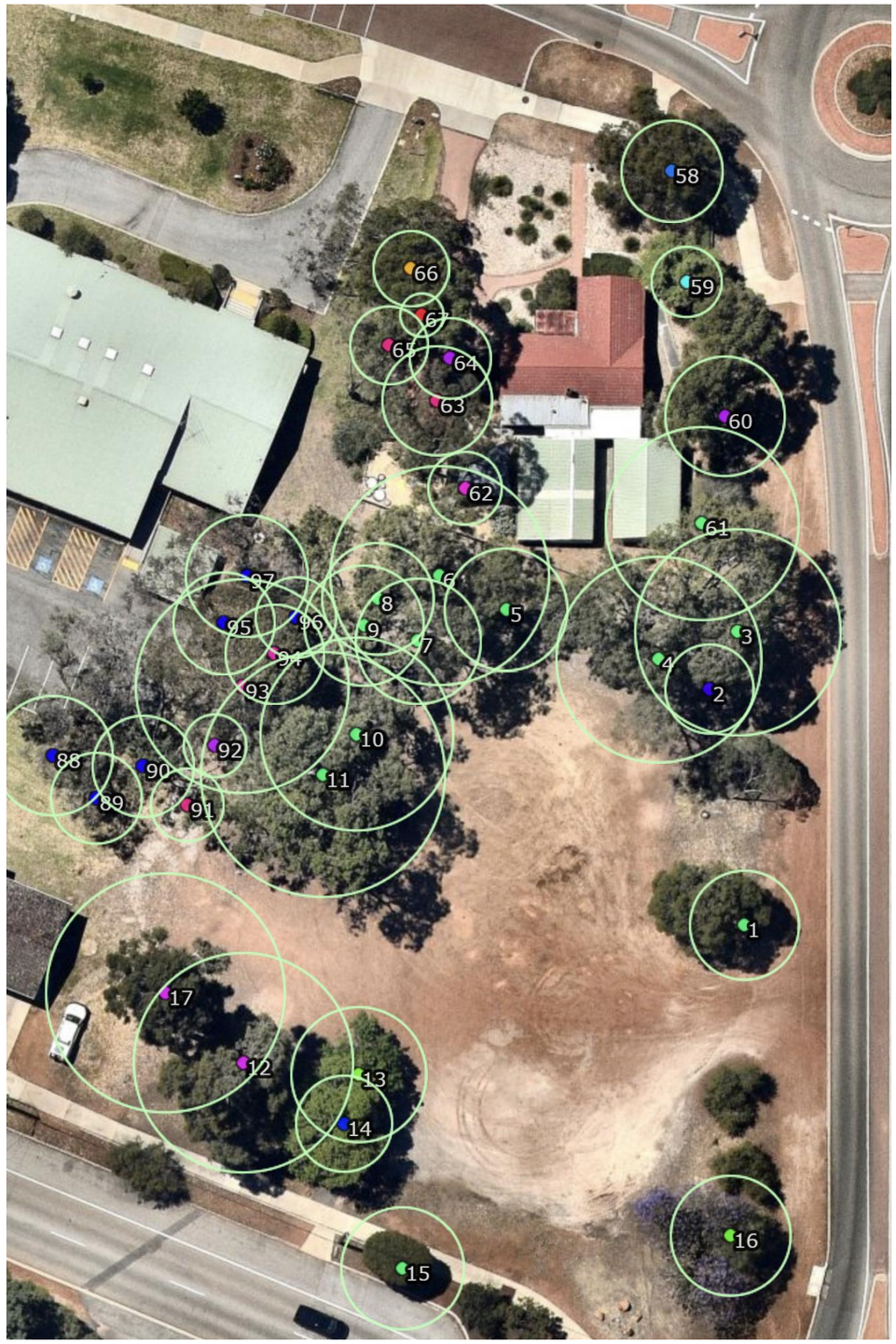
Zana Sheary & Kyle Lipthorpe
Diploma of Arboriculture, ISA Certified Arborist AU-0039A & Quantified Tree Risk Assessors Lic 1082 & 8951
Paperbark Technologies Pty Ltd
PO Box 202
Karrinyup WA 6921
Mob: 0401 817 551
zana@paperbarktechnologies.com.au
www.paperbarktechnologies.com.au

Limitation of liability
Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk.
This report only covers identifiable defects present at the time of inspection. Paperbark Technologies accepts no responsibility and cannot be held liable for any structural defect or unforeseen event/situation or adverse weather conditions that may occur after the time of inspection. Paperbark Technologies cannot guarantee that the tree/s contained within this report will be structurally sound under all circumstances, and is not able to detect every condition that may possibly lead to the structural failure of a tree. Paperbark Technologies cannot guarantee that the recommendations made will categorically result in the tree being made safe.
Unless specifically mentioned this report will only be concerned with above ground inspections, as such all observations have been visually assessed from ground level. Trees are living organisms and as such cannot be classified as safe under any circumstances. Trees fail in ways that the arboriculture industry does not fully understand.
The recommendations are made on the basis of what can be reasonably identified at the time of inspection therefore Paperbark Technologies accepts no liability for any recommendations made. All care has been taken to obtain information from reliable sources, however Paperbark Technologies can neither guarantee nor be responsible for the accuracy of information provided by others. In the event that reinspection of the tree/s is recommended it is the client's responsibility to make arrangements with Paperbark Technologies.

Map of trees at Mundaring Hub Project

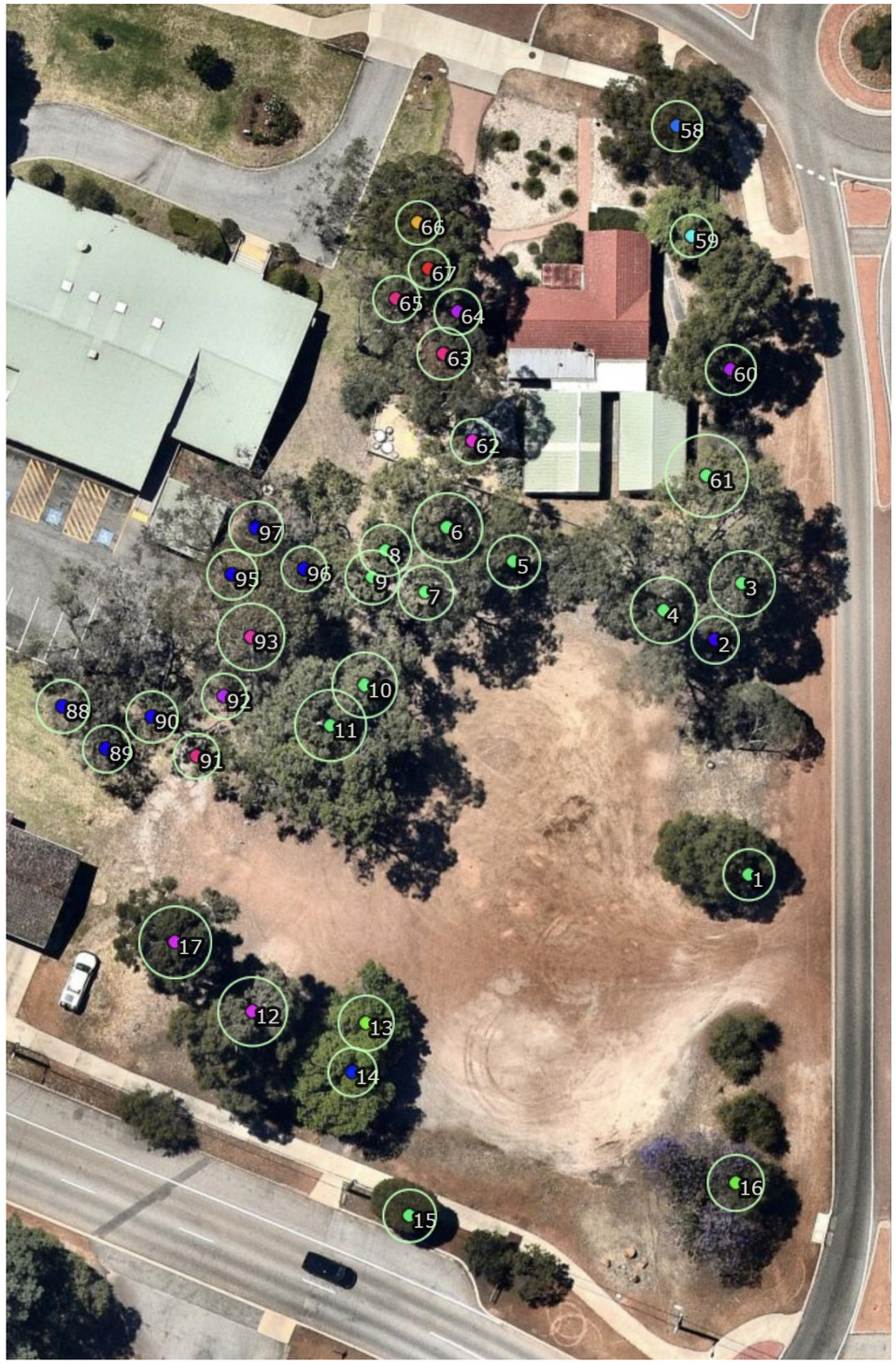


Close up map showing the TPZ radius of each tree (eastern side of the site)



Close up map showing the TPZ radius of each tree (western side of the site)

Close up map showing the SRZ radius of each tree (eastern side of the site)



Close up map showing the SRZ radius of each tree (western side of the site)

Marri Tree ID #1

3315 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.904042522278
Longitude:	116.16805581336
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	5.2
DBH [cm]:	42
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Deadwood minor <50, Canker, Compression Fork
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.04
Structural Root Zone (SRZ) [m]:	2.37
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

1747095369160291272486950581275O.jpg
13/05/2025

River Red Gum Tree ID #2

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus camaldulensis var.camaldulensis
Latitude:	-31.903846819845
Longitude:	116.16802162894
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	4
DBH [cm]:	34
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Twin Stem
Notes:	
Priority:	Low
Tree Work:	Remove minor deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.08
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747095687123551321112673041627 4.jpg
13/05/2025

Marri Tree ID #3

6 Mundaring Weir Road

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903799400773
Longitude:	116.16804900981
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	6.5
DBH [cm]:	79.2
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Canker, Secondary stem
Notes:	
Priority:	Moderate
Tree Work:	Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.5
Structural Root Zone (SRZ) [m]:	3.04
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

1747096094117204195486911928046 7.jpg
13/05/2025

Marri Tree ID #4
12 Craig Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903821981198
Longitude:	116.16797180687
Tree Height (Estimated) [m]:	15.2
Canopy Spread [m]:	7
DBH [cm]:	79
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Canker, Bark wound, Multi Crown leaders
Notes:	Monitor lesion
Priority:	Moderate
Tree Work:	Remove minor deadwood, Monitor, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.48
Structural Root Zone (SRZ) [m]:	3.06
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

1747096475905426624899688567833 7.jpg
13/05/2025

Marri Tree ID #5
6 Mundaring Weir Road

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903781336297
Longitude:	116.16782341363
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	5
DBH [cm]:	47
Health:	Good
Structure:	Fair
Problems:	Secondary stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.64
Structural Root Zone (SRZ) [m]:	2.45
Useful Life Expectancy:	40+ years
Retention Value:	High

Photos Street View Map View

1747096798068671029490571101 6150.jpg
13/05/2025

Marri Tree ID #6

6 Mundaring Weir Road

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903752778632
Longitude:	116.16775825828
Tree Height (Estimated) [m]:	16.5
Canopy Spread [m]:	7
DBH [cm]:	84
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Deadwood major >50, Deadwood minor <50, Canopy thinning evident, Secondary stem
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Supplementary watering, Add nutrients, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	10.08
Structural Root Zone (SRZ) [m]:	3.21
Useful Life Expectancy:	40+ years
Retention Value:	High

Photos Street View Map View

1747097139624402910421357088478 7.jpg
13/05/2025

Marri Tree ID #7

3275 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903806971771
Longitude:	116.16773691234
Tree Height (Estimated) [m]:	15
Canopy Spread [m]:	4.5
DBH [cm]:	48
Health:	Fair
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth, Canopy thinning evident
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Supplementary watering, Add nutrients
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.76
Structural Root Zone (SRZ) [m]:	2.53
Useful Life Expectancy:	11-20 years
Retention Value:	High

Photos Street View Map View

1747097404541127380103015366428 4.jpg
13/05/2025

Marri Tree ID #8

3275 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903771905536
Longitude:	116.16769804266
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	5
DBH [cm]:	43
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Canker, Secondary stem
Notes:	Remove deadwood from canopy, dead stem may be retained for habitat purposes.
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.16
Structural Root Zone (SRZ) [m]:	2.41
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

1747097723452869241645301650231 3.jpg
13/05/2025

Marri Tree ID #9

3275 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903794485968
Longitude:	116.16768436338
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	4
DBH [cm]:	46
Health:	Poor
Structure:	Fair
Problems:	Deadwood major >50, Basal decay, Deadwood minor <50, Epicormic growth, Canker, Bark wound, Canopy thinning evident
Notes:	
Priority:	Low
Tree Work:	Remove Tree
Observation Comments:	Significant bark degradation to trunk.
Tree Protection Zone (TPZ) [m]:	5.52
Structural Root Zone (SRZ) [m]:	2.51
Useful Life Expectancy:	1-5 years
Retention Value:	Low

Photos Street View Map View

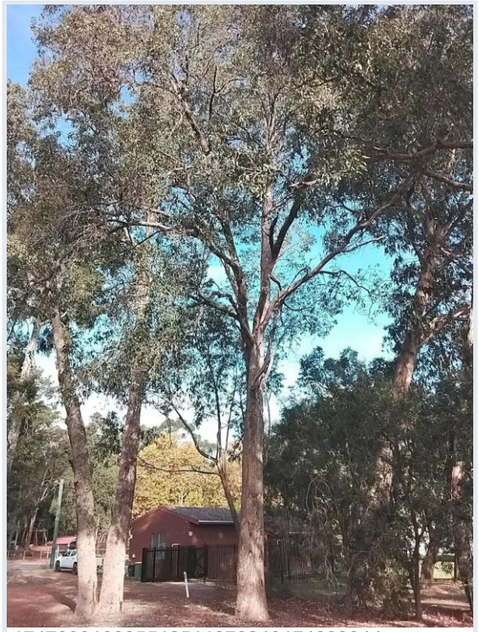
1747097938268844001811923506762 3.jpg
13/05/2025

Marri Tree ID #10
3275 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903884010963
Longitude:	116.1676772555
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	7
DBH [cm]:	74
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Previous limb failure, Multi Crown leaders, Secondary stem
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	8.88
Structural Root Zone (SRZ) [m]:	3
Useful Life Expectancy:	40+ years
Retention Value:	High

Photos Street View Map View



1747098180855125112702401746030 4.jpg
13/05/2025

Marri Tree ID #11
3275 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903917748834
Longitude:	116.16764386196
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	6
DBH [cm]:	94.05
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Canker, Twin Stem
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	11.29
Structural Root Zone (SRZ) [m]:	3.31
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

1747098567794915065218032636 8292.jpg
13/05/2025

Spotted Gum Tree ID #12

3275 Jacoby Street

Tree Details

Latin Name:	Corymbia maculata
Latitude:	-31.904156968706
Longitude:	116.16756665903
Tree Height (Estimated) [m]:	13.5
Canopy Spread [m]:	5.5
DBH [cm]:	84.53
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Compression Fork, Multi Crown leaders, Secondary stem
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood
Observation Comments:	Atypically multi-stemmed
Tree Protection Zone (TPZ) [m]:	10.14
Structural Root Zone (SRZ) [m]:	3.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747100024136840822364696493237 5.jpg
13/05/2025

Illawarra Flame Tree Tree ID #13

3315 Jacoby Street

Tree Details

Latin Name:	Brachychiton acerifolius
Latitude:	-31.904166532152
Longitude:	116.16767893184
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	3
DBH [cm]:	52
Health:	Poor
Structure:	Poor
Problems:	Deadwood major >50, Lopped, Deadwood minor <50, Epicormic growth
Notes:	
Priority:	Low
Tree Work:	Remove Tree
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.24
Structural Root Zone (SRZ) [m]:	2.57
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

1747100195429254662652274857 8809.jpg
13/05/2025

Queensland Box Tree ID #14
3315 Jacoby Street

Tree Details

Latin Name:	Lophostemon confertus
Latitude:	-31.90420770823
Longitude:	116.16766525256
Tree Height (Estimated) [m]:	8.5
Canopy Spread [m]:	4.5
DBH [cm]:	37
Health:	Fair
Structure:	Fair
Problems:	Codominant Stem, Canopy thinning evident
Notes:	
Priority:	Low
Tree Work:	Add Mulch, Supplementary watering, Add nutrients
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.44
Structural Root Zone (SRZ) [m]:	2.25
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

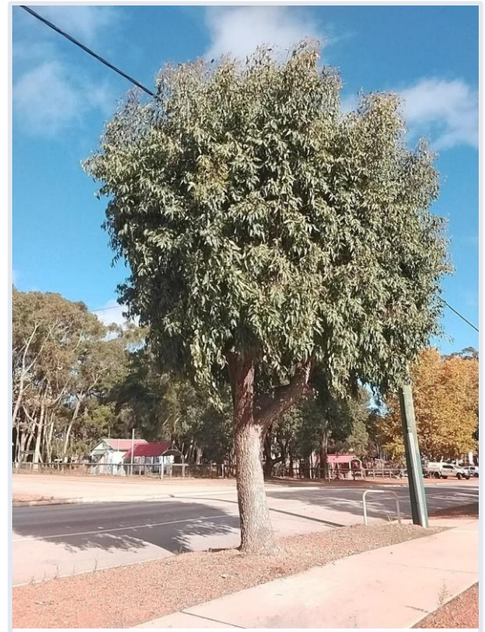
1747100582177826114226672258471 6.jpg
13/05/2025

Marri Tree ID #15
3315 Jacoby Street

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.904327915515
Longitude:	116.16772166833
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	4
DBH [cm]:	47
Health:	Good
Structure:	Fair
Problems:	Pruned for powerline clearance
Notes:	
Priority:	Moderate
Tree Work:	Service wire Clearance
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.64
Structural Root Zone (SRZ) [m]:	2.45
Useful Life Expectancy:	11-20 years
Retention Value:	High

Photos Street View Map View



1747100885539295931050105955166 0.jpg
13/05/2025

Jacaranda Tree ID #16
3315 Jacoby Street

Tree Details

Latin Name:	Jacaranda mimosifolia
Latitude:	-31.904300553456
Longitude:	116.16804259462
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	4.5
DBH [cm]:	46.17
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.54
Structural Root Zone (SRZ) [m]:	2.61
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

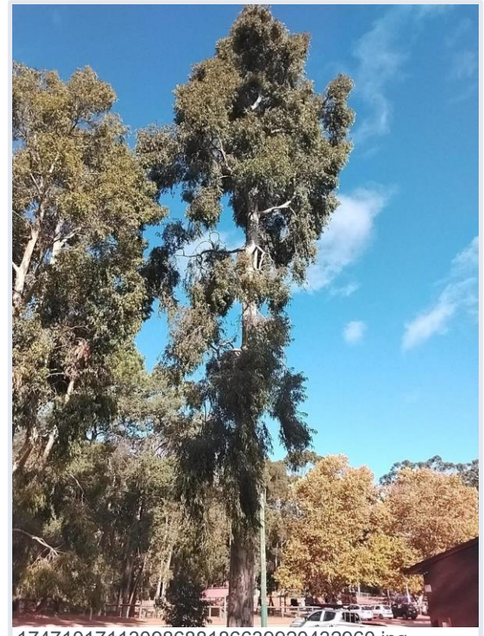
1747101285551877753146071110665 6.jpg
13/05/2025

Spotted Gum Tree ID #17
3254 Jacoby Street

Tree Details

Latin Name:	Corymbia maculata
Latitude:	-31.90409909753
Longitude:	116.1674902443
Tree Height (Estimated) [m]:	20
Canopy Spread [m]:	6
DBH [cm]:	92
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Deadwood minor <50, Previous limb failure
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	11.04
Structural Root Zone (SRZ) [m]:	3.35
Useful Life Expectancy:	40+ years
Retention Value:	High

Photos Street View Map View



1747101711309868818663992043296 0.jpg
13/05/2025

Queensland Box Tree ID #18

3245 Jacoby Street

Tree Details

Latin Name:	Lophostemon confertus
Latitude:	-31.904070529994
Longitude:	116.16710812957
Tree Height (Estimated) [m]:	5.5
Canopy Spread [m]:	5
DBH [cm]:	76
Health:	Good
Structure:	Fair
Problems:	Pruned for powerline clearance
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.12
Structural Root Zone (SRZ) [m]:	3.03
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

17471020068514140622875118712584.jpg
13/05/2025

Queensland Box Tree ID #19

3205 Jacoby Street

Tree Details

Latin Name:	Lophostemon confertus
Latitude:	-31.904034534095
Longitude:	116.1670013553
Tree Height (Estimated) [m]:	5.5
Canopy Spread [m]:	5
DBH [cm]:	59
Health:	Good
Structure:	Fair
Problems:	Pruned for powerline clearance
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	7.08
Structural Root Zone (SRZ) [m]:	2.71
Useful Life Expectancy:	20-40 years
Retention Value:	High

Photos Street View Map View

17471020797727670898263526385321.jpg
13/05/2025

Tasmanian Blue Gum Tree ID #20

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus globulus
Latitude:	-31.904002466056
Longitude:	116.16715781752
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	6.5
DBH [cm]:	80
Health:	Poor
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Epicormic growth, Poorly pruned, Dieback, Surface roots, Multi Crown leaders, Decline
Notes:	
Priority:	Moderate
Tree Work:	Add Mulch, Remove minor deadwood, Supplementary watering, Add nutrients, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.6
Structural Root Zone (SRZ) [m]:	3.04
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

1747103223829686906573291561772 7.jpg
13/05/2025

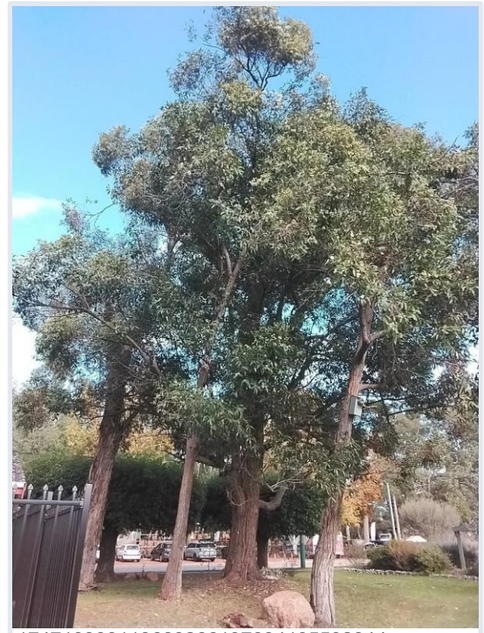
Southern Mahogany Tree ID #21

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903945085042
Longitude:	116.16715399536
Tree Height (Estimated) [m]:	17
Canopy Spread [m]:	9.5
DBH [cm]:	82
Health:	Good
Structure:	Fair
Problems:	Extended branches, Ground heave, Deadwood minor <50, Epicormic growth, Borer, Excessive Limb Loading, Surface roots, Bark wound, Multi Crown leaders
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Reduce excessive limb loading
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.84
Structural Root Zone (SRZ) [m]:	3.11
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View



1747103831186892661976341955923 4.jpg
13/05/2025

Southern Mahogany Tree ID #22

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903943491046
Longitude:	116.16721041114
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	4
DBH [cm]:	31
Health:	Good
Structure:	Poor
Problems:	Leaning, Suppressed canopy, Phototropism
Notes:	
Priority:	
Tree Work:	
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.72
Structural Root Zone (SRZ) [m]:	2.08
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471040695438161370990539721216.jpg
13/05/2025

Southern Mahogany Tree ID #23

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903901916364
Longitude:	116.16720330326
Tree Height (Estimated) [m]:	8.5
Canopy Spread [m]:	5
DBH [cm]:	36
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Leaning, Previous limb failure, Suppressed canopy, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	Nest box attached
Tree Protection Zone (TPZ) [m]:	4.32
Structural Root Zone (SRZ) [m]:	2.23
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471042141701639257734435309 57.jpg
13/05/2025

kings park special Tree ID #24

3185 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903878417717
Longitude:	116.16661767209
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	5
DBH [cm]:	34.32
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Epicormic growth
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.12
Structural Root Zone (SRZ) [m]:	2.3
Useful Life Expectancy:	6-10 years
Retention Value:	Medium

Photos Street View Map View

1747104754295548396514011515189 9.jpg
13/05/2025

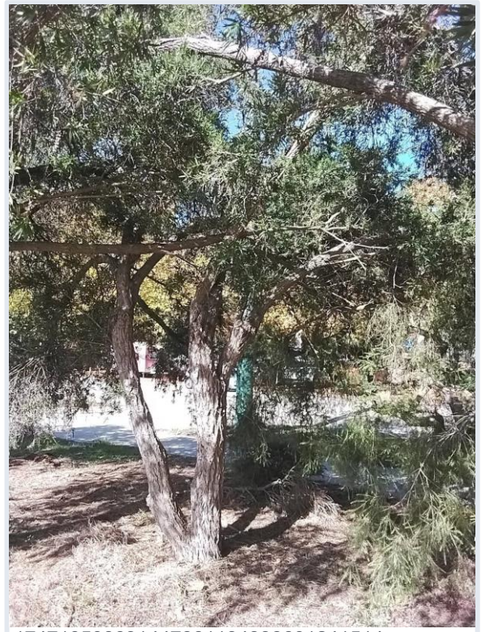
kings park special Tree ID #25

3185 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903867525921
Longitude:	116.16656675481
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	5
DBH [cm]:	29.53
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Suppressed canopy, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.54
Structural Root Zone (SRZ) [m]:	2.05
Useful Life Expectancy:	6-10 years
Retention Value:	Medium

Photos Street View Map View



1747105086314478611348386012 4151.jpg
13/05/2025

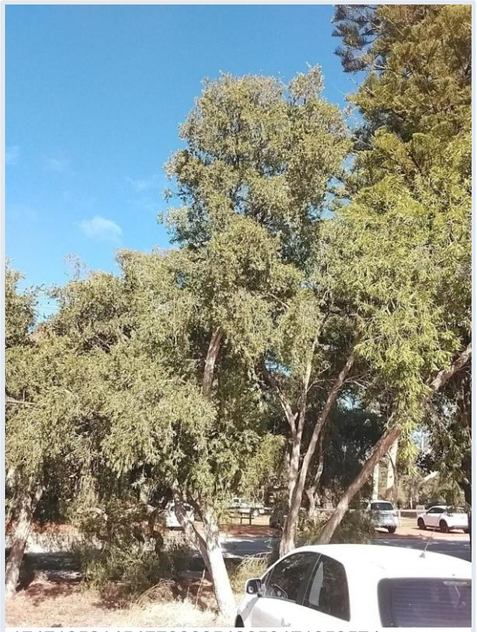
kings park special Tree ID #26

3185 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903849195852
Longitude:	116.16653117081
Tree Height (Estimated) [m]:	8
Canopy Spread [m]:	4.5
DBH [cm]:	32.57
Health:	Good
Structure:	Fair
Problems:	Codominant Stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.91
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	6-10 years
Retention Value:	Medium

Photos Street View Map View



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13/05/2025

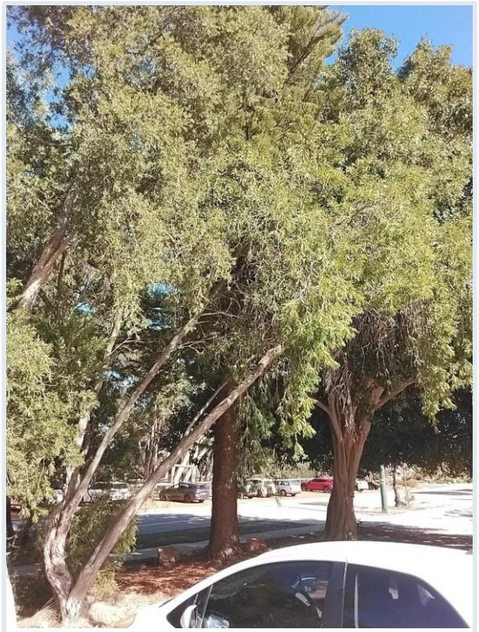
kings park special

Tree ID #27 3185 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903836444519
Longitude:	116.16649230113
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	6
DBH [cm]:	29.68
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.56
Structural Root Zone (SRZ) [m]:	2.13
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View



1747105324542640556576192831243 0.jpg
13/05/2025

Norfolk Island Pine Tree ID #28

3165 Jacoby Street

Tree Details

Latin Name:	Araucaria heterophylla
Latitude:	-31.903819973978
Longitude:	116.16646876472
Tree Height (Estimated) [m]:	18
Canopy Spread [m]:	5
DBH [cm]:	64
Health:	Good
Structure:	Good
Problems:	
Notes:	
Priority:	
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	7.68
Structural Root Zone (SRZ) [m]:	2.8
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

17471056880006633327599877812 44.jpg
13/05/2025

Moreton Bay Fig Tree ID #29

3165 Jacoby Street

Tree Details

Latin Name:	Ficus macrophylla
Latitude:	-31.903796994997
Longitude:	116.16640908557
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	7.5
DBH [cm]:	142
Health:	Good
Structure:	Fair
Problems:	
Notes:	
Priority:	Low
Tree Work:	Canopy lift footpath
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	15
Structural Root Zone (SRZ) [m]:	3.96
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

17471060996862051854427120813772.jpg
13/05/2025

Cape Lilac, White Cedar Tree ID #30

3165 Jacoby Street

Tree Details

Latin Name:	Melia azedarach
Latitude:	-31.903676560203
Longitude:	116.16629607476
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	6
DBH [cm]:	288.79
Health:	Fair
Structure:	Poor
Problems:	Deadwood major >50, Deadwood minor <50, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	15
Structural Root Zone (SRZ) [m]:	8.01
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

1747109816699643335329195136523O.jpg
13/05/2025

Rubber Tree Tree ID #31

3165 Jacoby Street

Tree Details

Latin Name:	Ficus elastica
Latitude:	-31.903590033078
Longitude:	116.16639263429
Tree Height (Estimated) [m]:	10.5
Canopy Spread [m]:	7
DBH [cm]:	158
Health:	Good
Structure:	Fair
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	15
Structural Root Zone (SRZ) [m]:	4.07
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

1747110062989534165054058960546 8.jpg
13/05/2025

Fiddlewood Tree ID #32

3165 Jacoby Street

Tree Details

Latin Name:	Citharexylem spinosum
Latitude:	-31.903551849474
Longitude:	116.16644824666
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	6
DBH [cm]:	41
Health:	Fair
Structure:	Fair
Problems:	Suckers, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.92
Structural Root Zone (SRZ) [m]:	2.34
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747110326188475168285551248486 4.jpg
13/05/2025

Banyan tree Tree ID #33

3165 Jacoby Street

Tree Details

Latin Name:	Ficus bengalensis
Latitude:	-31.90350164094
Longitude:	116.16651834172
Tree Height (Estimated) [m]:	4.5
Canopy Spread [m]:	7
DBH [cm]:	49.3
Health:	Good
Structure:	Fair
Problems:	Low Growth, Suppressed canopy, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.92
Structural Root Zone (SRZ) [m]:	2.43
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747110541258212279214172908 5346.jpg
13/05/2025

Rubber Tree Tree ID #34

3165 Jacoby Street

Tree Details

Latin Name:	Ficus elastica
Latitude:	-31.903570976489
Longitude:	116.16653479251
Tree Height (Estimated) [m]:	8.5
Canopy Spread [m]:	7.5
DBH [cm]:	54.76
Health:	Good
Structure:	Fair
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.57
Structural Root Zone (SRZ) [m]:	3.08
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

1747110692077605421481305567046 1.jpg
13/05/2025

Cape Lilac, White Cedar Tree ID #35

3185 Jacoby Street

Tree Details

Latin Name:	Melia azedarach
Latitude:	-31.903618495957
Longitude:	116.16664073862
Tree Height (Estimated) [m]:	8
Canopy Spread [m]:	4
DBH [cm]:	45
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50
Notes:	
Priority:	
Tree Work:	
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.4
Structural Root Zone (SRZ) [m]:	2.41
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747110985898808600148929962 6003.jpg
13/05/2025

Argyle Apple Tree ID #36
3205 Jacoby Street

Tree Details

Latin Name:	Eucalyptus cinerea
Latitude:	-31.903759882979
Longitude:	116.16709972818
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	8
DBH [cm]:	52
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth, Bark wound
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.24
Structural Root Zone (SRZ) [m]:	2.57
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747111441340329201678725106830 2.jpg
13/05/2025

Argyle Apple Tree ID #37
3205 Jacoby Street

Tree Details

Latin Name:	Eucalyptus cinerea
Latitude:	-31.903729143116
Longitude:	116.16711850365
Tree Height (Estimated) [m]:	16
Canopy Spread [m]:	7
DBH [cm]:	55
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Deadwood minor <50, Epicormic growth, Suckers
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.6
Structural Root Zone (SRZ) [m]:	2.63
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747111580486238736976066586994 4.jpg
13/05/2025

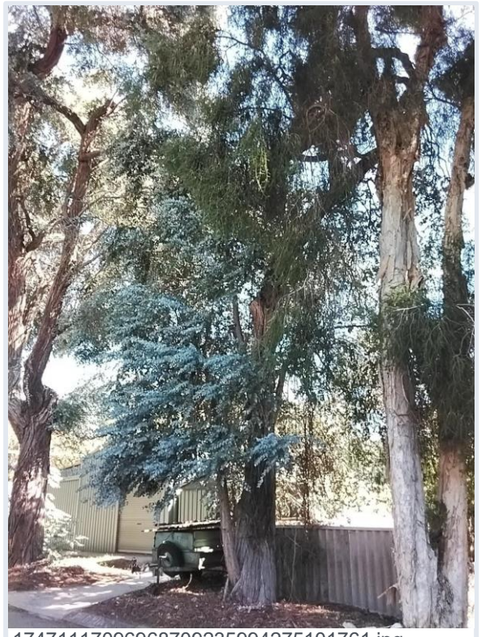
Argyle Apple Tree ID #38

3205 Jacoby Street

Tree Details

Latin Name:	Eucalyptus cinerea
Latitude:	-31.903684741074
Longitude:	116.16713996132
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	3
DBH [cm]:	58
Health:	Fair
Structure:	Poor
Problems:	Codominant Stem, Deadwood major >50, Deadwood minor <50, Epicormic growth, Suppressed canopy
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.96
Structural Root Zone (SRZ) [m]:	2.73
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



1747111709696870923599427510176 1.jpg
13/05/2025

Prickly-leaf paperbark Tree ID #39

8 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903638061981
Longitude:	116.16717080672
Tree Height (Estimated) [m]:	10
Canopy Spread [m]:	6
DBH [cm]:	39.7
Health:	Fair
Structure:	Poor
Problems:	Codominant Stem, Suppressed canopy, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.76
Structural Root Zone (SRZ) [m]:	2.13
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747111895478874590801333808884 0.jpg
13/05/2025

Prickly-leaf paperbark Tree ID #40

8 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903599352471
Longitude:	116.16718555887
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	3.5
DBH [cm]:	38.01
Health:	Good
Structure:	Fair
Problems:	Secondary stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.56
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747112056280806317450073383631O.jpg
13/05/2025

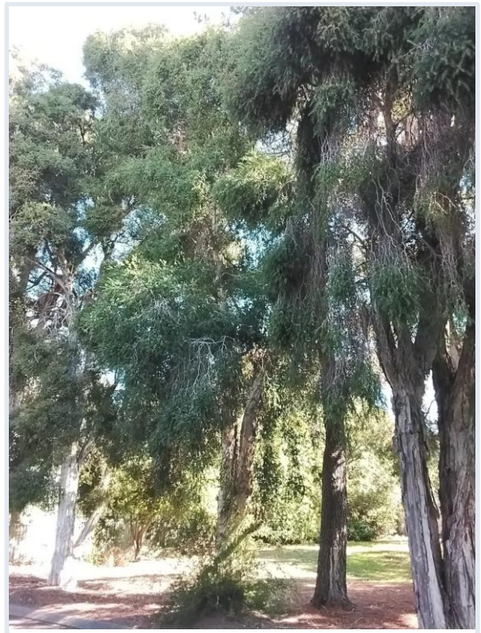
Prickly-leaf paperbark Tree ID #41

6 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903548119271
Longitude:	116.16721908648
Tree Height (Estimated) [m]:	10.2
Canopy Spread [m]:	5.5
DBH [cm]:	30
Health:	Good
Structure:	Fair
Problems:	Suckers, Secondary stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.6
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



1747112194895711145347501886312 7.jpg
13/05/2025

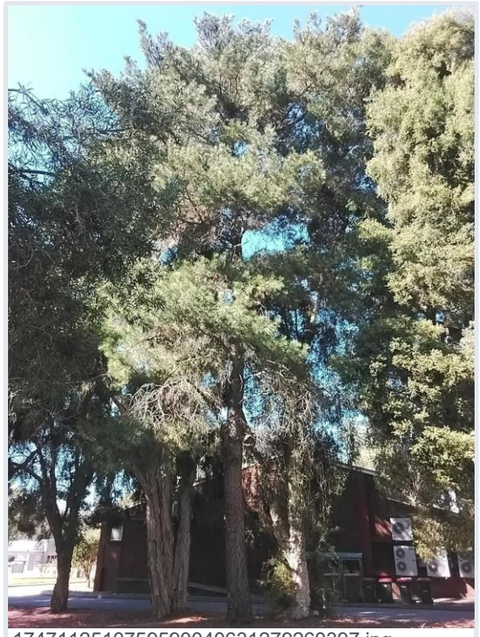
Allepo Pine Tree ID #42

6 Craig Street

Tree Details

Latin Name:	Pinus halapensis
Latitude:	-31.903508271207
Longitude:	116.16716812451
Tree Height (Estimated) [m]:	18
Canopy Spread [m]:	7
DBH [cm]:	49
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50
Notes:	
Priority:	Low
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.88
Structural Root Zone (SRZ) [m]:	2.55
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



1747112510759590040631279260397.jpg
13/05/2025

Prickly-leaf paperbark Tree ID #43

8 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903513963789
Longitude:	116.16724322636
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	6.5
DBH [cm]:	57.04
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Hanging branch
Notes:	
Priority:	Low
Tree Work:	Remove hanger
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.84
Structural Root Zone (SRZ) [m]:	2.71
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747112722746156731947040096998.jpg
13/05/2025

Snow-in-summer Paperbark Tree ID #44

6 Craig Street

Tree Details

Latin Name:	Melaleuca linariifolia
Latitude:	-31.90347753126
Longitude:	116.1672539552
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	6
DBH [cm]:	42.45
Health:	Good
Structure:	Fair
Problems:	Suppressed canopy, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.09
Structural Root Zone (SRZ) [m]:	2.15
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747112917267118322643124917538.jpg
13/05/2025

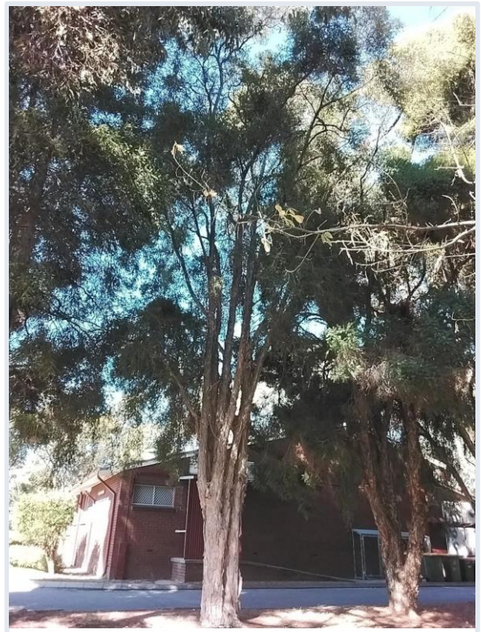
Prickly-leaf paperbark Tree ID #45

6 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903446791303
Longitude:	116.16726468404
Tree Height (Estimated) [m]:	10.5
Canopy Spread [m]:	5
DBH [cm]:	46.69
Health:	Good
Structure:	Poor
Problems:	Codominant Stem, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.6
Structural Root Zone (SRZ) [m]:	2.28
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



1747113133156511150256195032972 5.jpg
13/05/2025

Prickly-leaf paperbark Tree ID #46

6 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903417189853
Longitude:	116.1672539552
Tree Height (Estimated) [m]:	10
Canopy Spread [m]:	6
DBH [cm]:	36
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.32
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747113278098868282407823784400 5.jpg
13/05/2025

Prickly-leaf paperbark Tree ID #47

6 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903357986925
Longitude:	116.16729150613
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	4.5
DBH [cm]:	33
Health:	Good
Structure:	Fair
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.96
Structural Root Zone (SRZ) [m]:	2.13
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747113368416194536880683778524 8.jpg
13/05/2025

Southern Mahogany Tree ID #48

6 Craig Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903388726911
Longitude:	116.16724859078
Tree Height (Estimated) [m]:	15
Canopy Spread [m]:	7.5
DBH [cm]:	44
Health:	Good
Structure:	Fair
Problems:	Epicormic growth, Previous limb failure, Excessive Limb Loading
Notes:	
Priority:	Moderate
Tree Work:	Reduce excessive limb loading
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.28
Structural Root Zone (SRZ) [m]:	2.41
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747113990199248300969618863156 6.jpg
13/05/2025

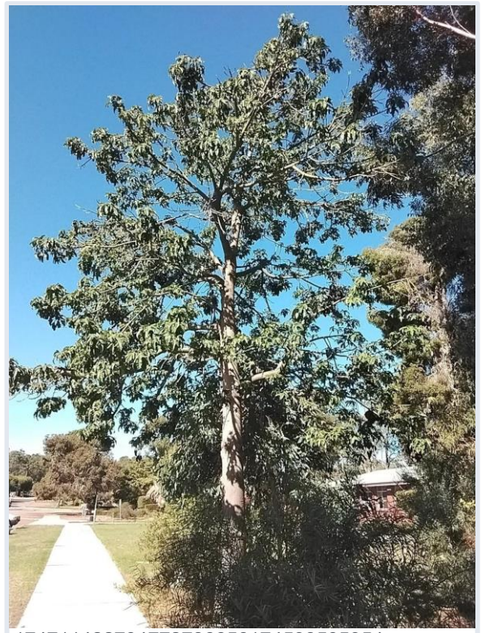
Illawarra Flame Tree Tree ID #49

6 Craig Street

Tree Details

Latin Name:	Brachychiton acerifolius
Latitude:	-31.903263489864
Longitude:	116.16720299323
Tree Height (Estimated) [m]:	8.5
Canopy Spread [m]:	4
DBH [cm]:	39
Health:	Poor
Structure:	Fair
Problems:	Epicormic growth, Canopy thinning evident
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.68
Structural Root Zone (SRZ) [m]:	2.25
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



1747114227047727866561745985059 5.jpg
13/05/2025

Southern Mahogany Tree ID #50
6 Craig Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903333807512
Longitude:	116.16721422001
Tree Height (Estimated) [m]:	19
Canopy Spread [m]:	5.5
DBH [cm]:	38
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.56
Structural Root Zone (SRZ) [m]:	2.28
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

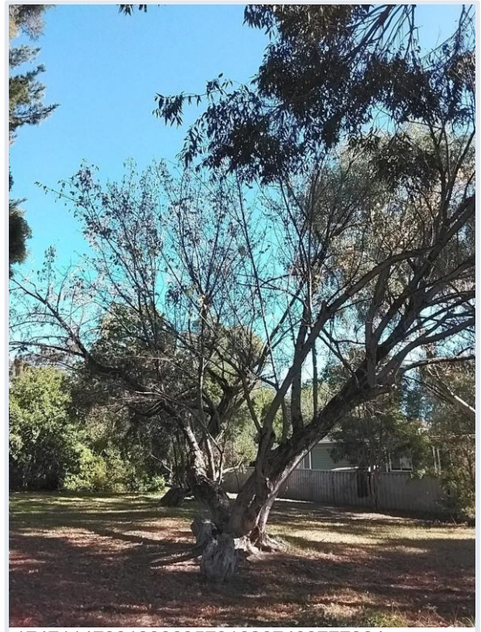
1747114367365443570010465866749.jpg
13/05/2025

Maple Tree ID #51
6 Craig Street

Tree Details

Latin Name:	Acer negundo
Latitude:	-31.903458930536
Longitude:	116.16717371864
Tree Height (Estimated) [m]:	8.2
Canopy Spread [m]:	1
DBH [cm]:	56.55
Health:	Very Poor
Structure:	Very poor
Problems:	Codominant Stem, Deadwood major >50, Deadwood minor <50, Epicormic growth, Decline, Canopy thinning evident, Chlorotic foliage
Notes:	
Priority:	Moderate
Tree Work:	Remove Tree
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.79
Structural Root Zone (SRZ) [m]:	3.83
Useful Life Expectancy:	1-5 years
Retention Value:	Low

Photos Street View Map View



1747114738189363579162674837736.jpg
13/05/2025

River Red Gum Tree ID #52

6 Craig Street

Tree Details

Latin Name:	Eucalyptus camaldulensis var.camaldulensis
Latitude:	-31.903412972387
Longitude:	116.16713978863
Tree Height (Estimated) [m]:	10.5
Canopy Spread [m]:	3.5
DBH [cm]:	29
Health:	Good
Structure:	Fair
Problems:	Twin Stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.48
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747114900596201665973969579967 3.jpg
13/05/2025

kings park special Tree ID #53

6 Craig Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903497184462
Longitude:	116.16708176343
Tree Height (Estimated) [m]:	5
Canopy Spread [m]:	4
DBH [cm]:	42.73
Health:	Good
Structure:	Very poor
Problems:	Extended branches, Epicormic growth, Poorly pruned, Suppressed canopy
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.13
Structural Root Zone (SRZ) [m]:	2.49
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

1747115109098379802414544793451 9.jpg
13/05/2025

Southern Mahogany Tree ID #54

6 Craig Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903345002643
Longitude:	116.1671336195
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	6
DBH [cm]:	30
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Phototropism
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.6
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747116186699240724255657629559 9.jpg
13/05/2025

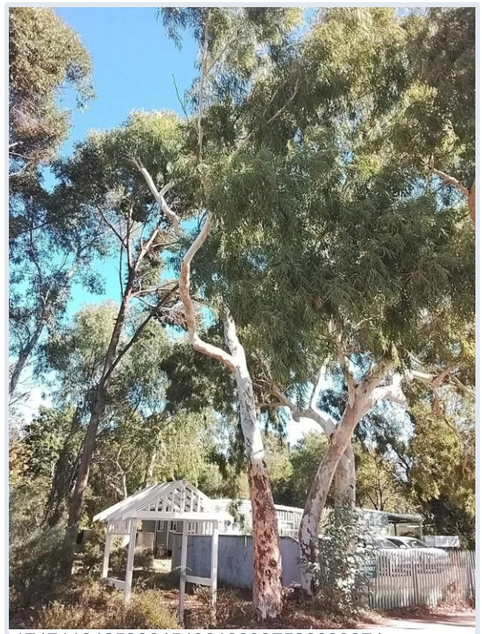
Northern River Red Gum Tree ID #55

6 Craig Street

Tree Details

Latin Name:	Eucalyptus camaldulensis var. obtusa
Latitude:	-31.903242996513
Longitude:	116.167135938
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	8
DBH [cm]:	49
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Epicormic growth, Previous limb failure, Crossing Branches, Bark wound, Phototropism, Decayed pruning stub
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.88
Structural Root Zone (SRZ) [m]:	2.57
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View



1747116425366454061000975260933 7.jpg
13/05/2025

Northern River Red Gum Tree ID #56

6 Craig Street

Tree Details

Latin Name:	Eucalyptus camaldulensis var. obtusa
Latitude:	-31.903221364637
Longitude:	116.16709302266
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	9
DBH [cm]:	74.33
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Ground heave, Deadwood minor <50, Epicormic growth, Basal bifurcation, Previous limb failure, Crossing Branches, Excessive Limb Loading, Suckers, Bark wound, Multi Crown leaders, Twin Stem
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Reduce excessive limb loading, Remove major deadwood, Remove Suckers, Canopy lift roadway
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	8.92
Structural Root Zone (SRZ) [m]:	3.21
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747116715404044090758707064339.jpg
13/05/2025

Northern River Red Gum Tree ID #57

6 Craig Street

Tree Details

Latin Name:	Eucalyptus camaldulensis var. obtusa
Latitude:	-31.903363679516
Longitude:	116.16706083615
Tree Height (Estimated) [m]:	10
Canopy Spread [m]:	8
DBH [cm]:	43
Health:	Good
Structure:	Fair
Problems:	Codominant Stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.16
Structural Root Zone (SRZ) [m]:	2.51
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747116870495742663726399495467 5.jpg
13/05/2025

Pink Flowering Gum Tree ID #58

12 Craig Street

Tree Details

Latin Name:	Eucalyptus leucoxylon rosea
Latitude:	-31.903416978582
Longitude:	116.16798452534
Tree Height (Estimated) [m]:	10.5
Canopy Spread [m]:	6.5
DBH [cm]:	39
Health:	Good
Structure:	Fair
Problems:	Leaning, Crossing Branches, Multi Crown leaders
Notes:	
Priority:	Low
Tree Work:	Canopy lift footpath
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.68
Structural Root Zone (SRZ) [m]:	2.34
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

1747117221410523395467131776504 5.jpg
13/05/2025

Norfolk Island Hibiscus Tree ID #59

12 Craig Street

Tree Details

Latin Name:	Lagunaria patersonii
Latitude:	-31.903509198452
Longitude:	116.16799927749
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	5
DBH [cm]:	27
Health:	Good
Structure:	Fair
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.24
Structural Root Zone (SRZ) [m]:	1.97
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747117346540593956439971999 4944.jpg
13/05/2025

Southern Mahogany Tree ID #60

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903620781659
Longitude:	116.16803710523
Tree Height (Estimated) [m]:	14.5
Canopy Spread [m]:	8
DBH [cm]:	46.01
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Deadwood minor <50, Epicormic growth, Excessive Limb Loading, Multi Crown leaders
Notes:	
Priority:	Moderate
Tree Work:	Reduce excessive limb loading
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.52
Structural Root Zone (SRZ) [m]:	2.34
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747117543781478431363848683140.jpg
13/05/2025

Marri Tree ID #61

6 Mundaring Weir Road

Tree Details

Latin Name:	Corymbia calophylla
Latitude:	-31.903709578728
Longitude:	116.16801423443
Tree Height (Estimated) [m]:	20
Canopy Spread [m]:	9
DBH [cm]:	74.33
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Hanging branch, Deadwood minor <50, Epicormic growth, Bark wound
Notes:	
Priority:	Moderate
Tree Work:	Remove hanger
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	8.92
Structural Root Zone (SRZ) [m]:	3.83
Useful Life Expectancy:	40+ years
Retention Value:	High

Photos Street View Map View

1747117835718137185394512971871l.jpg
13/05/2025

Swamp Mallee Tree ID #62

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus spathulata
Latitude:	-31.903680356948
Longitude:	116.16778316205
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	5
DBH [cm]:	28
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Epicormic growth
Notes:	Children's play area
Priority:	High
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.36
Structural Root Zone (SRZ) [m]:	2.08
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747118995573262215353526361296l.jpg
13/05/2025

Tuart Tree ID #63

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus gomphocephala
Latitude:	-31.903607816761
Longitude:	116.1677551262
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	5
DBH [cm]:	42
Health:	Fair
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth, Multi Crown leaders, Canopy thinning evident
Notes:	
Priority:	Moderate
Tree Work:	Supplementary watering, Add nutrients
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.04
Structural Root Zone (SRZ) [m]:	2.41
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747119435805502320742514419667l.jpg
13/05/2025

Southern Mahogany Tree ID #64

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903572484774
Longitude:	116.16776826897
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	7.5
DBH [cm]:	31
Health:	Good
Structure:	Fair
Problems:	Suckers
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.72
Structural Root Zone (SRZ) [m]:	2.13
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747119593329198133639851719267O.jpg
13/05/2025

Tuart Tree ID #65

6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus gomphocephala
Latitude:	-31.903561570189
Longitude:	116.16770825781
Tree Height (Estimated) [m]:	5
Canopy Spread [m]:	2
DBH [cm]:	30
Health:	Good
Structure:	Poor
Problems:	Deadwood minor <50, Suppressed canopy, Sunscald damage, Decline, Phototropism
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.6
Structural Root Zone (SRZ) [m]:	2.15
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

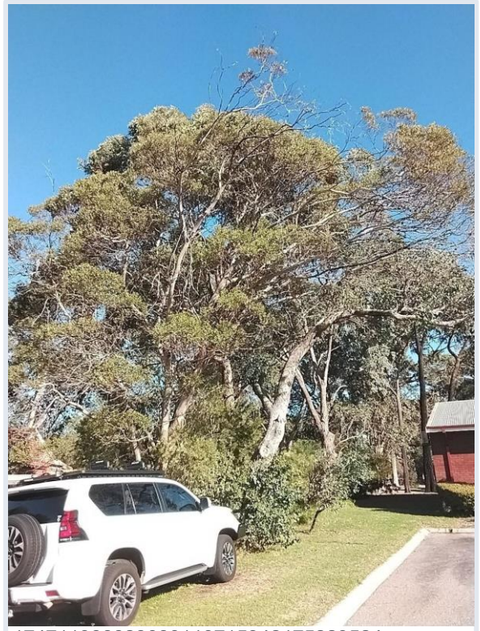
1747119758949272110399108191779O.jpg
13/05/2025

Bushy Yate Tree ID #66
6 Mundaring Weir Road

Tree Details

Latin Name:	Eucalyptus conferruminata
Latitude:	-31.903497813288
Longitude:	116.16772971548
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	4
DBH [cm]:	29
Health:	Fair
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Canopy thinning evident
Notes:	
Priority:	Moderate
Tree Work:	Add Mulch, Remove minor deadwood, Supplementary watering, Add nutrients, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.48
Structural Root Zone (SRZ) [m]:	2.02
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



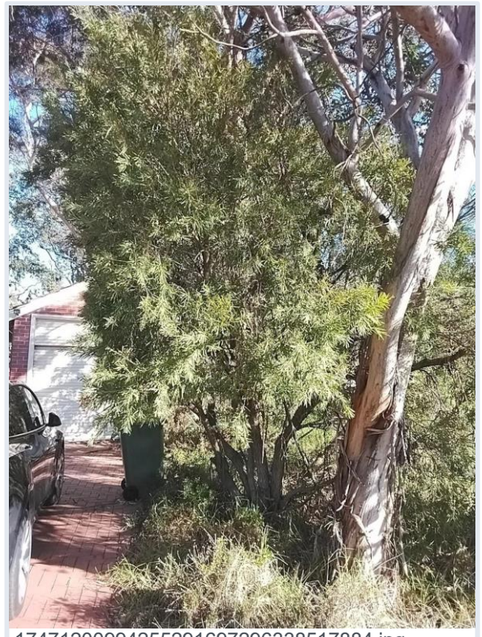
1747119888280801197153421752295 2.jpg
13/05/2025

Weeping Bottlebrush Tree ID #67
6 Mundaring Weir Road

Tree Details

Latin Name:	Callistemon viminalis
Latitude:	-31.903536522841
Longitude:	116.16774044432
Tree Height (Estimated) [m]:	3
Canopy Spread [m]:	3
DBH [cm]:	16.19
Health:	Good
Structure:	Poor
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	2
Structural Root Zone (SRZ) [m]:	1.88
Useful Life Expectancy:	6-10 years
Retention Value:	Medium

Photos Street View Map View



1747120099425529169729633851788 4.jpg
13/05/2025

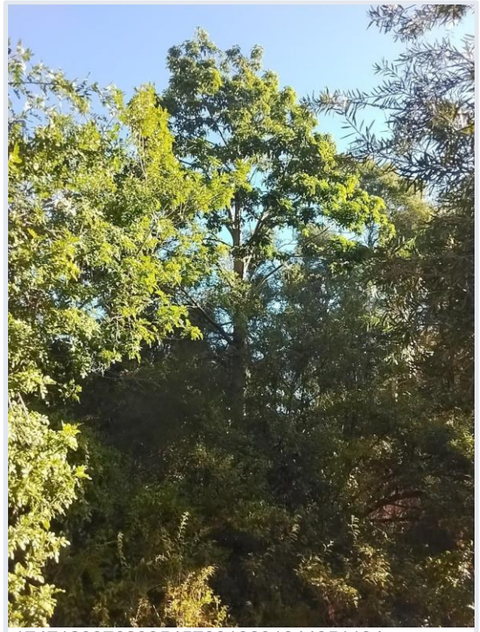
Illawarra Flame Tree Tree ID #68

3205 Jacoby Street

Tree Details

Latin Name:	Brachychiton acerifolius
Latitude:	-31.903568401283
Longitude:	116.16701758899
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	6
DBH [cm]:	28
Health:	Poor
Structure:	Good
Problems:	Epicormic growth, Canopy thinning evident
Notes:	
Priority:	Low
Tree Work:	Supplementary watering, Add nutrients
Observation Comments:	Unable to inspect due to overgrown area, no tag.
Tree Protection Zone (TPZ) [m]:	3.36
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



1747120376233545738186910448511 3.jpg
13/05/2025

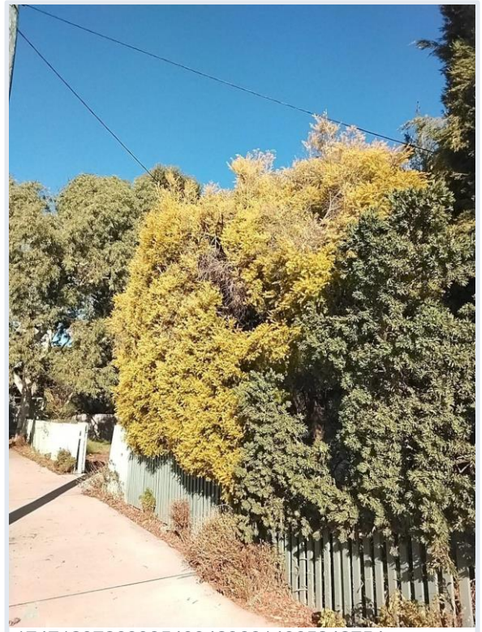
Black Tea-Tree Tree ID #69 4

Craig Street

Tree Details

Latin Name:	Melaleuca bracteata
Latitude:	-31.903168781434
Longitude:	116.16683788098
Tree Height (Estimated) [m]:	3
Canopy Spread [m]:	5
DBH [cm]:	45.45
Health:	Good
Structure:	Fair
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.45
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



1747120726808540342366143652427 5.jpg
13/05/2025

Green Pencil Pine Tree ID #70

2 Craig Street

Tree Details

Latin Name:	Cupressus sempervirens stricta
Latitude:	-31.903177889598
Longitude:	116.1667828957
Tree Height (Estimated) [m]:	8
Canopy Spread [m]:	3
DBH [cm]:	39
Health:	Good
Structure:	Good
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.68
Structural Root Zone (SRZ) [m]:	2.3
Useful Life Expectancy:	20-40 years
Retention Value:	Low

Photos Street View Map View

1747120976156153445760190939793 7.jpg
13/05/2025

Green Pencil Pine Tree ID #71

4 Craig Street

Tree Details

Latin Name:	Cupressus sempervirens stricta
Latitude:	-31.903248597287
Longitude:	116.16681187587
Tree Height (Estimated) [m]:	5
Canopy Spread [m]:	4
DBH [cm]:	32
Health:	Poor
Structure:	Good
Problems:	Dieback
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.84
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

1747121141452123430571083928570.jpg
13/05/2025

Chinese Elm Tree ID #72

4 Craig Street

Tree Details

Latin Name:	Ulmus parvifolia
Latitude:	-31.903294157029
Longitude:	116.16680859017
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	1
DBH [cm]:	48
Health:	Poor
Structure:	Poor
Problems:	
Notes:	
Priority:	Low
Tree Work:	Remove Tree
Observation Comments:	Unable to tag and measure due to ivy.
Tree Protection Zone (TPZ) [m]:	5.76
Structural Root Zone (SRZ) [m]:	2.47
Useful Life Expectancy:	1-5 years
Retention Value:	Low

Photos Street View Map View

1747121241994819604425055507781 4.jpg
13/05/2025

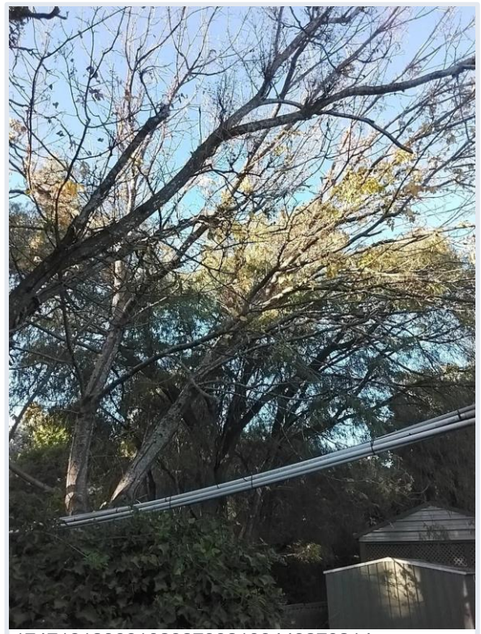
Chinese Elm Tree ID #73

4 Craig Street

Tree Details

Latin Name:	Ulmus parvifolia
Latitude:	-31.903325769897
Longitude:	116.16681625683
Tree Height (Estimated) [m]:	10.5
Canopy Spread [m]:	7
DBH [cm]:	40
Health:	Fair
Structure:	Fair
Problems:	Codominant Stem, Deadwood major >50, Deadwood minor <50
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.8
Structural Root Zone (SRZ) [m]:	2.34
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



1747181236610282738210344327021.jpg
14/05/2025

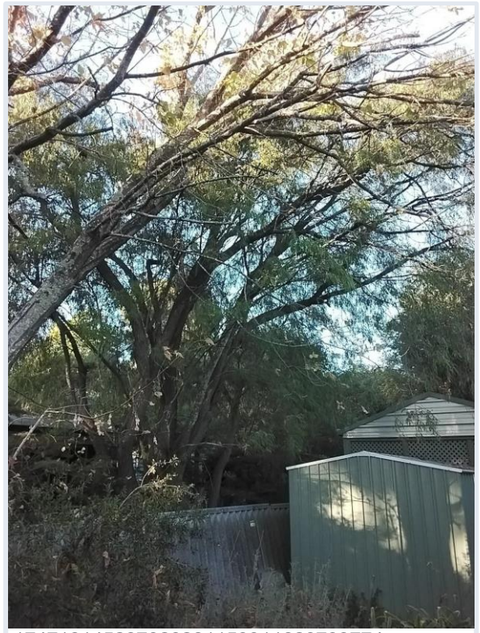
WA Weeping Peppermint Tree ID #74

4 Craig Street

Tree Details

Latin Name:	Agonis flexuosa
Latitude:	-31.903363227058
Longitude:	116.16679819661
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	8
DBH [cm]:	50.49
Health:	Fair
Structure:	Fair
Problems:	Epicormic growth, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	6.06
Structural Root Zone (SRZ) [m]:	2.71
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View



1747181452870202811599118207937 7.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #75

4 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903498318044
Longitude:	116.16670216431
Tree Height (Estimated) [m]:	9.7
Canopy Spread [m]:	6
DBH [cm]:	38.91
Health:	Good
Structure:	Poor
Problems:	Epicormic growth, Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.67
Structural Root Zone (SRZ) [m]:	2.15
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747181642926595277818575625 4596.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #76

3185 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903518306583
Longitude:	116.16672925152
Tree Height (Estimated) [m]:	9.5
Canopy Spread [m]:	7
DBH [cm]:	20.54
Health:	Good
Structure:	Poor
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	2.46
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747181858090827797661184475569.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #77

3185 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903527414712
Longitude:	116.16676412024
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	6
DBH [cm]:	44
Health:	Good
Structure:	Poor
Problems:	Codominant Stem, Deadwood major >50, Deadwood minor <50, Bark wound
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Monitor, Remove major deadwood
Observation Comments:	Rubbing stems
Tree Protection Zone (TPZ) [m]:	5.28
Structural Root Zone (SRZ) [m]:	2.43
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747182013707141097445702321521.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #78

3205 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903539938389
Longitude:	116.16679496564
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	5
DBH [cm]:	26
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	Tall, thin, narrow stems
Tree Protection Zone (TPZ) [m]:	3.12
Structural Root Zone (SRZ) [m]:	1.97
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747182147362473100505167824755 2.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #79

3205 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903551323548
Longitude:	116.16683519878
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	4
DBH [cm]:	29
Health:	Good
Structure:	Poor
Problems:	Codominant Stem, Leaning, Suppressed canopy
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.48
Structural Root Zone (SRZ) [m]:	2.02
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

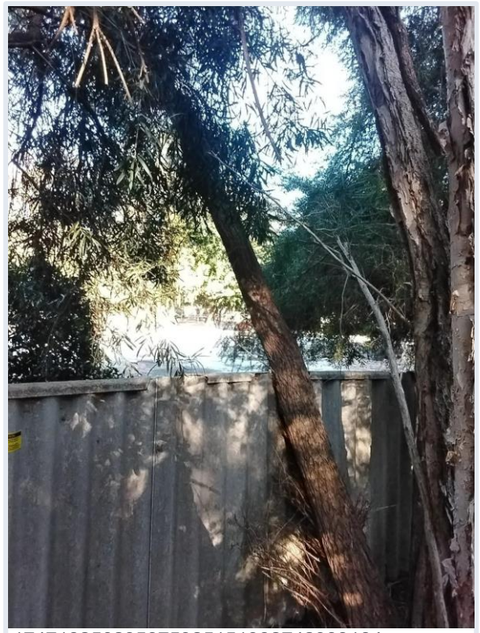
1747182304131914883691725515912 1.jpg
14/05/2025

kings park special Tree ID #80
3205 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903578647923
Longitude:	116.16687006749
Tree Height (Estimated) [m]:	8
Canopy Spread [m]:	5
DBH [cm]:	26.57
Health:	Good
Structure:	Fair
Problems:	Leaning, Suppressed canopy, Secondary stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.19
Structural Root Zone (SRZ) [m]:	2.02
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



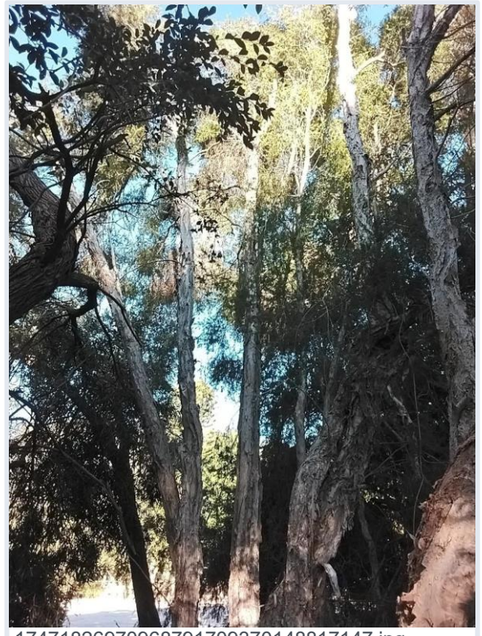
1747182502353759251519827429331 8.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #81
3205 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903559293158
Longitude:	116.16689286627
Tree Height (Estimated) [m]:	12
Canopy Spread [m]:	6
DBH [cm]:	19.7
Health:	Good
Structure:	Poor
Problems:	Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	Tall, narrow stems
Tree Protection Zone (TPZ) [m]:	2.36
Structural Root Zone (SRZ) [m]:	2
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View



1747182697096879170937014881 7147.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #82

3205 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903529691744
Longitude:	116.16688347854
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	4
DBH [cm]:	31
Health:	Good
Structure:	Poor
Problems:	Crossing Branches, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.72
Structural Root Zone (SRZ) [m]:	2.15
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

1747182818207433195671245269160 8.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #83

3205 Jacoby Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903520583615
Longitude:	116.16692773499
Tree Height (Estimated) [m]:	11
Canopy Spread [m]:	6
DBH [cm]:	42.24
Health:	Good
Structure:	Fair
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.07
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747182967634389970829313702318 3.jpg
14/05/2025

kings park special Tree ID #84

3205 Jacoby Street

Tree Details

Latin Name:	Callistemon Kings Park Special
Latitude:	-31.903582600571
Longitude:	116.16696775499
Tree Height (Estimated) [m]:	8.5
Canopy Spread [m]:	4
DBH [cm]:	38
Health:	Good
Structure:	Poor
Problems:	Leaning, Suppressed canopy, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.56
Structural Root Zone (SRZ) [m]:	2.3
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

1747183067442553775359529924297 5.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #85

2 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903497325645
Longitude:	116.16668245735
Tree Height (Estimated) [m]:	11.5
Canopy Spread [m]:	5
DBH [cm]:	40
Health:	Good
Structure:	Fair
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.8
Structural Root Zone (SRZ) [m]:	2.37
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747183258248915013846391892582 4.jpg
14/05/2025

Chinese Elm Tree ID #86

2 Craig Street

Tree Details

Latin Name:	Ulmus parvifolia
Latitude:	-31.903368995908
Longitude:	116.16658397579
Tree Height (Estimated) [m]:	10
Canopy Spread [m]:	6
DBH [cm]:	36
Health:	Fair
Structure:	Fair
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.32
Structural Root Zone (SRZ) [m]:	2.25
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747183366093589321035664020428 1.jpg
14/05/2025

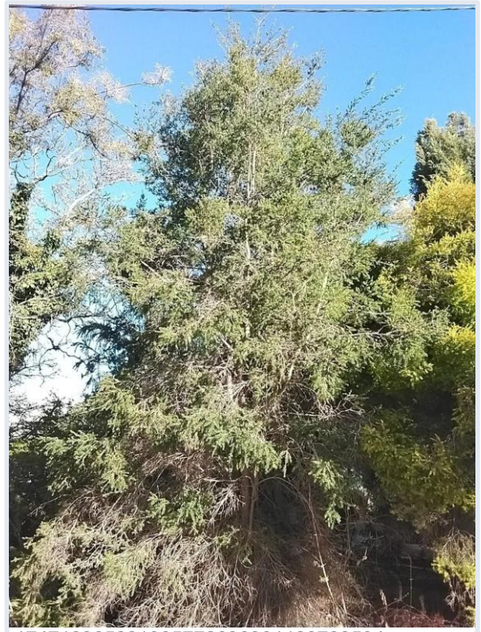
Prickly-leaf paperbark Tree ID #87

4 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903220229402
Longitude:	116.1668227371
Tree Height (Estimated) [m]:	6.5
Canopy Spread [m]:	3.5
DBH [cm]:	12.77
Health:	Good
Structure:	Poor
Problems:	Lopped
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	2
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	1-5 years
Retention Value:	Low

Photos Street View Map View



1747183652819857726363011287885 9.jpg
14/05/2025

Red Ironbark Tree ID #88

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.90390199045
Longitude:	116.16737968376
Tree Height (Estimated) [m]:	12.5
Canopy Spread [m]:	5
DBH [cm]:	46
Health:	Good
Structure:	Poor
Problems:	
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.52
Structural Root Zone (SRZ) [m]:	2.45
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747183949826603383922694799787 9.jpg
14/05/2025

Red Ironbark Tree ID #89

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.90393732224
Longitude:	116.16742239792
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	7
DBH [cm]:	35
Health:	Good
Structure:	Fair
Problems:	Epicormic growth, Leaning, Secondary stem
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.2
Structural Root Zone (SRZ) [m]:	2.2
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747184067514507299458928248876 5.jpg
14/05/2025

Red Ironbark Tree ID #90

3245 Jacoby Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.903910623127
Longitude:	116.16746760317
Tree Height (Estimated) [m]:	11.5
Canopy Spread [m]:	5
DBH [cm]:	39
Health:	Good
Structure:	Fair
Problems:	Deadwood minor <50, Epicormic growth, Leaning
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.68
Structural Root Zone (SRZ) [m]:	2.39
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471841791191110196076057738129.jpg
14/05/2025

Tuart Tree ID #91

3275 Jacoby Street

Tree Details

Latin Name:	Eucalyptus gomphocephala
Latitude:	-31.903943165618
Longitude:	116.16751141255
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	3
DBH [cm]:	28
Health:	Fair
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Canopy thinning evident
Notes:	
Priority:	Low
Tree Work:	Add Mulch, Supplementary watering, Add nutrients, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.36
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471843297956362219738602769103.jpg
14/05/2025

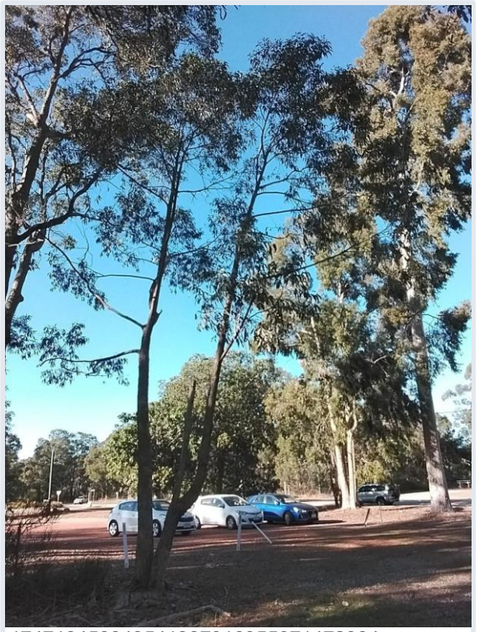
Southern Mahogany Tree ID #92

3275 Jacoby Street

Tree Details

Latin Name:	Eucalyptus botryoides
Latitude:	-31.903893222903
Longitude:	116.16753825699
Tree Height (Estimated) [m]:	9
Canopy Spread [m]:	4.5
DBH [cm]:	24.08
Health:	Fair
Structure:	Poor
Problems:	Codominant Stem, Deadwood major >50, Previous limb failure, Surface roots
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	Epicormic growth from stump
Tree Protection Zone (TPZ) [m]:	2.89
Structural Root Zone (SRZ) [m]:	2.08
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View



17471845334354138791695597147290.jpg
14/05/2025

Tasmanian Blue Gum Tree ID #93

3275 Jacoby Street

Tree Details

Latin Name:	Eucalyptus globulus
Latitude:	-31.903844209928
Longitude:	116.16756510143
Tree Height (Estimated) [m]:	21
Canopy Spread [m]:	8
DBH [cm]:	82
Health:	Good
Structure:	Fair
Problems:	Deadwood major >50, Deadwood minor <50, Leaning, Multi Crown leaders
Notes:	
Priority:	Moderate
Tree Work:	Remove minor deadwood, Remove major deadwood
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	9.84
Structural Root Zone (SRZ) [m]:	3.11
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471847121848162568181328779 78.jpg
14/05/2025

Tasmanian Blue Gum Tree ID #94

3275 Jacoby Street

Tree Details

Latin Name:	Eucalyptus globulus
Latitude:	-31.903817511816
Longitude:	116.1675963268
Tree Height (Estimated) [m]:	14
Canopy Spread [m]:	5
DBH [cm]:	38
Health:	Poor
Structure:	Poor
Problems:	Deadwood major >50, Deadwood minor <50, Epicormic growth, Suppressed canopy, Decline, Phototropism, Canopy thinning evident, Secondary stem
Notes:	
Priority:	Low
Tree Work:	Remove Tree
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.56
Structural Root Zone (SRZ) [m]:	2.3
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

17471849952931765654756244113140.jpg
14/05/2025

Red Ironbark Tree ID #95

8 Craig Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.903791772035
Longitude:	116.16754679692
Tree Height (Estimated) [m]:	15
Canopy Spread [m]:	6
DBH [cm]:	39
Health:	Good
Structure:	Fair
Problems:	Leaning
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	4.68
Structural Root Zone (SRZ) [m]:	2.32
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

17471856617901021780635276772835.jpg
14/05/2025

Red Ironbark Tree ID #96

8 Craig Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.903787388736
Longitude:	116.16761745076
Tree Height (Estimated) [m]:	13
Canopy Spread [m]:	5
DBH [cm]:	31
Health:	Good
Structure:	Fair
Problems:	Extended branches, Suppressed canopy
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	3.72
Structural Root Zone (SRZ) [m]:	2.1
Useful Life Expectancy:	40+ years
Retention Value:	Medium

Photos Street View Map View

1747185766206147000457027606922 7.jpg
14/05/2025

Red Ironbark Tree ID #97

8 Craig Street

Tree Details

Latin Name:	Eucalyptus sideroxylon
Latitude:	-31.90375325233
Longitude:	116.1675698192
Tree Height (Estimated) [m]:	18
Canopy Spread [m]:	6
DBH [cm]:	47
Health:	Good
Structure:	Fair
Problems:	Epicormic growth, Phototropism
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	5.64
Structural Root Zone (SRZ) [m]:	2.51
Useful Life Expectancy:	20-40 years
Retention Value:	Medium

Photos Street View Map View

1747186085114622790282123818833 8.jpg
14/05/2025

Prickly-leaf paperbark Tree ID #98

6 Craig Street

Tree Details

Latin Name:	Melaleuca styphelioides
Latitude:	-31.903416051336
Longitude:	116.16700048645
Tree Height (Estimated) [m]:	6
Canopy Spread [m]:	3
DBH [cm]:	13.49
Health:	Good
Structure:	Poor
Problems:	Multi Crown leaders
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	2
Structural Root Zone (SRZ) [m]:	1.61
Useful Life Expectancy:	11-20 years
Retention Value:	Low

Photos Street View Map View

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14/05/2025

Moonah Tree ID #99

3185 Jacoby Street

Tree Details

Latin Name:	Melaleuca lanceolata
Latitude:	-31.90389560406
Longitude:	116.16655153549
Tree Height (Estimated) [m]:	4
Canopy Spread [m]:	2
DBH [cm]:	170
Health:	Good
Structure:	Poor
Problems:	Lopped, Epicormic growth, Suppressed canopy
Notes:	
Priority:	Low
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	15
Structural Root Zone (SRZ) [m]:	4.78
Useful Life Expectancy:	6-10 years
Retention Value:	Low

Photos Street View Map View

1747187394743258759000454533865 7.jpg
14/05/2025

Long Flowered Marlock Tree ID #100

3165 Jacoby Street

Tree Details

Latin Name:	Eucalyptus macrandra
Latitude:	-31.903819643707
Longitude:	116.16621172749
Tree Height (Estimated) [m]:	4
Canopy Spread [m]:	2
DBH [cm]:	17
Health:	Good
Structure:	Fair
Problems:	Codominant Stem, Pruned for powerline clearance
Notes:	
Priority:	None
Tree Work:	No Works
Observation Comments:	
Tree Protection Zone (TPZ) [m]:	2.04
Structural Root Zone (SRZ) [m]:	1.72
Useful Life Expectancy:	11-20 years
Retention Value:	Medium

Photos Street View Map View

1747187707755748357613950637660 6.jpg
14/05/2025

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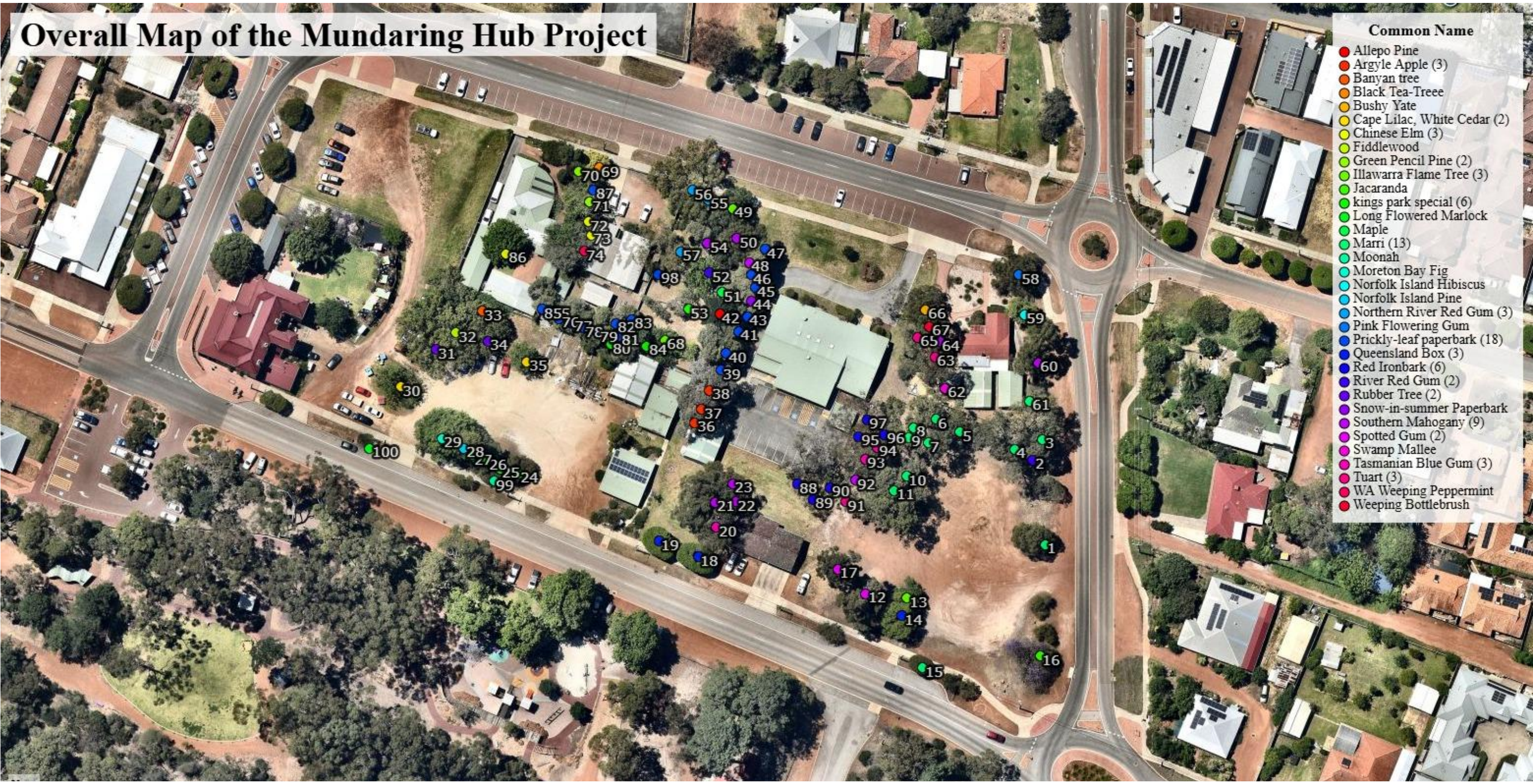
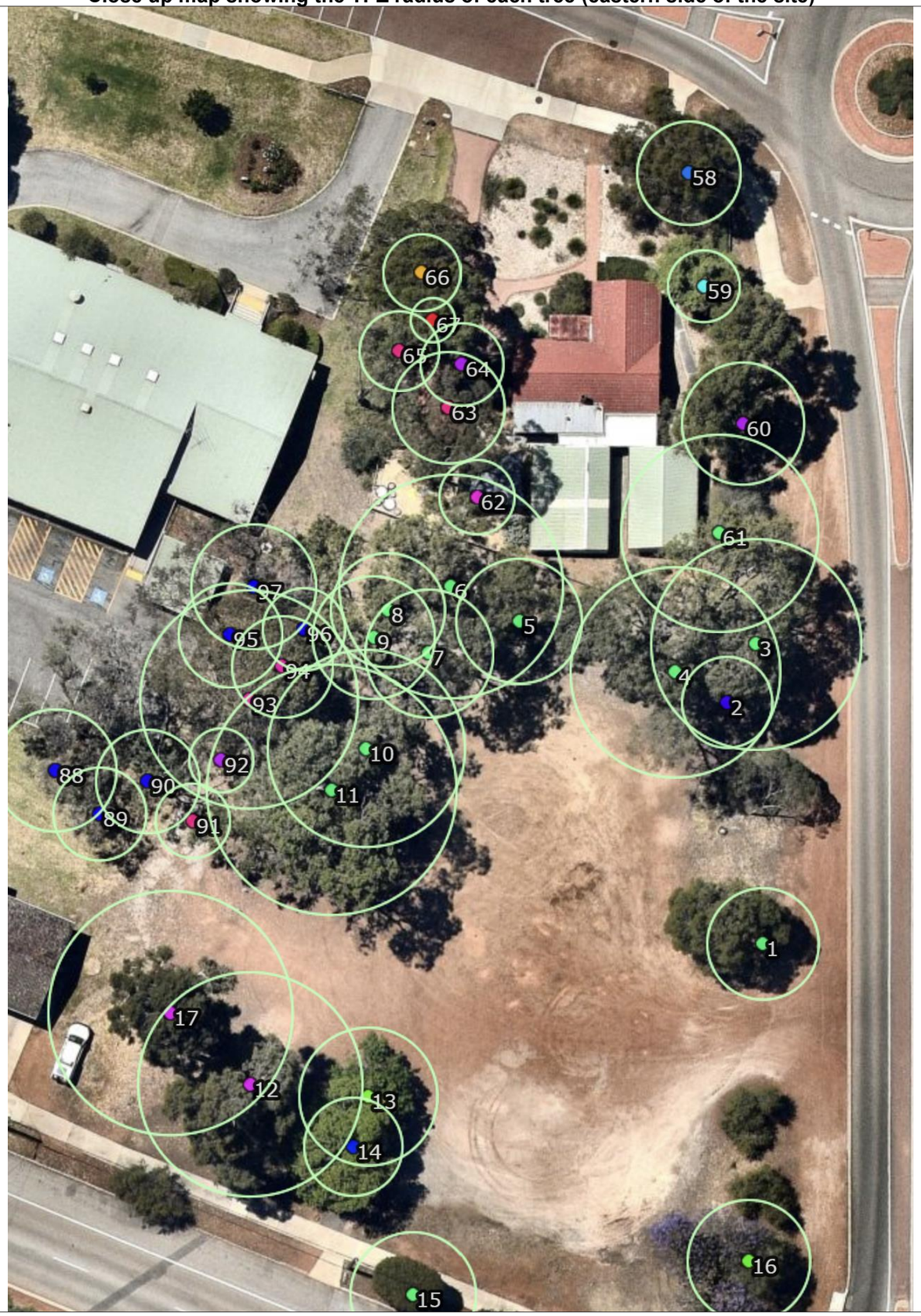
Overall Map of the Mundaring Hub Project

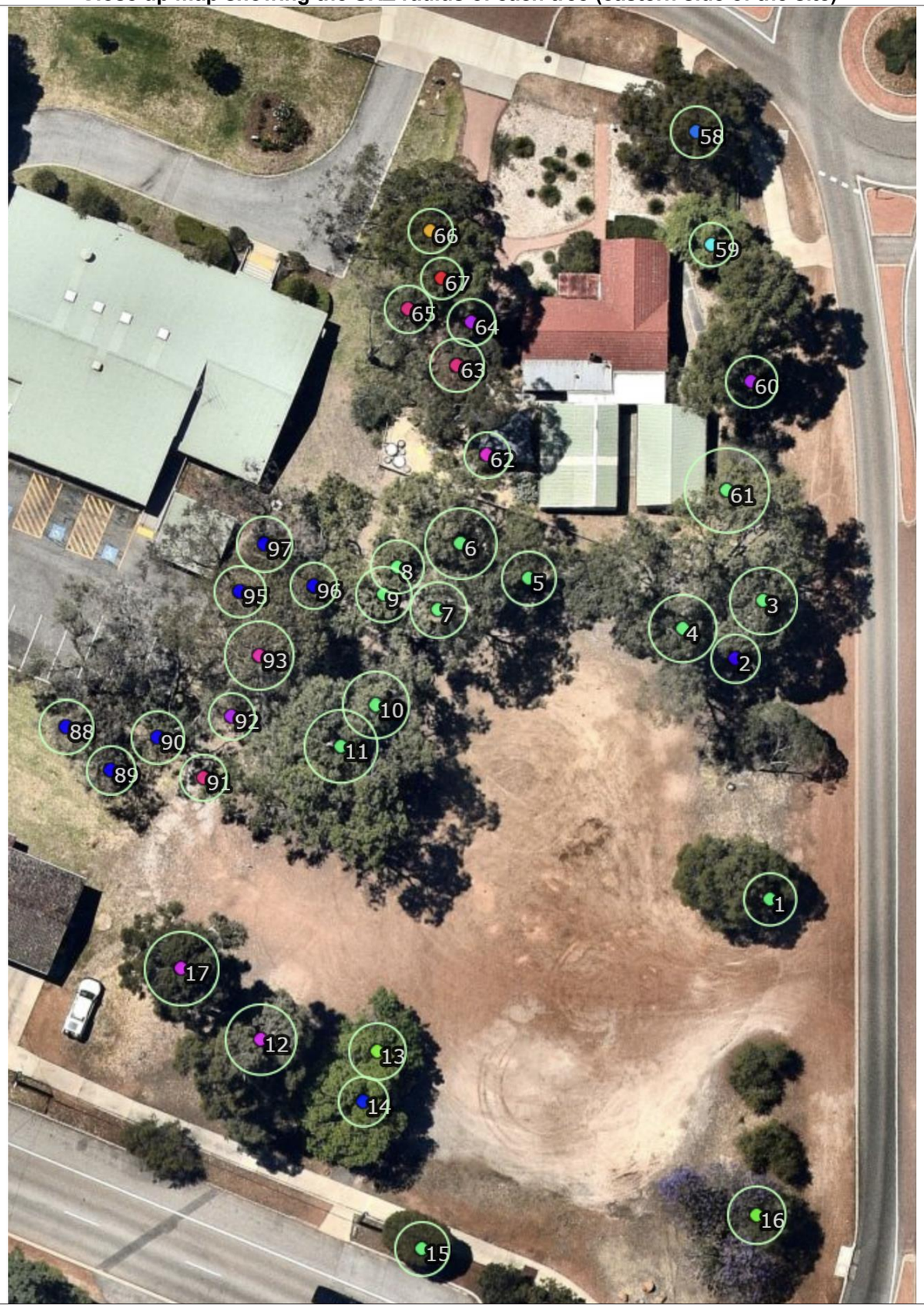


Close up map showing the TPZ radius of each tree (eastern side of the site)



Close up map showing the TPZ radius of each tree (western side of the site)

Close up map showing the SRZ radius of each tree (eastern side of the site)



Close up map showing the SRZ radius of each tree (western side of the site)

Tree Works List - Mundaring Hub Project May 2025

Tree Id	Latin Name	Tree Age	Tree Height [m]	Canopy Spread [m]	DBH [cm]	DRF [cm]	Health	Structure	Problems	Priority	Tree Work
2	Eucalyptus camaldulensis var.camaldulensis	Mature	13	4	34	38	Good	Fair	Deadwood minor <50, Twin Stem	Low	Remove minor deadwood
3	Corymbia calophylla	Mature	11	6.5	79.2	82	Good	Fair	Canker, Deadwood major >50, Secondary stem	Moderate	Remove major deadwood
4	Corymbia calophylla	Mature	15.2	7	79	83	Good	Fair	Bark wound, Canker, Deadwood major >50, Deadwood minor <50, Multi Crown leaders	Moderate	Monitor, Remove major deadwood, Remove minor deadwood
6	Corymbia calophylla	Mature	16.5	7	84	93	Good	Fair	Canopy thinning evident, Codominant Stem, Deadwood major >50, Deadwood minor <50, Secondary stem	Moderate	Add nutrients, Remove major deadwood, Remove minor deadwood, Supplementary watering
7	Corymbia calophylla	Mature	15	4.5	48	53	Fair	Fair	Canopy thinning evident, Deadwood minor <50, Epicormic growth	Moderate	Add nutrients, Remove minor deadwood, Supplementary watering
8	Corymbia calophylla	Mature	13	5	43	47	Good	Fair	Canker, Deadwood major >50, Deadwood minor <50, Secondary stem	Moderate	Remove major deadwood, Remove minor deadwood
9	Corymbia calophylla	Mature	12	4	46	52	Poor	Fair	Bark wound, Basal decay, Canker, Canopy thinning evident, Deadwood major >50, Deadwood minor <50, Epicormic growth	Low	Remove Tree

Tree Id	Latin Name	Tree Age	Tree Height [m]	Canopy Spread [m]	DBH [cm]	DRF [cm]	Health	Structure	Problems	Priority	Tree Work
10	Corymbia calophylla	Mature	14	7	74	79	Good	Fair	Deadwood major >50, Deadwood minor <50, Multi Crown leaders, Previous limb failure, Secondary stem	Moderate	Remove major deadwood, Remove minor deadwood
11	Corymbia calophylla	Mature	14	6	94.1	100	Good	Fair	Canker, Deadwood major >50, Deadwood minor <50, Twin Stem	Moderate	Remove major deadwood, Remove minor deadwood
12	Corymbia maculata	Mature	13.5	5.5	84.5	92	Good	Fair	Compression Fork, Deadwood minor <50, Multi Crown leaders, Secondary stem	Moderate	Remove minor deadwood
13	Brachychiton acerifolius	Mature	6.5	3	52	55	Poor	Poor	Deadwood major >50, Deadwood minor <50, Epicormic growth, Lopped	Low	Remove Tree
14	Lophostemon confertus	Mature	8.5	4.5	37	40	Fair	Fair	Canopy thinning evident, Codominant Stem	Low	Add nutrients, Add Mulch, Supplementary watering
15	Corymbia calophylla	Semi mature	6.5	4	47	49	Good	Fair	Pruned for powerline clearance	Moderate	Service wire Clearance
20	Eucalyptus globulus	Mature	13	6.5	80	82	Poor	Fair	Deadwood major >50, Deadwood minor <50, Decline, Dieback, Epicormic growth, Multi Crown leaders, Poorly pruned, Surface roots	Moderate	Add nutrients, Add Mulch, Remove major deadwood, Remove minor deadwood, Supplementary watering
21	Eucalyptus botryoides	Post mature	17	9.5	82	86	Good	Fair	Bark wound, Borer, Deadwood minor <50, Epicormic growth, Excessive Limb Loading, Extended branches, Ground heave, Multi Crown leaders, Surface roots	Moderate	Reduce excessive limb loading, Remove minor deadwood
29	Ficus macrophylla	Mature	11	7.5	142	153	Good	Fair		Low	Canopy lift footpath
42	Pinus halapensis	Mature	18	7	49	54	Good	Fair	Deadwood major >50, Deadwood minor <50	Low	Remove major deadwood, Remove minor deadwood
43	Melaleuca styphelioides	Mature	12	6.5	57	62	Good	Fair	Codominant Stem, Hanging branch	Low	Remove hanger
48	Eucalyptus botryoides	Mature	15	7.5	44	47	Good	Fair	Epicormic growth, Excessive Limb Loading, Previous limb failure	Moderate	Reduce excessive limb loading

Tree Id	Latin Name	Tree Age	Tree Height [m]	Canopy Spread [m]	DBH [cm]	DRF [cm]	Health	Structure	Problems	Priority	Tree Work
51	Acer negundo	Post mature	8.2	1	56.6	142	Very Poor	Very poor	Canopy thinning evident, Chlorotic foliage, Codominant Stem, Deadwood major >50, Deadwood minor <50, Decline, Epicormic growth	Moderate	Remove Tree
54	Eucalyptus botryoides	Mature	12	6	30	34	Good	Fair	Deadwood major >50, Deadwood minor <50, Phototropism	Moderate	Remove major deadwood, Remove minor deadwood
56	Eucalyptus camaldulensis var. obtusa	Mature	11	9	74.3	93	Good	Fair	Bark wound, Basal bifurcation, Crossing Branches, Deadwood major >50, Deadwood minor <50, Epicormic growth, Excessive Limb Loading, Ground heave, Multi Crown leaders, Previous limb failure, Suckers, Twin Stem	Moderate	Reduce excessive limb loading, Canopy lift roadway, Remove major deadwood, Remove minor deadwood, Remove Suckers
58	Eucalyptus leucoxylon rosea	Mature	10.5	6.5	39	44	Good	Fair	Crossing Branches, Leaning, Multi Crown leaders	Low	Canopy lift footpath
60	Eucalyptus botryoides	Mature	14.5	8	46	44	Good	Fair	Codominant Stem, Deadwood minor <50, Epicormic growth, Excessive Limb Loading, Multi Crown leaders	Moderate	Reduce excessive limb loading
61	Corymbia calophylla	Mature	20	9	74.3	142	Good	Fair	Bark wound, Codominant Stem, Deadwood minor <50, Epicormic growth, Hanging branch	Moderate	Remove hanger
62	Eucalyptus spathulata	Semi mature	12	5	28	33	Good	Fair	Deadwood major >50, Deadwood minor <50, Epicormic growth	High	Remove major deadwood, Remove minor deadwood
63	Eucalyptus gomphocephala	Mature	13	5	42	47	Fair	Fair	Canopy thinning evident, Deadwood minor <50, Epicormic growth, Multi Crown leaders	Moderate	Add nutrients, Supplementary watering
65	Eucalyptus gomphocephala	Mature	5	2	30	36	Good	Poor	Deadwood minor <50, Decline, Phototropism, Sunscald damage, Suppressed canopy	Moderate	Remove minor deadwood
66	Eucalyptus conferruminata	Semi mature	6	4	29	31	Fair	Fair	Canopy thinning evident, Deadwood major >50, Deadwood minor <50	Moderate	Add nutrients, Add Mulch, Remove major deadwood, Remove minor deadwood, Supplementary watering

Tree Id	Latin Name	Tree Age	Tree Height [m]	Canopy Spread [m]	DBH [cm]	DRF [cm]	Health	Structure	Problems	Priority	Tree Work
68	Brachychiton acerifolius	Mature	11	6	28	34	Poor	Good	Canopy thinning evident, Epicormic growth	Low	Add nutrients, Supplementary watering
72	Ulmus parvifolia	Mature	9	1	48	50	Poor	Poor		Low	Remove Tree
73	Ulmus parvifolia	Mature	10.5	7	40	44	Fair	Fair	Codominant Stem, Deadwood major >50, Deadwood minor <50	Moderate	Remove major deadwood, Remove minor deadwood
77	Melaleuca styphelioides	Mature	14	6	44	48	Good	Poor	Bark wound, Codominant Stem, Deadwood major >50, Deadwood minor <50	Moderate	Monitor, Remove major deadwood, Remove minor deadwood
91	Eucalyptus gomphocephala	Semi mature	9	3	28	34	Fair	Fair	Canopy thinning evident, Deadwood major >50, Deadwood minor <50	Low	Add nutrients, Add Mulch, Remove major deadwood, Supplementary watering
93	Eucalyptus globulus	Mature	21	8	82	86	Good	Fair	Deadwood major >50, Deadwood minor <50, Leaning, Multi Crown leaders	Moderate	Remove major deadwood, Remove minor deadwood
94	Eucalyptus globulus	Mature	14	5	38	42	Poor	Poor	Canopy thinning evident, Deadwood major >50, Deadwood minor <50, Decline, Epicormic growth, Phototropism, Secondary stem, Suppressed canopy	Low	Remove Tree

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Mundaring Cultural Centre

Concept Design Report
(REV 2)

March 2026

Appendices

08. Structural and Civil / Forth

Structural Services	
01.	Concept Design Report
02.	Structural Services - Ground Floor
03.	Structural Services - First Floor Plan
04.	Preliminary Sewer Division Sketch

PROJECT

MUNDARING CULTURAL HUB

CONCEPT DESIGN REPORT

ARCHITECT

COX

DISCIPLINE

STRUCTURAL & CIVIL

PROJECT No.

25-056

DOCUMENT PREPARED BY

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Document Control

CONCEPT DESIGN REPORT

Rev No	Date	Revision Details	Authors	Verifier	Approver
A	20.08.25	ISSUED FOR REVIEW	KV / CAG	MG	CAG
B	27.03.26	UPDATED FOR REVISED CONCEPT	KV/CAG/MG	MG	CAG

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FORTH CONSULTING | STRUCTURAL & CIVIL CONCEPT DESIGN REPORT

1 INTRODUCTION

Cox have engaged FORTH Consulting to undertake the design and documentation of the structural and civil engineering services to the proposed Mundaring Cultural Hub, located between Jacoby Street, Mundaring Wier Road and Craig Street in Mundaring.

This engineering concept design report aims to define and outline the site and design parameters with which the FORTH Consulting technical design and documentation will need to consider and provides a summary of site and building information, at this stage of the project. Aspects covered in this brief include:

- Geotechnical investigation
- Site survey
- Extent of services
- Code requirements related to the project
- Design criteria
- Information to be finalised throughout concept design and design development.

This report has been prepared based on the following information:

- Cox Concept Draft Presentation Revision A, 14th August 2025.
- Mundaring Civic Precinct Geotechnical Report 2.0 – Talis Consultants, October 2023

2 CIVIL ENGINEERING

2.1 SITE OVERVIEW

The site is located on Jacoby Street. The site is composed of three separate lots. All the lots are currently serviced with potable water and sewer connections. The topography of the Site is relatively flat with some local elevation changes between some of the lots.

2.1 SITE EARTHWORKS & RETAINING STRUCTURES

The design intent will be to tie into existing road levels and manage change levels where possible to minimize imported and exported earthworks.

The site is relatively flat with some minor level changes. At any minor change in levels across the site retaining wall structures can be adopted in locations where batters or grading cannot be achieved. This may include:

- At change of building floor levels where building are cut into the site levels.
- At external landscaping as levels change across the site
- Along surrounding streets as level changes within the site
- Adjacent to the existing Mundaring Hotel lot.

2.2 CAR PARKING AND VEHICLE ACCESS

There is expected to be limited pavement areas within the site. Currently these will be:

- New cross-overs off Jacoby Street for minor parking and truck delivery areas.
- Emergency vehicle access.

Any modifications to surrounding streets will require Shire of Mundaring approval. Any new crossovers will need to be located away from the existing intersections. Further traffic studies may be required.

Due to the multiple existing lots the site will have several existing cross-overs that will need to be removed with verge re-instatement required.

2.3 ROAD PAVEMENT

Pavement design parameters for areas of new pavement will be designed in accordance with the following:

- Subgrade CBR: 10% (subject to further geotechnical review)
- Design Period: Minimum 30 years
- Worst case vehicle: 2.5m x 12.50m rigid truck (tbc)

Any cross-over and car park road pavement is likely to be asphalt and associated road base course and subbase courses.

FORTH CONSULTING | STRUCTURAL & CIVIL CONCEPT DESIGN REPORT

2.4 WATER CORPORATION ASSET MODIFICATIONS

Existing Water Corporation Assets

Existing Water Corporation (WC) assets located inside the site include sewerage infrastructure. These assets are shown on Figure 1.

There is an existing potable water distribution pipelines to the perimeter of the site with branches feeding each of the individual lots.

There sewer pipeline that crosses the site starts on Jacoby Street as 225mm PVC pipe to serve the existing Ambulance Facility. This is the end and high point of this sewer line. It then crosses the site servicing the 5 adjacent lots, as the sewer exits the lots and continues down Craig St the sewer has an inert level of 291.14m AHD.

Given the existing three lots will be amalgamate into one lot for the new development the existing sewer will be running under the new building footprint and will need to be diverted to the perimeter of the site. Refer to Appendix B for potential diversion route.

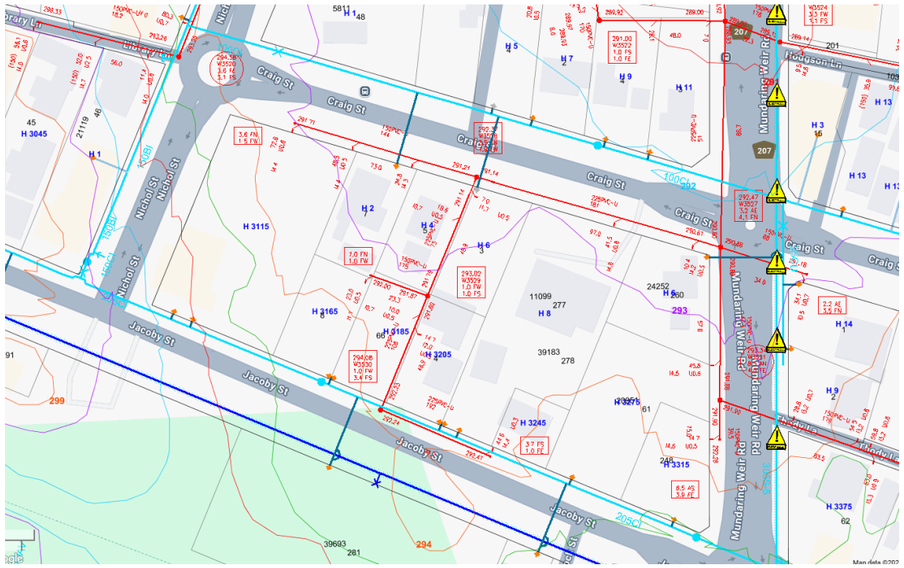

Figure 1. Existing Water Corporation assets

Liaison with Water Corporation

Once an initial proposal has been developed that identifies the required modifications to the sewer then a meeting will be scheduled with Water Corporation asset protection division.

2.5 STORMWATER DRAINAGE

The existing stormwater infrastructure local to the site appears to be off-site pits and gravity drainage pipes, predominantly located below the surrounding streets with combination side entry pits visible along Craig Street, Mundaring Wier Road and Jacoby Street.

The geotechnical report states that the site is unsuitable for onsite stormwater disposal. Therefore, the stormwater will need to be detained via an approved system to facilitate attenuated release of off-site flows into the Shire's stormwater network. Detention systems can be designed to manage rainfall events up to and including the agreed annual exceedance probability (AEP) event.

Stormwater design will be coordinated with the hydraulic engineer to incorporate the roof drainage within the proposed drainage system at a nominated location external of all proposed buildings.

Footpaths and other surfaces will be designed such that they are grading away from buildings.

2.6 CIVIL CODES, RELEVANT STANDARDS AND REFERENCE DOCUMENTS

The civil works will be designed in accordance with the relevant Australian Standards, Council specifications and requirements, Austroads Design Guidelines and Deemed to Comply Standards where applicable. Specifically, the relevant acts, codes and standards include, but are not limited to, the following:

Australian Standards

AS 1160 Bituminous emulsions for the construction and maintenance of pavements

AS 1379 Specification and supply of concrete

AS 1726 Geotechnical site investigations

AS 1743 Road signs – Specification

AS 2758 Aggregates and rock for engineering purposes

AS 3500 Plumbing and Drainage

AS 3725 Loads on buried concrete pipes

AS 3798 Guidelines on earthworks for commercial and residential developments

Austroads

AGRD01/09 Guide to Road Design - Part 1: Introduction to Road Design

AGRD02/06 Guide to Road Design - Part 2: Design Considerations

AGRD03/09 Guide to Road Design - Part 3: Geometric Design

AGRD05/08 Guide to Road Design - Part 5: Drainage Design

AGPT01/09 Guide to Pavement Technology - Part 1: Introduction to Pavement Technology

AGPT02/10 Guide to Pavement Technology - Part 2: Pavement Structural Design

AGPT03/09 Guide to Pavement Technology - Part 3: Pavement Surfacing

AGPT04/07 Guide to Pavement Technology - Part 4: Pavement Materials

AGPT04A/08 Guide to Pavement Technology - Part 4A: Granular Base and Subbase Materials

AGPT04B/07 Guide to Pavement Technology - Part 4B: Asphalt

Industrial Floors and Pavements 1999

Australian Rainfall and Runoff 2018

Water Sensitive Urban Design: Basic Procedures for Source Control of Stormwater

Shire of Mundaring requirements

2.1 CIVIL DESIGN CRITERIA

The following design criteria will be recommended for the civil design:

- Standard car park gradient for outdoor area — Minimum 1:100 (1%) and maximum 1:20 (5.0%)
- Standard car park gradient — Minimum 1:200 (0.5%) and maximum 1:20 (5.0%)
- ACROD bay gradient — Minimum 1:100 (1%) and maximum 1:40 (2.5%)
- Pedestrian path cross-fall — Minimum 1:100 (1%) and maximum 1:40 (2.50%)
- Pedestrian path longitudinal all — Maximum 1:20 (5.00%)
- Design maximum groundwater level — 0 mAHD (subject to further geotechnical input)
- Design event of piped drainage system — 5 %AEP (1 in 20 ARI)
- Maximum allowance discharge to the Shire's drainage system — tbc

2.2 GROUND CONDITIONS FOR STRUCTURE

Mundaring Civic Precinct Geotechnical Report 2.0 –, October 2023 have been undertaken by Talis Consultants . The report indicates that the site has *'Sub-surface soil profile was found to be variable, ranging from Fill material (Clayey GRAVEL and Silty SAND to clean SAND) to in-situ material of predominantly Silty SAND to Clayey SAND with some gravel, organic SILT, cobbles and boulders.'*

The geotechnical report identified that, in accordance with the Perth Groundwater Atlas (2021), had no ground water data for the site. On Site trial pits hit rock in most locations and there was some perched water in one of the trial pits.

Further groundwater investigations are required to accurately determine the depth to water table across the Site

2.1 SITE CLASSIFICATION

Site Classification in accordance with AS 2870-2011 Residential Slabs and Foundations is not applicable to commercial developments but is still used to understand the expected ground surface movement and the depth to which this movement extends.

The presence of uncontrolled fill material entails for a site class "P" classification, however, upon removal of the uncontrolled fill material, the Site can be classified based on soil reactivity which Talis suggest will be slightly reactive soils within the depth of design suction change for the area.

A "Site Class S" classification in accordance with AS 2870-2011 was considered appropriate for the site following removal of the topsoil and uncontrolled fill material and placement of a minimum of 500mm thick sand pad

formed across the site and compacted to 95% MMDD prior to foundation preparation. The extent of this sand pad would be reviewed in design development to endeavour to limit to the building footprints.

A class S site would have characteristic surface movement of between 0 and 20mm. Any brittle walls (eg masonry) will need to be detailed with stiffened footings and movement joints.

3 STRUCTURAL ENGINEERING

3.1 ACTS, CODES AND STANDARDS

The building has been designed in accordance with the Building Code of Australia, the relevant Australian Standards and Deemed to Comply Standards where applicable.

Specifically, the relevant acts, codes and standards include, but are not limited to, the following:

- National Construction Code of Australia 2022
- Public Building Regulations
- Local Authority Standards
- Worksafe WA (DOSHWA) Regulations and Codes of Practice (DOSHWA)
- AS1170 Part 0 Structural Design Actions General Principles
- AS1170 Part 1 Permanent, imposed and other actions
- AS1170 Part 2 Structural Design Actions Wind Actions
- AS1170 Part 4 Earthquake Loads
- AS3600 Concrete Structures
- AS3700 Masonry Structures
- AS4100 Steel Structures

3.2 DESIGN CRITERIA

The following design loads and design criteria will be adopted for the structural design of the proposed which will be detailed on the loading plans within the drawing set.

Building Importance level	From NCC 2022 Volume 1, Table B1D3a: Importance Levels of buildings and structures: • Importance Level 2 Table B1D3b: Design events for safety: • Annual probability of exceedance for non-cyclonic wind – 1:500 • Annual probability of exceedance for earthquake – 1:500	
Super Imposed Dead loads	• Wet areas: - 1.25 kPa for floor finishes - 0.5 kPa (ceilings & services) • Meeting Rooms/Collections/ Maon Floor Areas: - 0.5 kPa (floor finishes) - 0.5 kPa (ceilings & services) • Balconies and terrace: - 1.0 kPa floor finishes (pedestal tiles) - 0.5 kPa (ceilings & services)	
Live loads	To Section 3 of AS 1170.1:2002: - • Library Collections – 3.0 kPa plus 1.0 kPa partitions • Meeting Rooms/Offices – 3.0 kPa plus 1.0 kPa partitions • Bathrooms 2.0 kPa • Balconies/Terrace/Lobby/oyer – 4.0 kPa • 0.25kPa non-trafficable roof or 1.1kN point load (maintenance load) • Awnings 0.25kPa non-trafficable roof or 1.1kN point load (maintenance load)	
Wind loads	Wind Region:	A1
	Importance Level:	2
	Regional 3 second gust wind speed:	V = 45m/s (ult)
	Serviceability wind speed:	V = 37m/s
	Terrain Category:	2.0/3.0
	Shielding multiplier:	Ms = 1.0
	Topographic multiplier:	Mt = 1.0
	Internal pressure coefficient:	$C_{p,i}$ = 0, -0.2

Earthquake loads	Design Category:	II
	Importance Level:	2
	Probability Factor:	k_p = 1.0
	Hazard Factor:	Z = 0.09
	Soil Classification:	Ce (TBC by geotechnical report)

3.3 STRUCTURAL FRAMING OPTIONS

Suspended Floor Slabs

During design development the following options will be investigated further:

1. Flat Plate Slab - Reinforced
2. Flat Plate Slab – Post Tensioned
3. Post-tensioned band beams and slab

The following framing options were not deemed suitable based on the building layout and shape.

1. Precast Beams and Hollowcore planks
2. Steel floor beams with permanent steel formwork slabs

The current concept design drawings reflect a flat plate reinforced concrete (RC) slab.

Stair and Lift Core Structure

Insitu concrete is likely to be the best solution for the core walls given the limited height and simplicity for the cores. This gives the most flexibility to onsite changes and most common methodology. Precast concrete or reinforced blockwork options could be explored during detailed design.

Walls and Columns

The suspended structural slab level will be supported on a series of reinforced concrete columns and reinforced concrete walls. Where feature rammed earth walls are suitably located these can be used to support the slab over in certain locations.

Roof & Façade Structure

The main building roof structure could be traditional steel frame with purlins and roof sheeting or light weight steel roof panels or roof trusses. Walls and façade support structure could then either be non-load bearing stud infill walls or load bearing stud walls, with mild steel framing to support feature elements and openings.

3.4 FOUNDATIONS

The proposed development is a two-storey building, with a suspended structural slab level with a roof structure over.

The depth and type of foundations (Pad or piled foundations) will need to be confirmed in subsequent project stages and the further geotechnical reports however it is expected that both pad and piled foundation could be adopted.

3.5 DURABILITY / DESIGN LIFE

The structure will be designed to provide a 50-year design life.

The site greater than 30km for the coastline but still less than 50km which puts the site in a C3 Medium Corrosivity Category (in accordance with Table A1 AS4312 – Atmospheric corrosivity zones in Australia). Claddings, fasteners, masonry ties and any exposed accessories will be specified accordingly.

3.6 FIRE RATING REQUIREMENTS

The structural elements of the development will be designed to comply with the fire ratings specified by the relevant statutory standards and as nominated in NCC 2022 Volume 1. Any BAL ratings will not impact the structural fire rating requirements but may limit external cladding materials and detailing.

3.7 FURTHER INVESTIGATION

The following investigation tasks for the site will need to be undertaken in the detailed design stage.

- Undertake underground services scanning around the site to inform the design of water, sewer, and stormwater systems.
- Site feature topographic survey
- An interpretive geotechnical report to further inform the Civil and Structural designs. At the request of the client, Forth Consulting have engaged PTG Consulting as geotechnical sub-consultants to provide this report. At the time of preparing this updated concept design report, PTG Consulting had completed the required fieldwork and are currently waiting for the required laboratory test results before completing and issuing the project geotechnical report.
- Further groundwater investigations are required to accurately determine the depth to water table across the Site.
- Liaise with Shire of Mundaring for the detailed design of site stormwater system once the site geotechnical design parameters are understood following issue of the PTG Consulting geotechnical report.

4 APPENDIX A - STRUCTURAL CONCEPT SKETCHES

3.4 FOUNDATIONS

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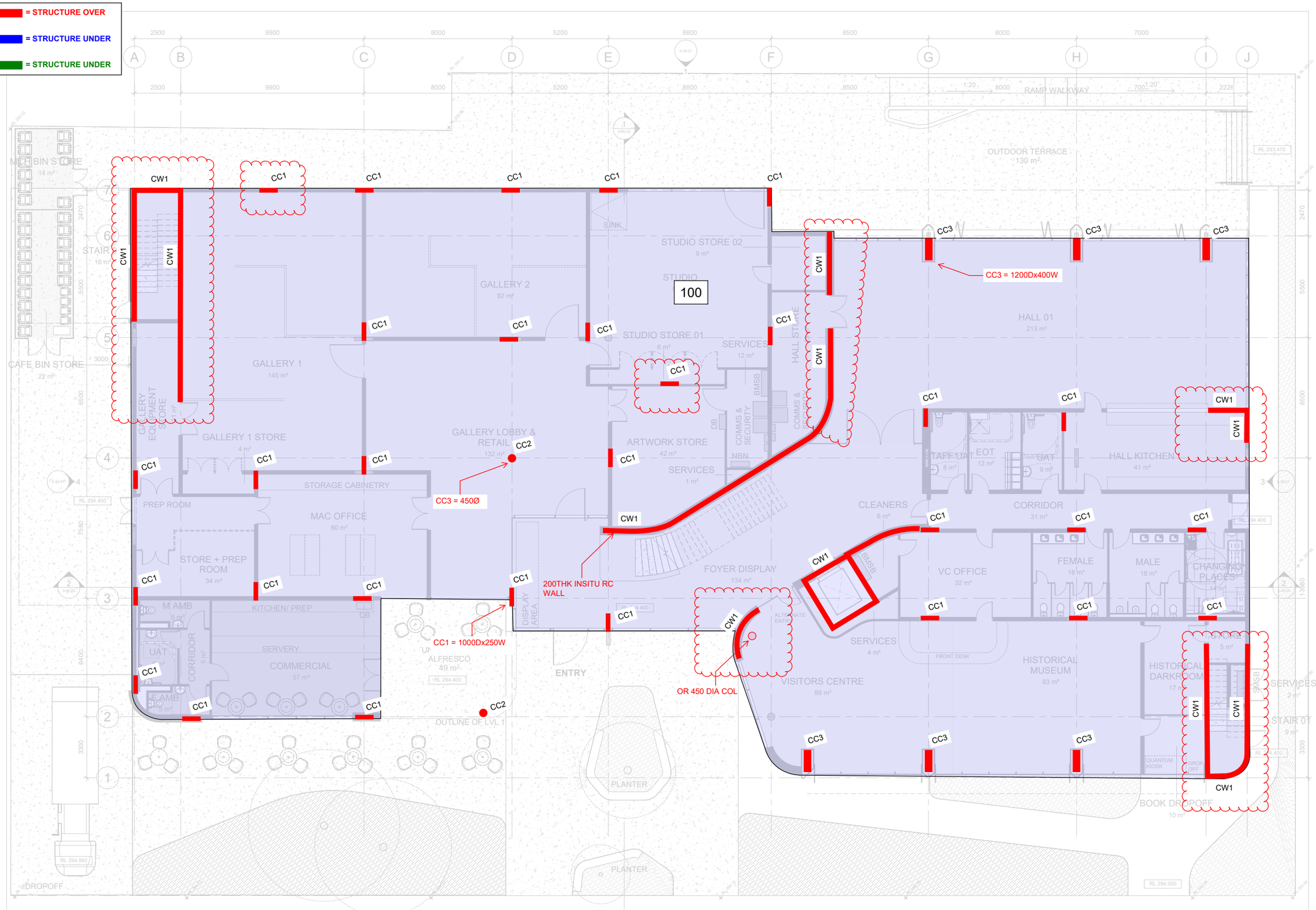
4 APPENDIX A - STRUCTURAL CONCEPT SKETCHES

= STRUCTURE OVER

= STRUCTURE UNDER

= STRUCTURE UNDER



REV	DATE	DESCRIPTION	DRN	CHD	APP

FORTH
1064 HAY STREET,
WEST PERTH WA 6005
P: +61 8 9485 2921
E: admin@forth.com.au
W: forth.com.au

CLIENT:
SHIRE OF MUNDARING

ARCHITECT:
COX

PROJECT:
MUNDARING CULTURAL HUB
3165 - 3185 JACOBY ST

DRAWING TITLE:
STRUCTURAL
GROUND FLOOR

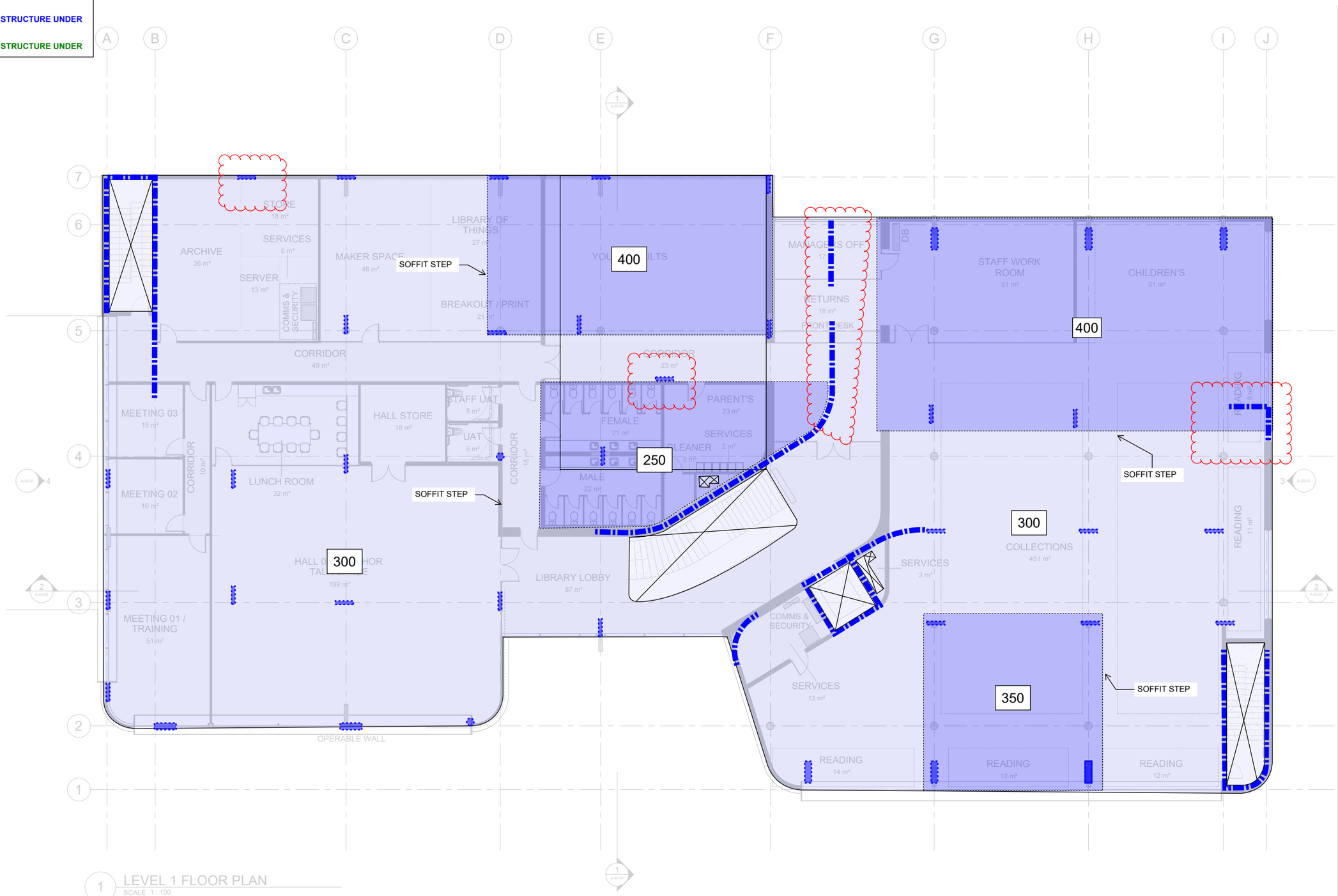
FOR INFORMATION

DRAWN:		DATE:	MAR '26
DESIGN:		PAGE SIZE:	A3
CHECKED:		SCALE:	
PROJECT NUMBER:	25-0056		REV:
DRAWING NUMBER:	SK-01		A

= STRUCTURE OVER

= STRUCTURE UNDER

= STRUCTURE UNDER



1 LEVEL 1 FLOOR PLAN
SCALE 1 : 100

REV	DATE	DESCRIPTION	DRN	CHD	APP

FORTH
1064 HAY STREET,
WEST PERTH WA 6005
P: +61 8 9485 2921
E: admin@forth.com.au
W: forth.com.au

CLIENT:
SHIRE OF MUNDARING

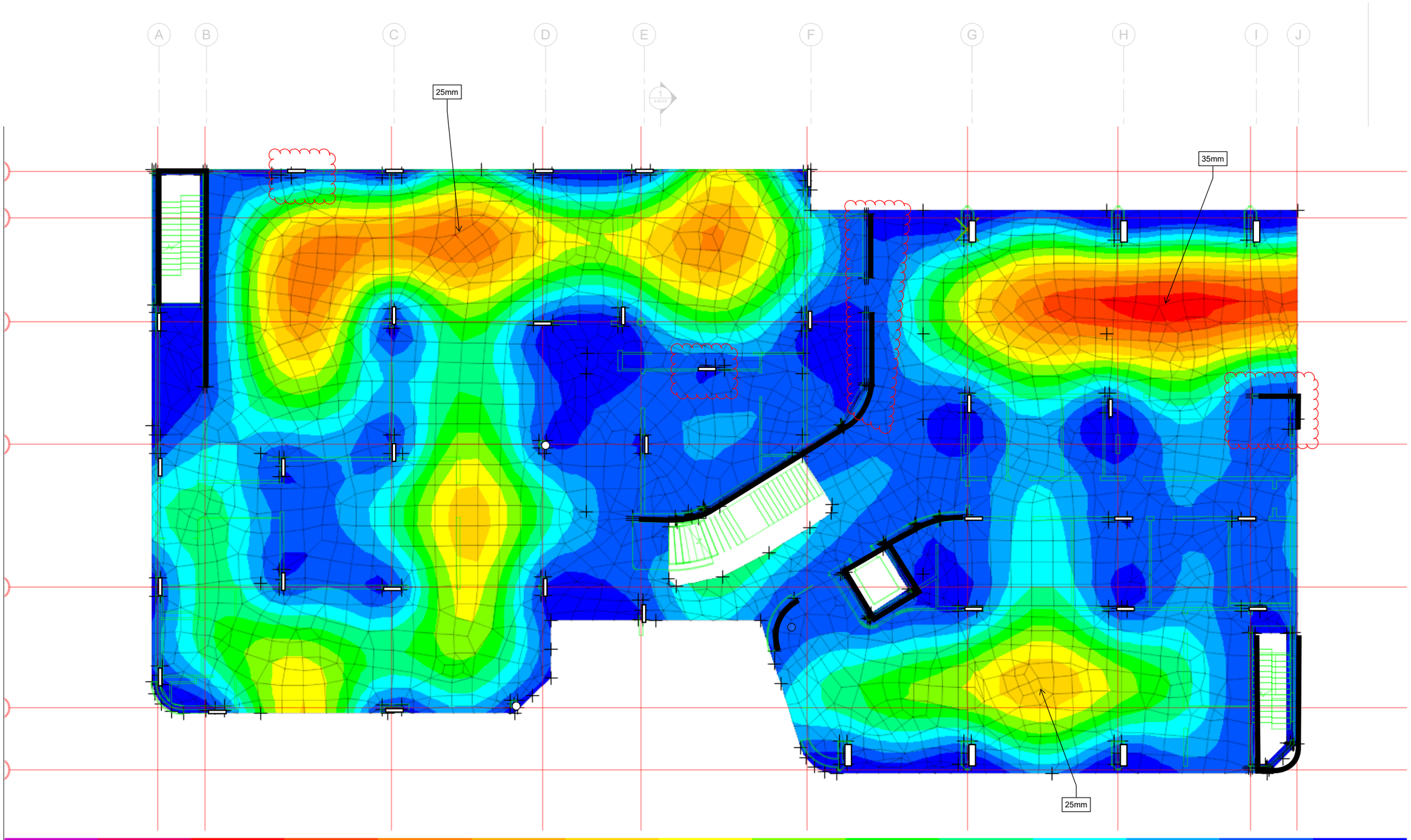
ARCHITECT:
COX

PROJECT:
MUNDARING CULTURAL HUB
3165 - 3185 JACOBY ST

DRAWING TITLE:
STRUCTURAL
LEVEL 1

FOR INFORMATION

DRAWN:		DATE:	MAR '26
DESIGN:		PAGE SIZE:	A3
CHECKED:		SCALE:	
PROJECT NUMBER:	25-0056		REV:
DRAWING NUMBER:	SK-02		A



1 LEVEL 1 FLOOR PLAN
SCALE 1 : 100

REV	DATE	DESCRIPTION	DRN	CHD	APP

FORTH
1064 HAY STREET,
WEST PERTH WA 6005
P: +61 8 9485 2921
E: admin@forth.com.au
W: forth.com.au

CLIENT: SHIRE OF MUNDARING

ARCHITECT: COX

PROJECT: MUNDARING CULTURAL HUB
3165 - 3185 JACOBY ST

DRAWING TITLE: STRUCTURAL
LEVEL 1 DEFLECTION PLOT

FOR INFORMATION

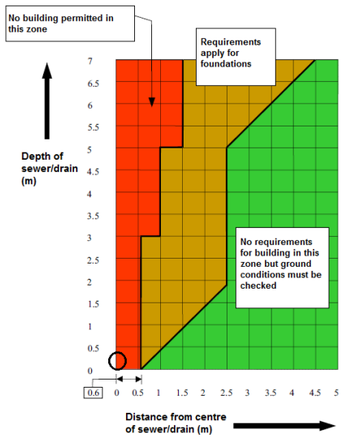
DRAWN:		DATE:	MAR '26
DESIGN:		PAGE SIZE:	A3
CHECKED:		SCALE:	
PROJECT NUMBER:	25-0056		REV:
DRAWING NUMBER:	SK-02		A

5 APPENDIX B – SEWER DIVERSION OPTION

Graph 3 – Single storey structures and multi-storey structures

Proposed Structure Type	Sewer/Drain Details								
	Concrete Encased		Diameter (mm)			Material			
	No	Yes	150	225	300 - 600	PVC	VC	AC	All
Single storey									
Multi-storey									

Shading denotes the situation that applies



IL 291.71

GL 293.00

APPROX SEWER ALIGNMENT

APPROX SEWER ALIGNMENT

PILED BUILDING FTGS WITHIN 2M OF SEWER, IF SEWER IS 2M DEEP

PROPOSED SEWER DIVERSION
1.2m wide building exclusion zone.
ACTUAL ALIGNMNET OFF BOUNDARY TBC

Gallery 2
120

Gallery 1
180

MAC Office
80

Gallery Store
30

Entry
Foyer

FFL
TBC

Kitchen
30

Office 30

SS
4.4x5.9

Studio 2
95

Lobby/Retail
130

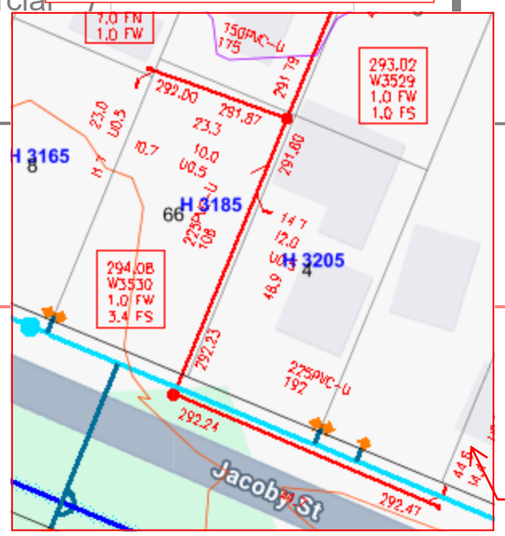
Artist
Storage
20

Studio 1
95

Commercial
50

Visitors/Historical
230

EXTRACT OF SEWER PLAN



SEWER DIVERSION
PRELIM SKETCH
05/08/25
REV A

2.4M CLEARANCE over sewer TO BE MAINTAINED

REMOVABLE PAVING

APPROX SEWER ALIGNMENT

SEWER DOWN JACOBY ONLY SERVES THIS LOT (AMBULANCE?)

IL 292.24

COX

COUNCIL ADOPTED OPTION - A
GROUND FLOOR PLAN

0 2 5 10 15

THANK YOU

FOR FURTHER ENQUIRIES
PLEASE CONTACT:

CHRIS GOOCH
chris.gooch@forth.com.au

Mundaring Cultural Centre

Concept Design Report
(REV 2)

March 2026

Appendices

09. Electrical / NDY

Electrical Services	
01.	Consultant Advice Notice (Electrical, Mechanical, Hydraulic & Fire services
02.	Electrical Services - Ground floor Plan
03.	Electrical Services - First Floor Plan

CONSULTANT ADVICE NOTICE

PROJECT: **SHIRE OF MUNDARING - CULTURAL HUB CONSTRUCTION**

CAN NO: **G-003[1.0]**

Date: **19 August 2025** **Project No:** **68864 - 001** **Pages:** **3**

NAME		COMPANY	EMAIL
To:	Jonathan Chong	Cox Architecture Pty Ltd	Jonathan.Chong@cox.com.au
Cc:	Tim Seals	Cox Architecture Pty Ltd	Tim.Seals@cox.com.au
	Matthew Batchelor	Cox Architecture Pty Ltd	matthew.batchelor@cox.com.au

GENERAL – CONCEPT DESIGN

This consultant advice provides an overview of the concept design for various engineering services. Please refer to the appended sketches for the layouts of the services design.

MECHANICAL SERVICES

- VRF air conditioning systems and ventilation to occupied spaces
- Split air conditioner to comms rooms
- Mechanical exhaust to toilets and parents' room
- Kitchen exhaust and ventilation to the kitchen (kitchen provisions to be confirmed)
- Mechanical services switchboards as required

ELECTRICAL SERVICES

- Lead-in containment for Western Power infrastructure.
- Spatial for major equipment.
- Site main switchboard.
- Distribution boards to serve various zones.
- Containment including main route and risers' location.
- Electrical distribution zoning.

COMMUNICATION SERVICES

- Lead-in containment for NBN infrastructure
- Communications equipment racks
- Horizontal cabling
- Backbone cabling
- MATV (Free to Air)

NDY, A TETRA TECH COMPANY LEVEL 11 200 ST. GEORGES TERRACE, PERTH WA 6000 AUSTRALIA
T +618 9281-6800 F +618 9281-6888 WWW.NDY.COM
NDY Management Pty Limited trading as NDY, A Tetra Tech Company ABN 29 003 234 571

AV SERVICES

- Digital Signage
- Meeting room displays with BYOD video conferencing
- Combinable meeting rooms
- Audio and video facilities for Hall & Author Talk Space

SECURITY SERVICES

- Electronic Access Control
- Intruder detection
- CCTV (internal and external building perimeter)
- Assumes connection to existing security management system and digital video management head-ends

HYDRAULIC SERVICES

- Authority domestic water, fire water and sewer connections
- Domestic cold supply and distribution
- Localised instantaneous domestic heated water units
- Domestic heated water distribution
- Domestic heated water temperature control
- Sanitary plumbing and drainage
- Greasy trade waste drainage and treatment
- Condensate drainage from the mechanical plant
- Stormwater roof drainage
- Metering and sub-metering

FIRE PROTECTION SERVICES

- Fire hydrant system complying with AS2419.1 and DFES requirements.
- Automatic smoke fire detection and alarm system to AS1670.1
- Emergency warning and intercom system (EWIS) to AS1670.4
- Fire hose reels to AS2441
- Fire extinguishers to AS2444

ITEMS TO BE ADDRESSED

NDY requires the following items to be addressed in the upcoming phases of the project.

- Response to NDY's review of the reference documents (email dated 13/08/2025)
- Location of the solar PV equipment room
- Lot boundary considerations and potential amalgamation requirements.
- Access to the Western Power sub-station room from the Hub of the Hill site (WP require 24/7 access to the substation).
- Acceptance by the Shire, of the proposed Performance Solutions pathway for the following two Fire-Engineered solutions:
  - Utilise 3 hose lengths in lieu of 2 hose lengths to achieve hydrant coverage from external hydrants
  - Omission of Fire Hose Reels (FHR's)

We trust this advice meets your requirements. Please feel free to contact the undersigned should you have any queries.

NDY, A Tetra Tech Company

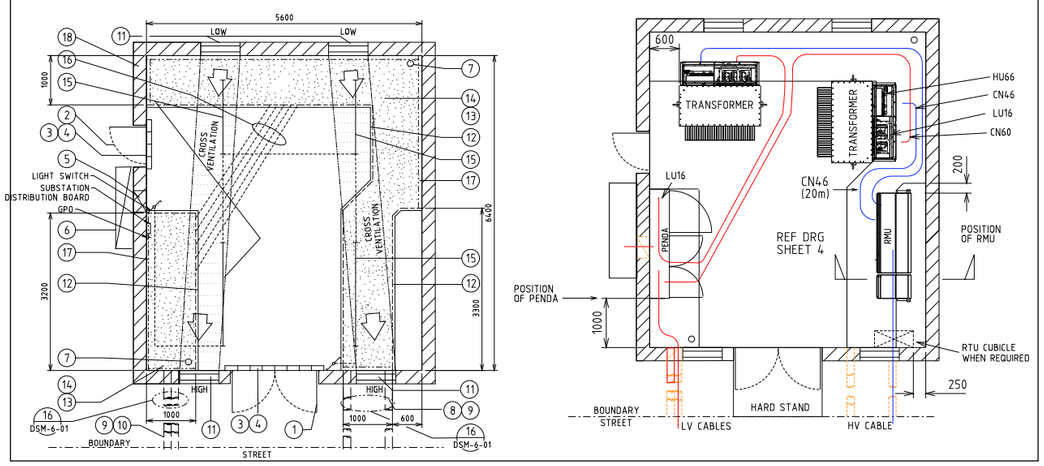
Adeel Silat | Associate Director
A.Silat@ndy.com

PROPSED WP INCOMING SUPPLY
PROPSED WP SUBSTATION
PROPSED SITE MAIN SWITCHBOARD AND AUTHORITY METER
PROPSED BACKUP GENERATOR
REFER TO NOTE 3.
BUILDING MAIN SWITCHBOARD
1
2
SMSB
3165
3205
3185
3245
3225
3265
11
9
7
5
4
2
GALLERY 1
GALLERY 2
STUDIO
ARTIST STORE
GALLERY STORE
MAC OFFICE
STORE + SPILL OUT
WORKSHOP
WORKSHOP
WORKSHOP
ENTRY
OFFICE
KITCHEN
MALE
FEMALE
TESTING CENTRE
HERITAGE MUSEUM
HERITAGE MUSEUM
HERITAGE MUSEUM
ENTRY
ENTRY
ENTRY

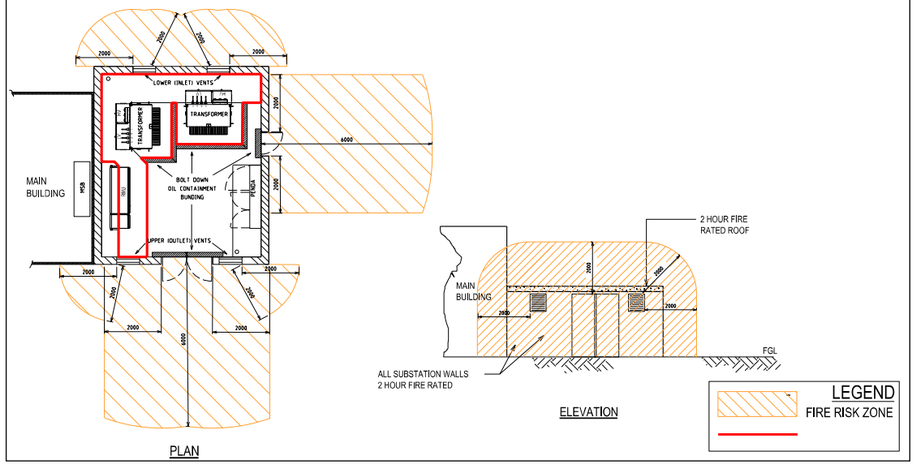
NOTE

1. WESTERN POWER SUBSTATION - DSM-3-10. DISTRICT SUBSTATION UP TO 2000 KVA (NON MPS), FIRE RATED WITH HV SWITCHGEAR. FINAL SELECTION SUBJECT TO WESTERN POWER CONFIRMATION.
2. SET BACK APPROXIMATELLY 13M FROM THE BOUNDARY.

WESTERN POWER DSM-3-10 (5600mm x 6400mm)
DISTRICT SUBSTATION UP TO 2000KVA (NON MPS) FIRE RATED - WITH HV SWGR



WESTERN POWER DSPM-5-04
SUBSTATION FIRE RISK ZONES



GENERAL

- SITE PLAN LAYOUT IS INDICATIVE ONLY. SUBJECT TO FINAL DETAIL DESIGN.

NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	UPDATED CONCEPT PLAN	03/02/26						

NDY QA SYSTEM
Reason For issue: CONCEPT
Authorisation: AS : 03 FEB 2026
By
Verification Of Latest Amendment
By

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AUSTRALIA
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www.ndy.com
NDY Management Pty Ltd
ABN 29 003 234 571

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Project: SHIRE OF MUNDARING MASTER PLAN
Title: ELECTRICAL SERVICES CULTURAL HUB SITE PLAN SHEET 2

Scale	Project Commencement	Drawn	Design	Project No.
1:150 @ A1	MAY 2025	N.L	N.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR
Drawing No. E-SP-002
Revision P01

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

NOTE

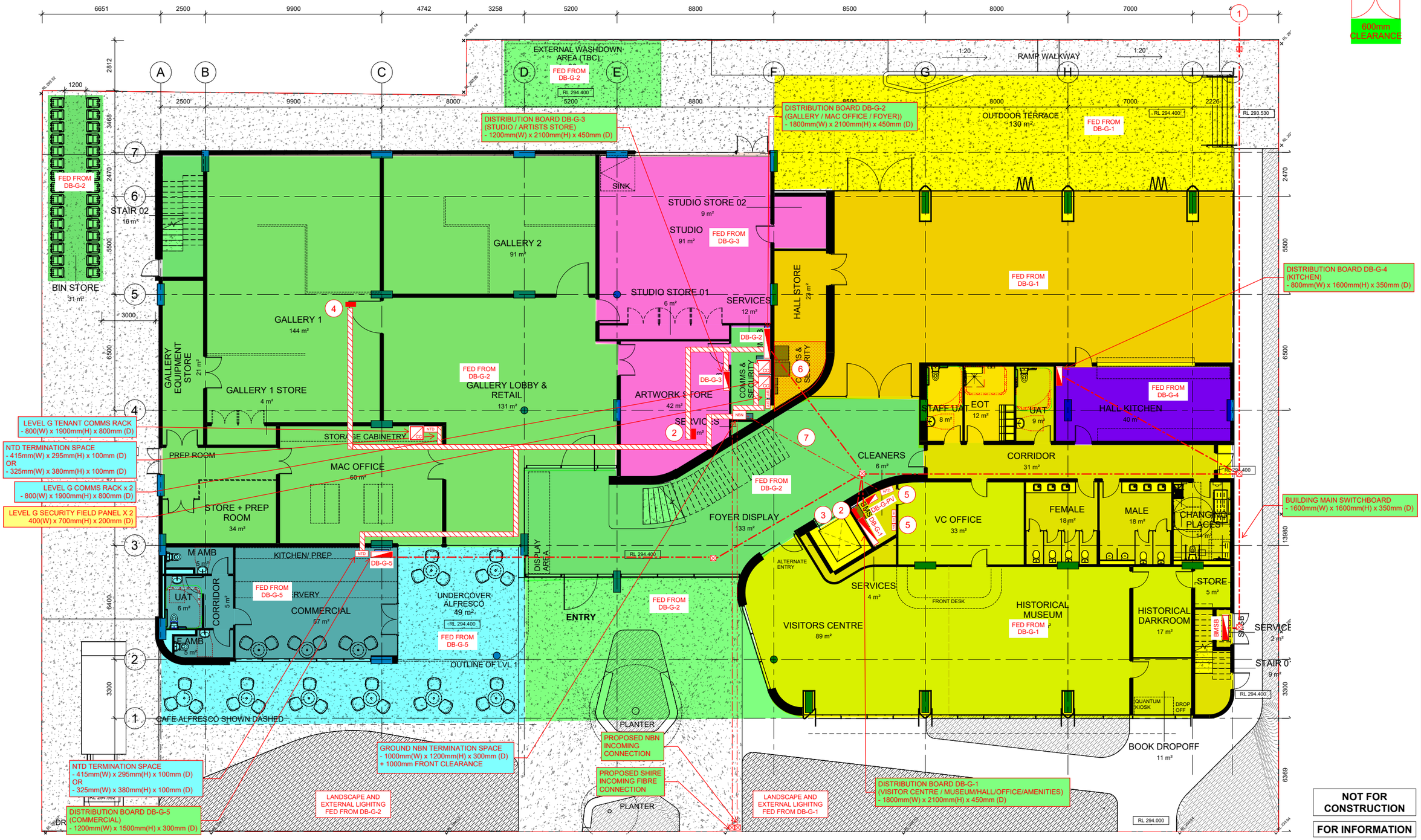
1. CONNECT TO WESTERN POWER SUBSTATION. REFER TO SITE PLAN FOR SUBSTATION LOCATION.
2. RISER TO FLOOR ABOVE. POWER CABLE TRAY - 1 x 600MM.
3. RISER TO FLOOR / ROOF ABOVE. PV CABLE TRAY - 1 x 450MM
4. RISER TO FLOOR ABOVE. COMMUNICATION TRAY - 1 x 450MM
5. PV DISTRIBUTION BOARD AND INVERTER TO BE CONFIRMED. FINAL ARRANGEMENT AND SIZING SUBJECT TO THE SELECTED SYSTEM.
6. SPACE PROVISION FOR ICT / UPS EQUIPMENT. FINAL ARRANGEMENT AND SIZING SUBJECT TO FINAL DETAIL DESIGN.
7. P25 CONDUIT FOR NBN TO TENANT NTD

GENERAL

SWITCHBOARD DIMENSION ARE INDICATIVE ONLY. SUBJECT TO FINAL DETAIL DESIGN.

CLEARANEC FOR ALL SWITCHBOARDS:
- 600mm FROM SWITCHBOARD DOOR SWING AND
- 1000mm FROM FRONT OF SWITCHBOARD

600mm CLEARANCE



NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date
P01	ISSUE FOR INFORMATION	25/06/25
P02	ISSUE FOR INFORMATION	17/07/25
P03	ISSUE FOR PRELIMINARY COSTING	13/08/25
P04	UPDATED CONCEPT PLAN	03/02/26
P05	UPDATED CONCEPT PLAN	25/03/26

NDY QA SYSTEM
Reason For issue
CONCEPT
Authorisation
AS : 25 MAR 2026
By
Verification Of Latest Amendment
By

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Project: SHIRE OF MUNDARING MASTER PLAN

Title: ELECTRICAL SERVICES CULTURAL HUB GROUND FLOOR

Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	N.L	N.L	P68864.0001

Revit Version 2022

DRAWING IN COLOUR

Drawing No. E-10-002

Revision P05

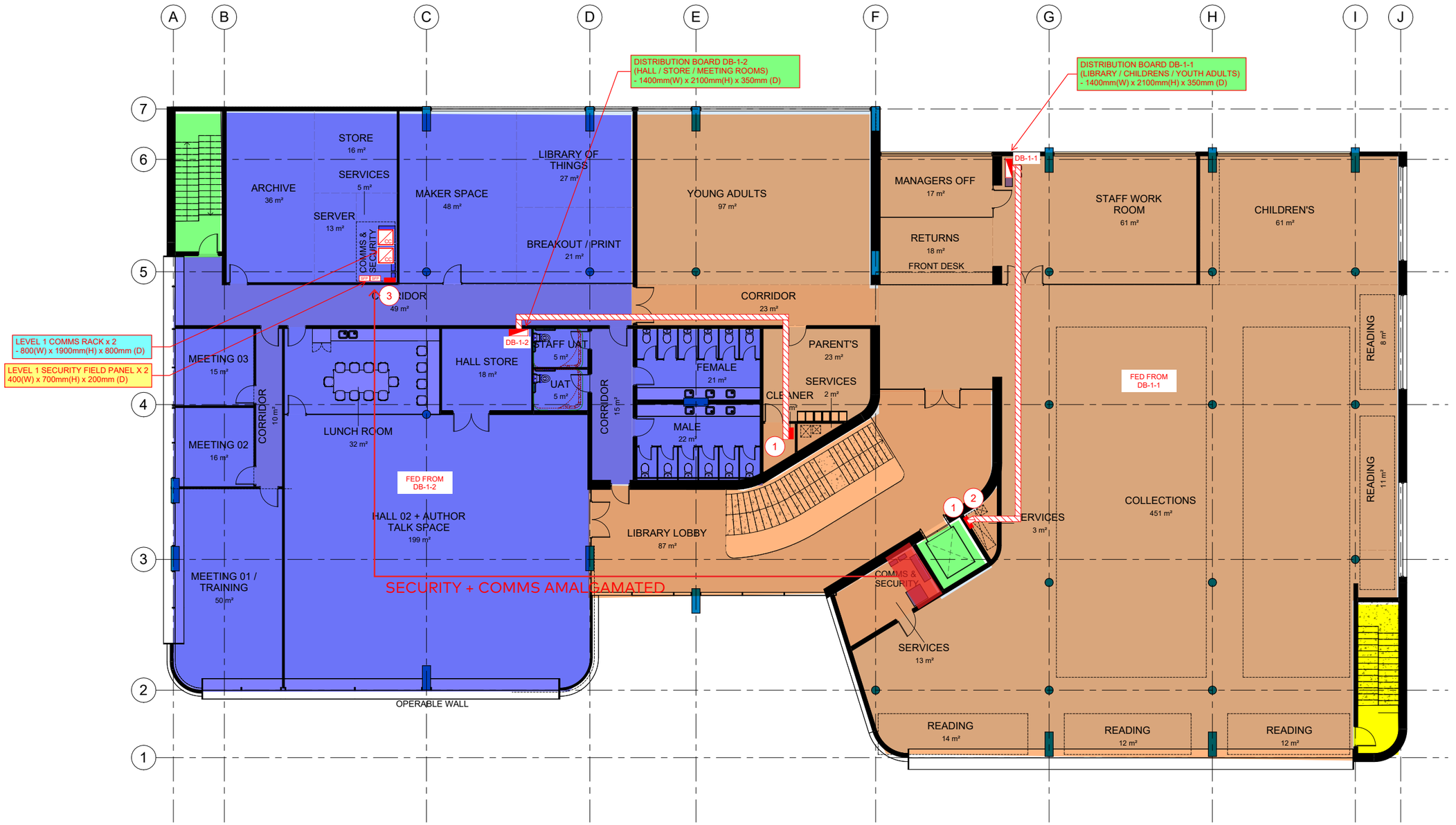
A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

NOTE

1. RISER TO FLOOR BELOW.
   POWER CABLE TRAY - 1 x 600mm.
2. RISER TO GROUND & ROOF ABOVE.
   PV CABLE TRAY - 1 x 450MM
3. RISER TO FLOOR BELOW.
   COMMUNICATION TRAY - 1 x 450MM

GENERAL

SWITCHBOARD DIMENSION ARE INDICATIVE ONLY.
SUBJECT TO FINAL DETAIL DESIGN.



NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	ISSUE FOR INFORMATION	25/06/25						
P02	ISSUE FOR INFORMATION	17/07/25						
P03	ISSUE FOR PRELIMINARY COSTING	13/08/25						
P04	UPDATED CONCEPT PLAN	03/02/26						
P05	UPDATED CONCEPT PLAN	25/03/26						

NDY QA SYSTEM
Reason For issue
CONCEPT
Authorisation
AS : 25 MAR 2026
By
Verification Of Latest Amendment
By

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Project
SHIRE OF MUNDARING
MASTER PLAN

Title
ELECTRICAL SERVICES
CULTURAL HUB FIRST FLOOR

Scale	Project Commencement	Drawn	Design	Project No.
1:150 @ A1	MAY 2025	N.L	N.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR

Drawing No. E-10-003
Revision P05

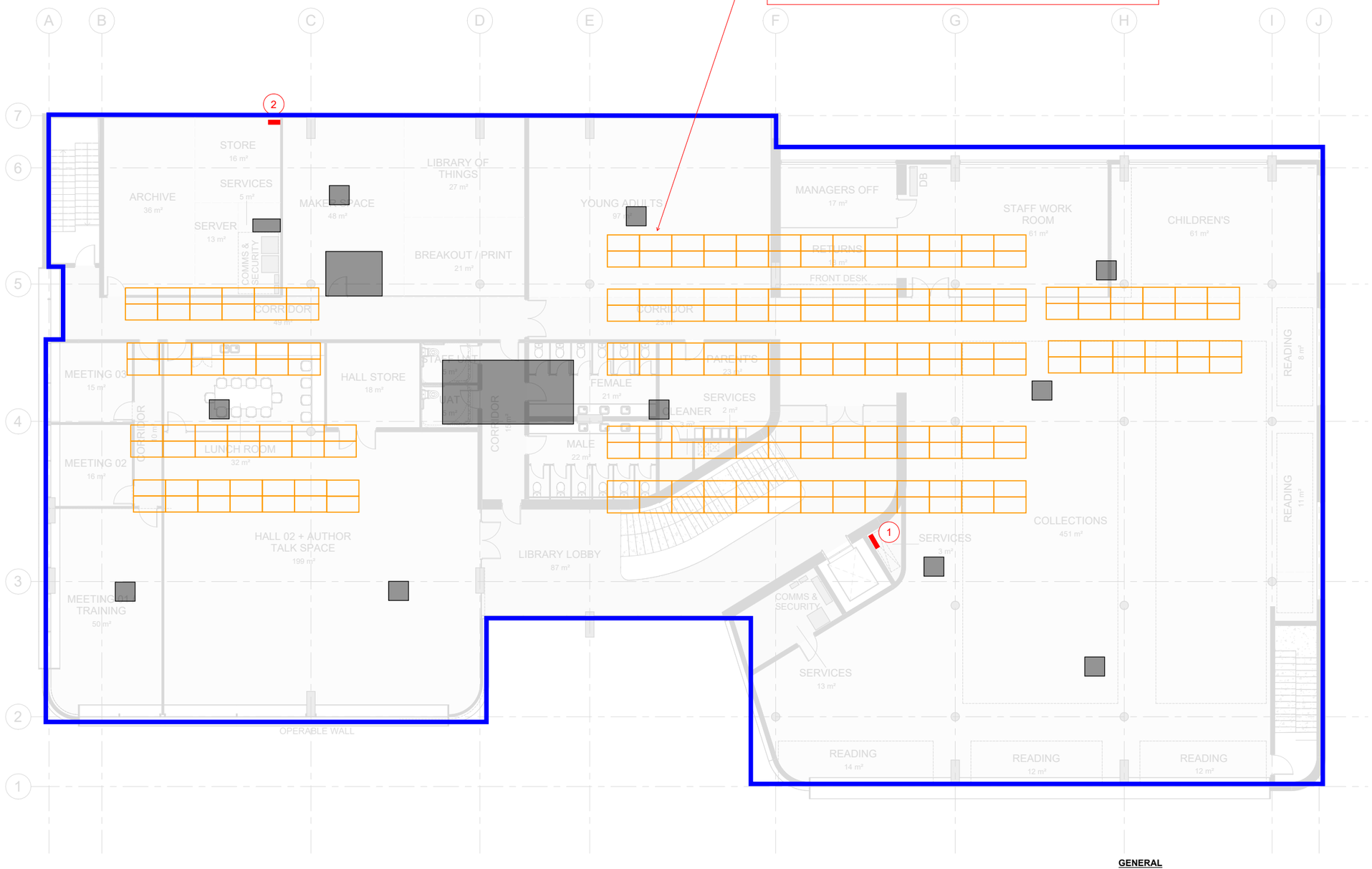
A1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
When reproduced at correct scale this line measures 150mm

NOTE

1. RISER TO GROUND BELOW.
   PV CABLE TRAY - 1 x 450MM

BASED ON 500W / PANEL.
100KW PV SYSTEM ~ 204 PANELS
EACH PANEL APPROX 2.2M x 1.1M

NOTE:
- LAYOUT IS INDICATIVE
- SUBJECT TO ACTUAL SOLAR PV STUDY/CACULATION (SHADING, IRRADIANCE, ORIENTATION, ETC)
- ACTUAL PERFORMANCE SUBJECT TO FINAL SELECTED SYSTEM (MAKE AND MODEL)
- SPECIFIC MANUFACTURER REQUIREMENT



GENERAL

- PV LAYOUT IS INDICATIVE ONLY. SUBJECT TO FINAL DETAIL DESIGN.

NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	UPDATED CONCEPT PLAN	03/02/26						
P02	UPDATED CONCEPT PLAN	25/03/26						

NDY QA SYSTEM
Reason For issue
CONCEPT
Authorisation
AS : 23 MAR 2026
By
Verification Of Latest Amendment
By

NDY
A TETRA TECH COMPANY

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ABN 29 003 234 571

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Project
SHIRE OF MUNDARING
MASTER PLAN

Title
ELECTRICAL SERVICES
CULTURAL HUB ROOF PLAN

Revit Version 2022
DRAWING IN COLOUR

Scale	Project Commencement	Drawn	Design	Project No.
1:150 @ A1	MAY 2025	N.L	N.L	P68864.0001

Drawing No. E-0R-001
Revision P02

A1
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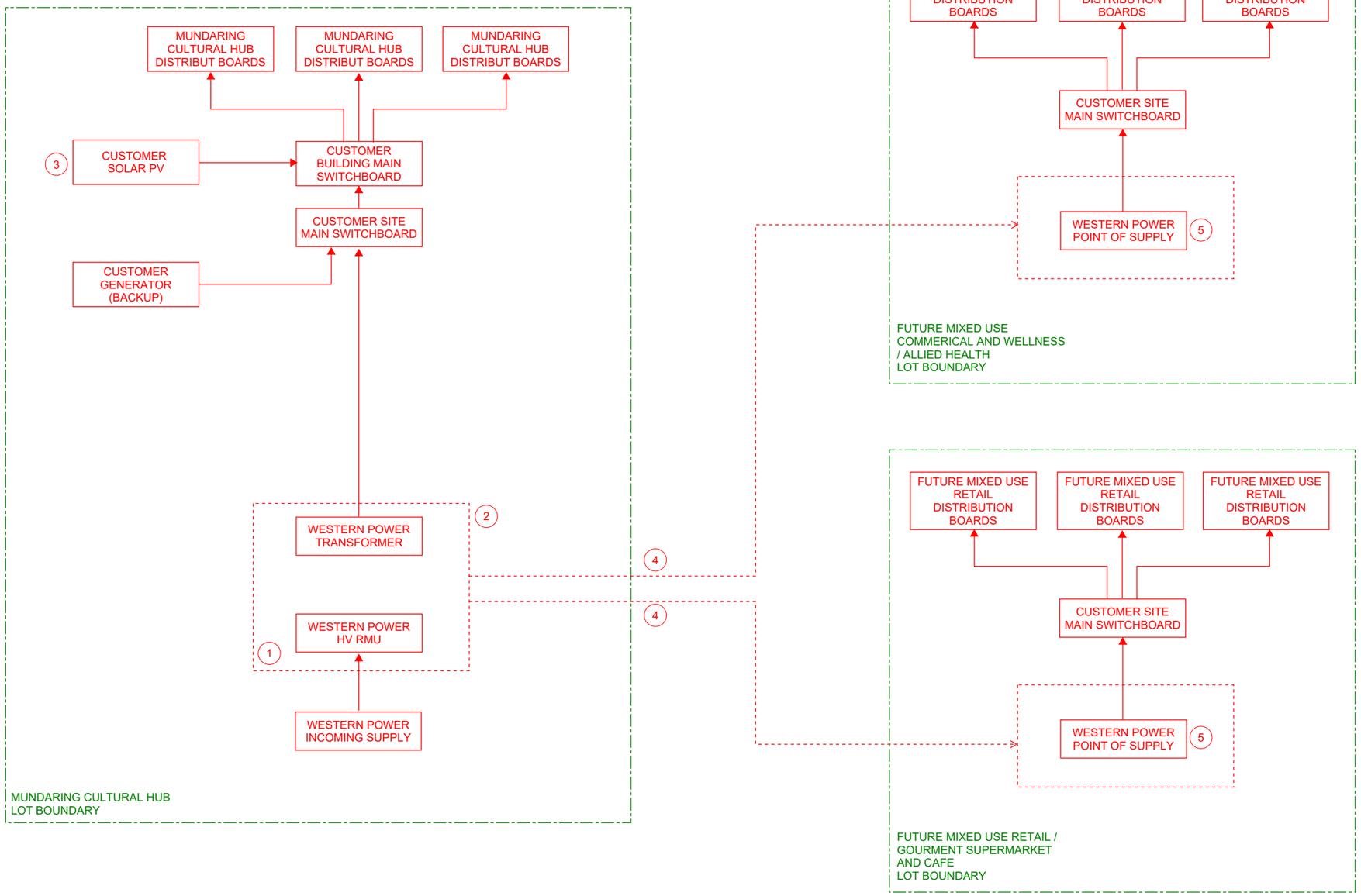

NOTE

1. WESTERN POWER SUBSTATION - DSM-3-10. DISTRICT SUBSTATION UP TO 2MVA (NON MPS), FIRE RATED - WITH HV SWGR. BASED ON AN ESTIMATED LOAD OF:
   - CULTURAL HUB = 446KVA
   FINAL DSM SELECTION SUBJECT TO WESTERN POWER ASSESSMENT.
2. PROPOSED NEW SUBSTATION TO BE LOCATED WITHIN MUNDARING CULTURAL HUB BOUNDARY NEAR CRIAG STREET. INCOMING SUPPLY OFF CRAIG STREET. DISTRICT SUBSTATION TO FEED TO FUTURE DEVELOPMENT.
3. SOLAR PHOTOVOLTAIC SYSTEM. TO BE CONFIRMED.
4. WESTERN POWER DISTRICT SUBSTATION TO FEED FUTURE DEVELOPMENT. FINAL ARRANGEMENT SUBJECT TO WESTERN POWER NETWORK STUDY / ASSESSMENT.
5. POINT OF SUPPLY
   - 250A OR LESS = UNI PILLIAR
   - MORE THAN 250A = SUBSTATION

NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	ISSUE FOR INFORMATION	06/06/25						
P02	ISSUE FOR INFORMATION	01/10/25						
P03	UPDATED CONCEPT PLAN	03/02/26						

NDY QA SYSTEM
Reason For issue
CONCEPT
Authorisation
AS : 03 FEB 2026
By
Verification Of Latest Amendment
By

NDY
A TETRA TECH COMPANY

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NDY Management Pty Ltd
ABN 29 003 234 571

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Project: SHIRE OF MUNDARING MASTER PLAN

Title: ELECTRICAL SERVICES BLOCK DIAGRAM

Scale	Project Commencement	Drawn	Design	Project No.
N.T.S	MAY 2025	N.L	N.L	P68864.0001

Revit Version 2022

DRAWING IN COLOUR

Drawing No. E-SC-010 Revision P03

A1

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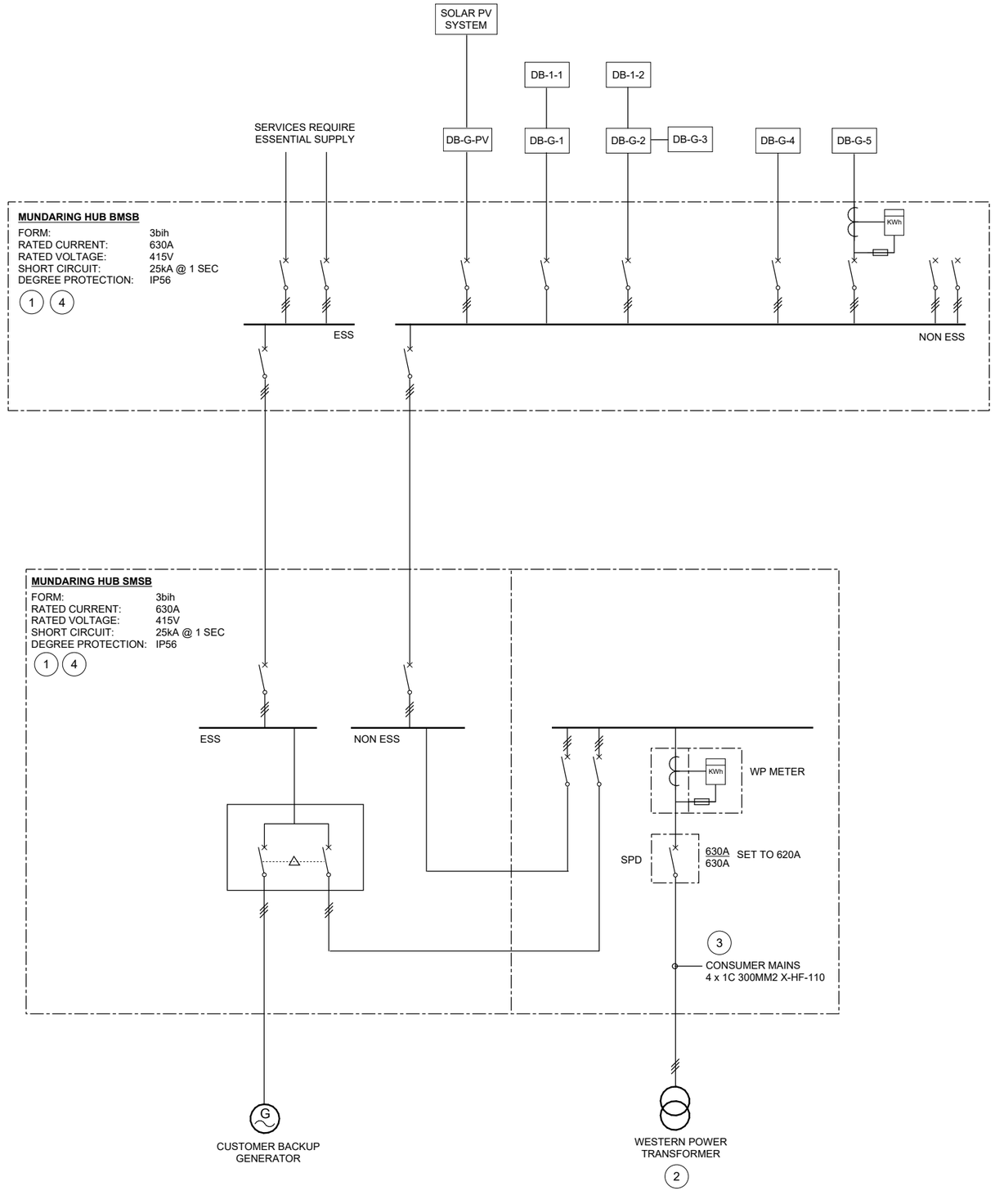

NOTE

1. SITE MAIN SWITCHBOARD & BUILDING MAIN SWITCHBOARD DESIGN TO BE CONFIRMED. RATING SHOWING IS INDICATIVE ONLY.
2. UPSTREAM WESTERN POWER POINT OF SUPPLY TO BE CONFIRMED BY WESTERN POWER.
3. SUBMAIN CABLES IS INDICATIVE. FINAL SIZE TO BE CONFIRMED.
4. ESSENTIAL AND NON ESSENTIAL SERVICES ARRANGEMENT TO BE CONFIRMED.

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FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	ISSUE FOR INFORMATION	06/06/25						
P02	ISSUE FOR INFORMATION	16/07/25						
P03	ISSUE FOR INFORMATION	01/10/25						
P04	UPDATED CONCEPT PLAN	03/02/26						

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Project
SHIRE OF MUNDARING
MASTER PLAN

Title
ELECTRICAL SERVICES
SCHEMATIC

Scale	Project Commencement	Drawn	Design	Project No.
N.T.S	MAY 2025	N.L	N.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR
Drawing No. E-SC-020
Revision P04

A1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
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Mundaring Cultural Centre

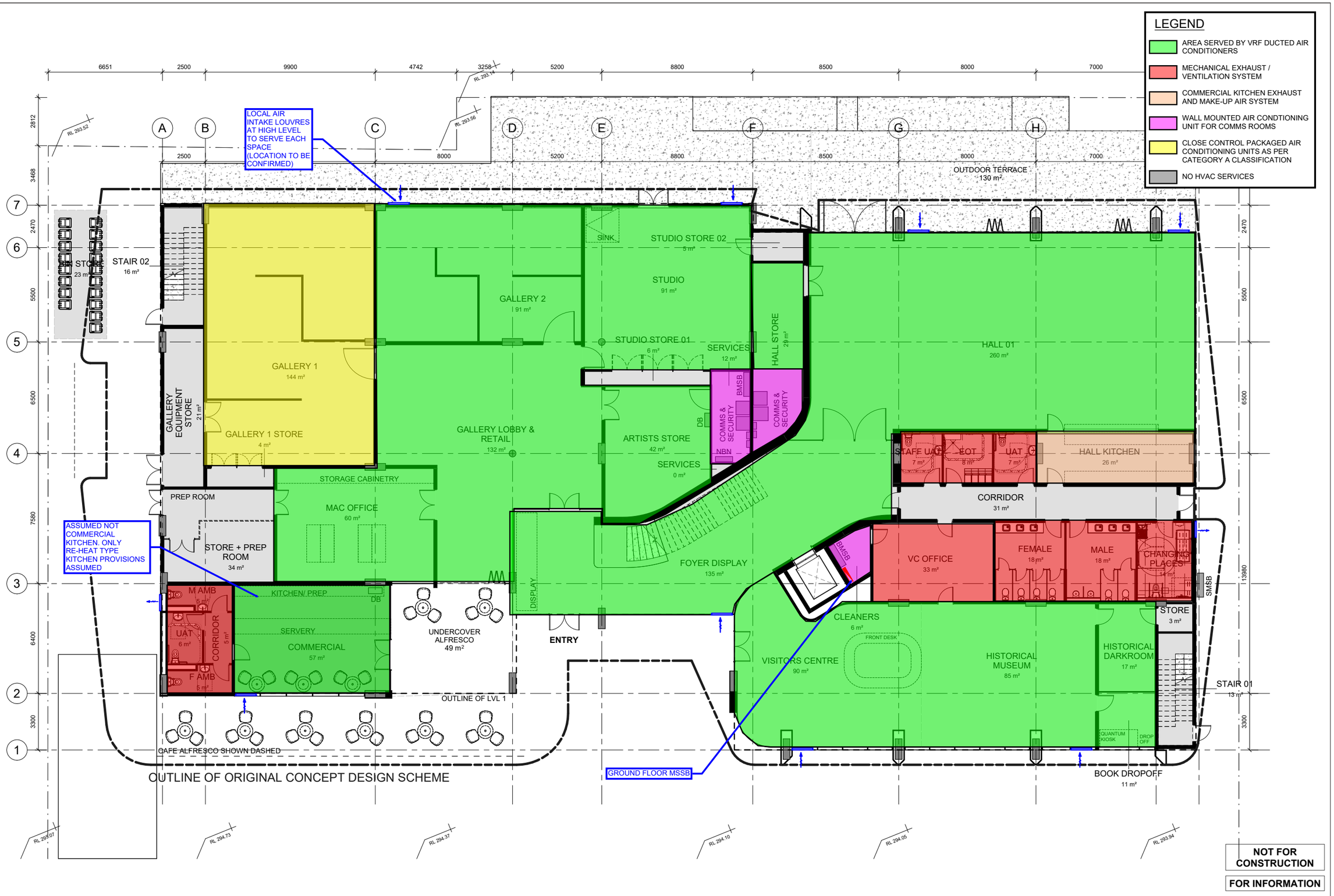
Concept Design Report
(REV 2)

March 2026

Appendices

10. Mechanical / NDY

Mechanical Services	
01.	Mechanical Services - Ground Floor Plan
02.	Mechanical Services - First floor Plan
03.	Mechanical Services - Roof Plan



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FOR INFORMATION

Rev	Description	Date	Rev	Description	Date	Rev	Description	Date
P01	ISSUE FOR INFORMATION	15/08/25						
P02	ISSUE FOR INFORMATION	03/02/26						

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Project
SHIRE OF MUNDARING
CULTURAL HUB CONSTRUCTION

Title
MECHANICAL SERVICES
CULTURAL HUB GROUND FLOOR

Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	S.L	S.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR

Drawing No. M-0G-001
Revision P02

A1
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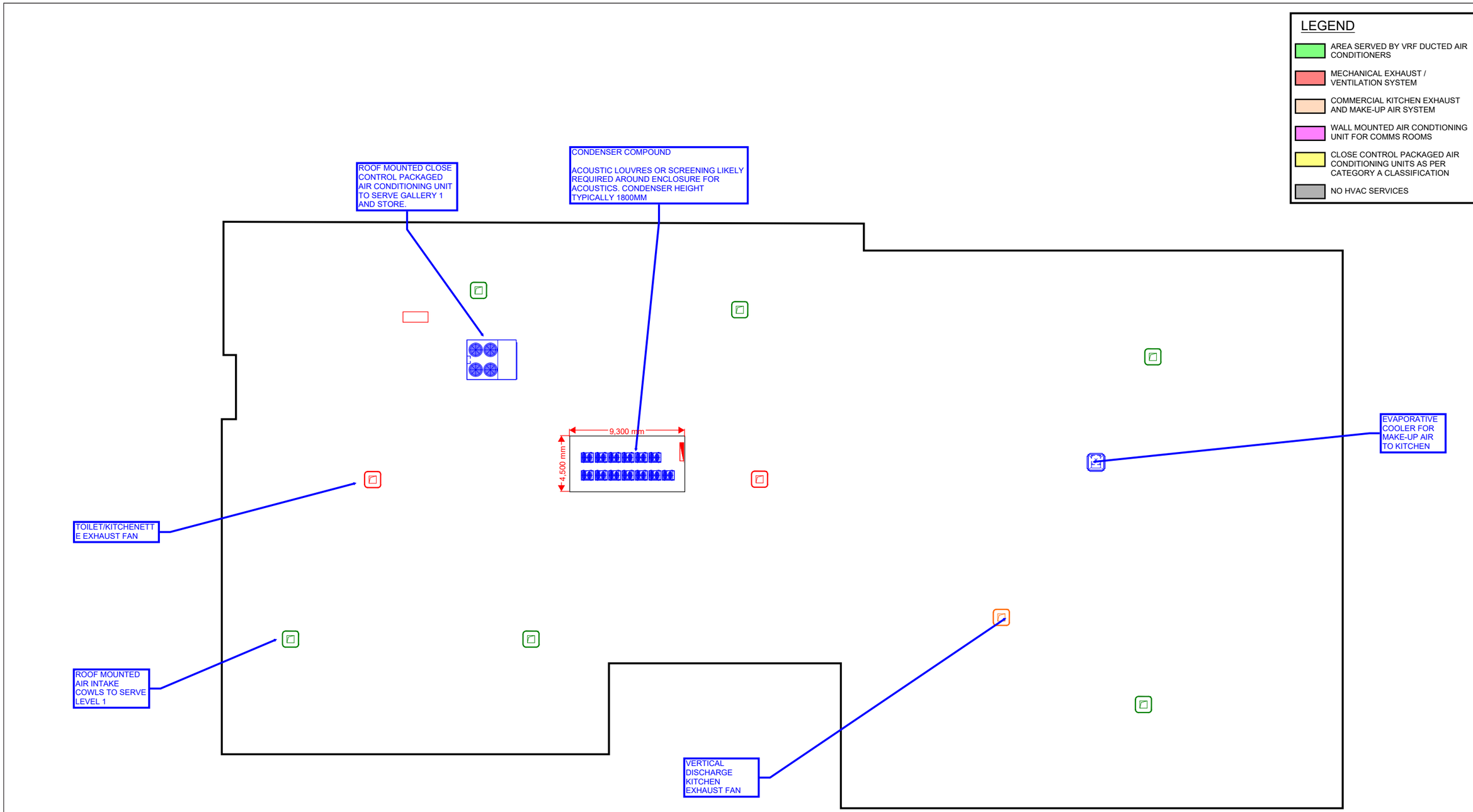

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Project
SHIRE OF MUNDARING
CULTURAL HUB CONSTRUCTION

Title
MECHANICAL SERVICES
CULTURAL HUB ROOF

Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	S.L	S.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR

Drawing No. M-0R-001
Revision P02

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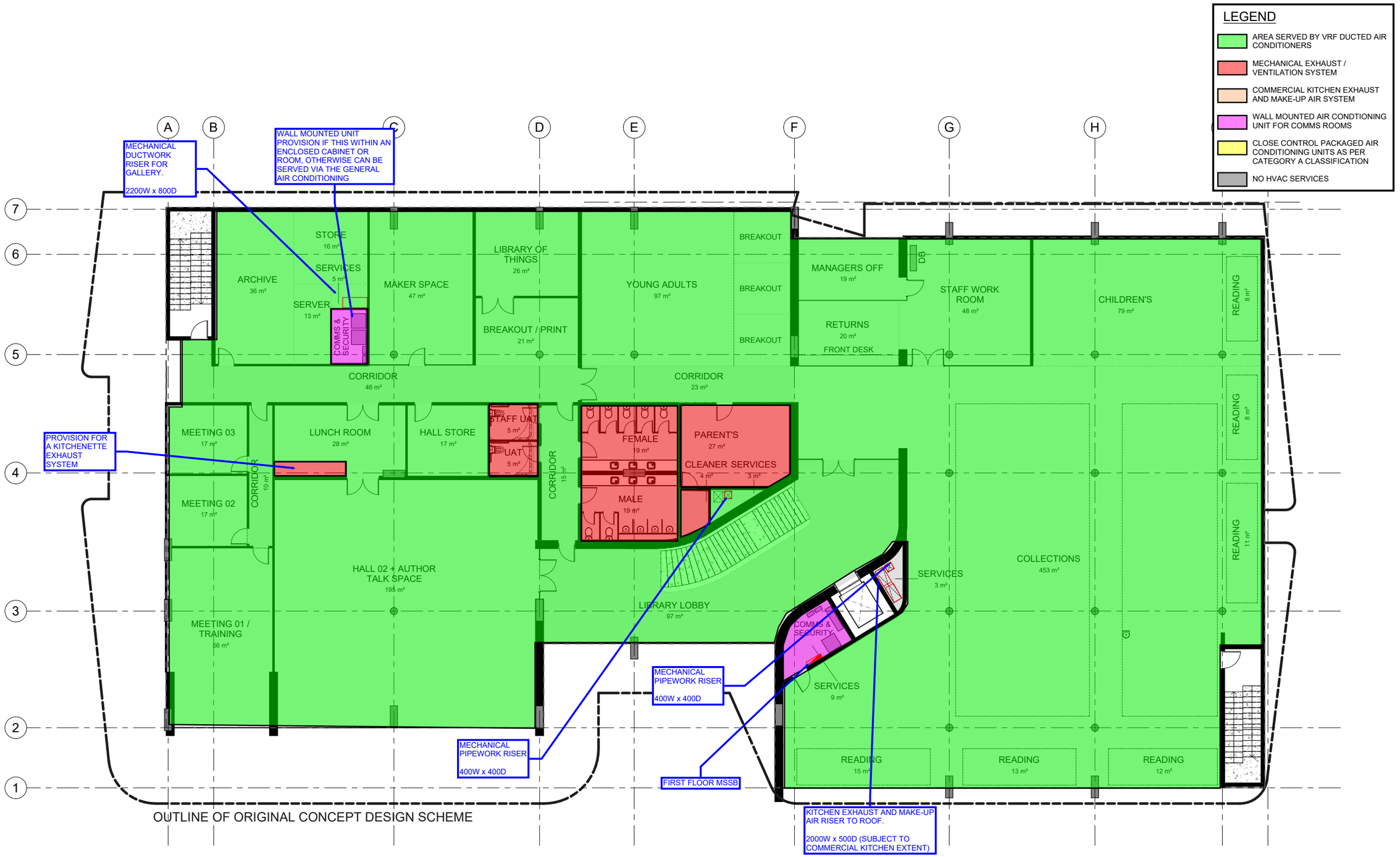

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Project
SHIRE OF MUNDARING
CULTURAL HUB CONSTRUCTION

Title
MECHANICAL SERVICES
CULTURAL HUB LEVEL 01

Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	S.L	S.L	P68864.0001

Revit Version 2022
DRAWING IN COLOUR

Drawing No. M-01-001
Revision P02

A1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
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Mundaring Cultural Centre

Concept Design Report

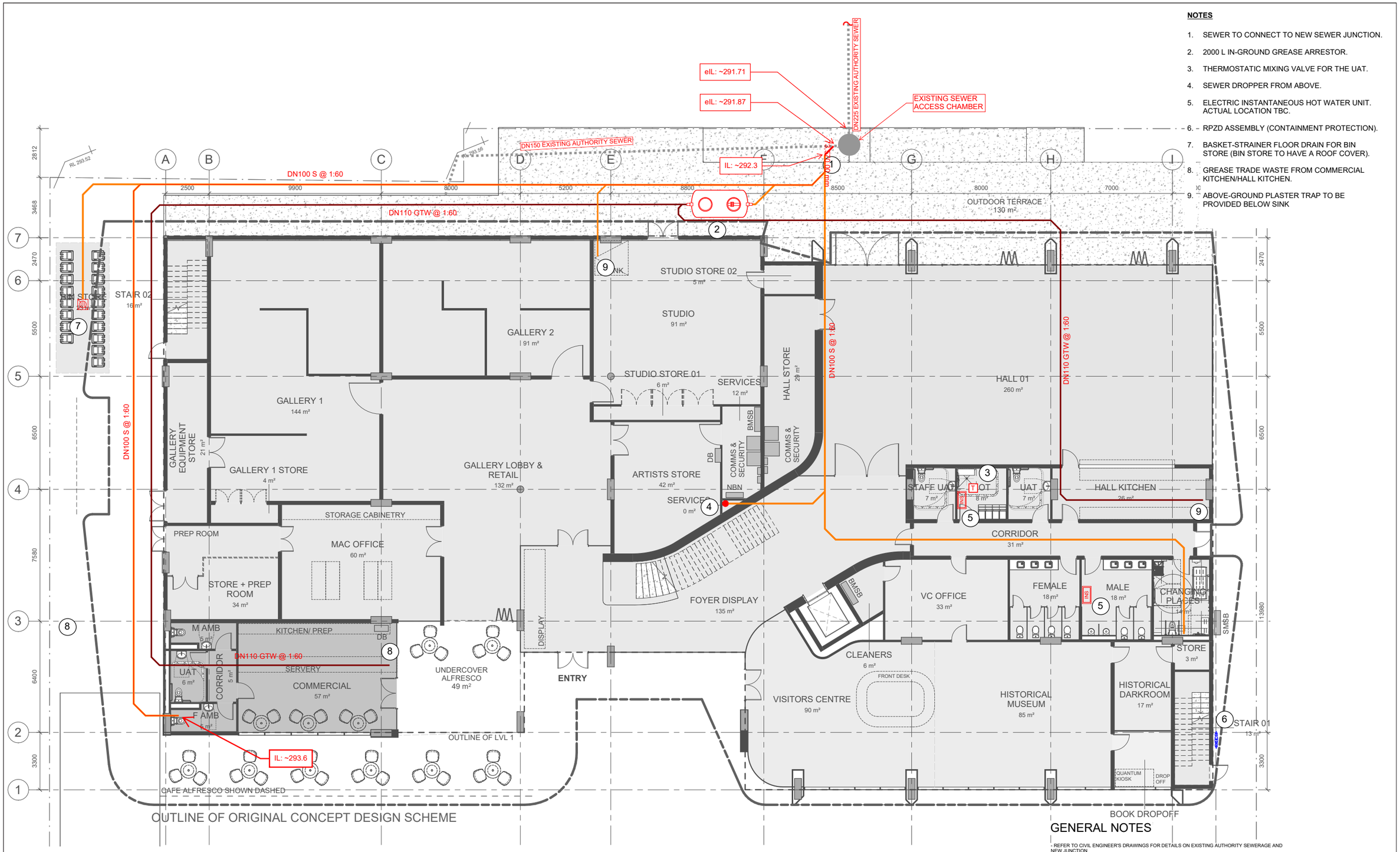
August 2025

Appendices

11. Hydraulics / NDY

Hydraulic Services

01. Hydraulic Services - Ground Floor Plan
02. Hydraulic Services - First Floor Plan
03. Fire Protection Services - Ground Floor Plan
04. Fire Protection Services - First Floor Plan



NOTES

1. SEWER TO CONNECT TO NEW SEWER JUNCTION.
2. 2000 L IN-GROUND GREASE ARRESTOR.
3. THERMOSTATIC MIXING VALVE FOR THE UAT.
4. SEWER DROPPER FROM ABOVE.
5. ELECTRIC INSTANTANEOUS HOT WATER UNIT. ACTUAL LOCATION TBC.
6. RPZD ASSEMBLY (CONTAINMENT PROTECTION).
7. BASKET-STRAINER FLOOR DRAIN FOR BIN STORE (BIN STORE TO HAVE A ROOF COVER).
8. GREASE TRADE WASTE FROM COMMERCIAL KITCHEN/HALL KITCHEN.
9. ABOVE-GROUND PLASTER TRAP TO BE PROVIDED BELOW SINK

GENERAL NOTES

- REFER TO CIVIL ENGINEER'S DRAWINGS FOR DETAILS ON EXISTING AUTHORITY SEWERAGE AND NEW JUNCTION
- DRAINAGE IS SHOWN BELOW SLAB
- DOMESTIC WATER SERVICE INSIDE THE BUILDING TO RETICULATE AT HIGH LEVEL
- ROOF STORMWATER DRAINAGE WILL BE SUBJECT TO FINALISED ROOF AND GUTTER LAYOUTS. ROOF DRAINAGE DOWNPIPES TO CONNECT TO SITE STORWATER DRAINAGE BY CIVIL
- VENT RISERS TO BE PROVIDED IN STUD WALL CAVITIES

NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date
P01	ISSUE FOR INFORMATION	25/06/25
P02	UPDATED CONCEPT PLAN	27/03/26

NDY QA SYSTEM
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AS : 27 MAR 2026
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Project: MUNDARING CULTURAL HUB

Title: HYDRAULIC SERVICES GROUND FLOOR PLAN

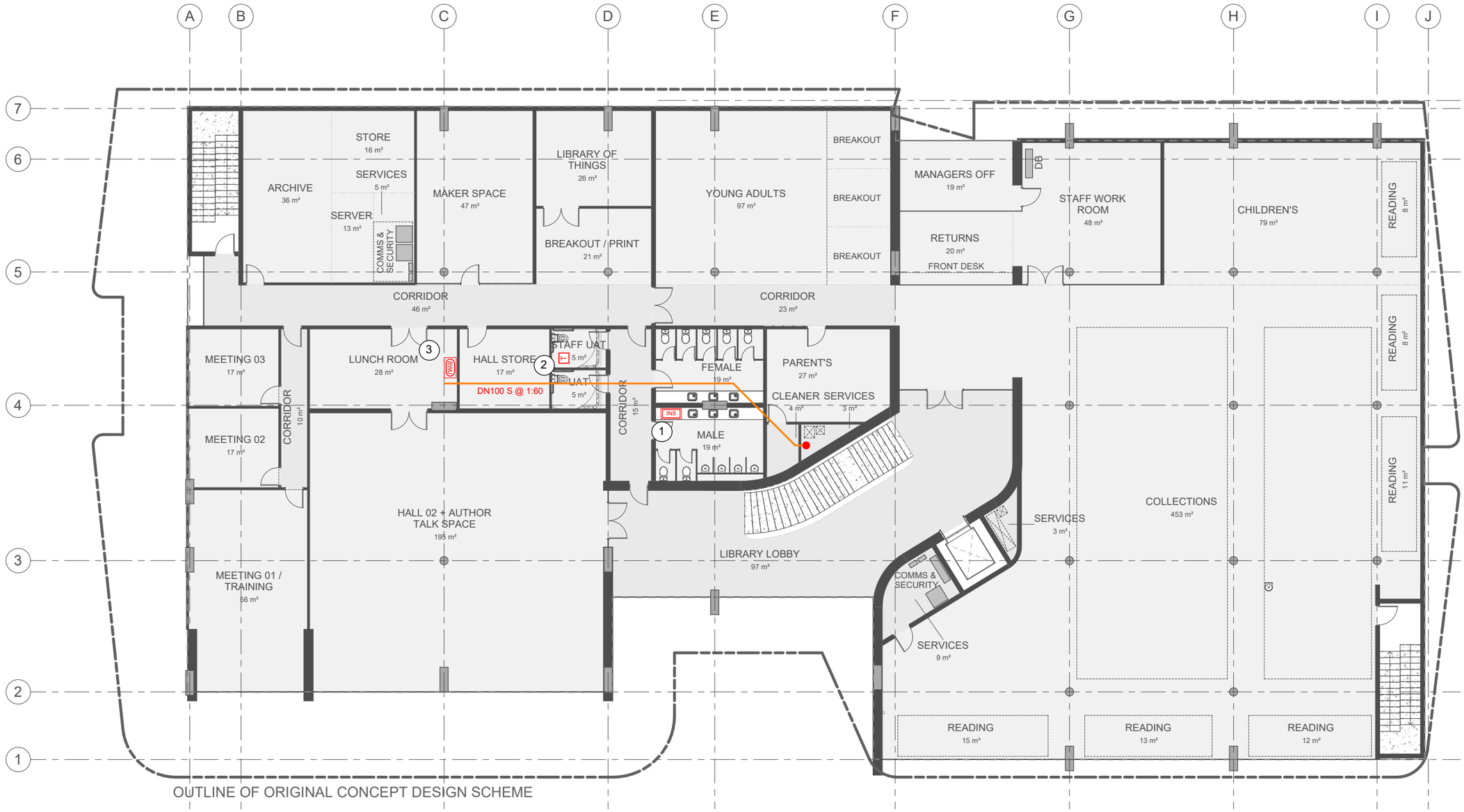
Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	A.S	A.S	P68864.0001

Revit Version 2022
DRAWING IN COLOUR
Drawing No. H-0G-001
Revision P02

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

NOTES

1. ELECTRIC INSTANTANEOUS HOT WATER UNIT. ACTUAL LOCATION TBC.
2. THERMOSTATIC MIXING VALVE FOR UAT's
3. BOILING/CHILLED/HOT WATER UNIT UNIT AS PER ARCHITECTURAL SPECIFICATION. RUN HOT WATER TO SINK TAP, FROM THE UNIT
4. SEWER DROPPER TO BELOW.



GENERAL NOTES

DRAINAGE IS SHOWN BELOW SLAB

DOMESTIC WATER SERVICE INSIDE THE BUILDING TO RETICULATE AT HIGH LEVEL

ROOF STORMWATER DRAINAGE WILL BE SUBJECT TO FINALISED ROOF AND GUTTER LAYOUTS

VENT RISERS TO BE PROVIDED IN STUD WALL CAVITIES

NOT FOR CONSTRUCTION

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Project: MUNDARING CULTURAL HUB

Title: HYDRAULIC SERVICES FIRST FLOOR PLAN

Revit Version 2022

DRAWING IN COLOUR

Scale	Project Commencement	Drawn	Design	Project No.	Drawing No.	Revision
1:100 @ A1	MAY 2025	A.S	A.S	P68864.0001	H-01-001	P02

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

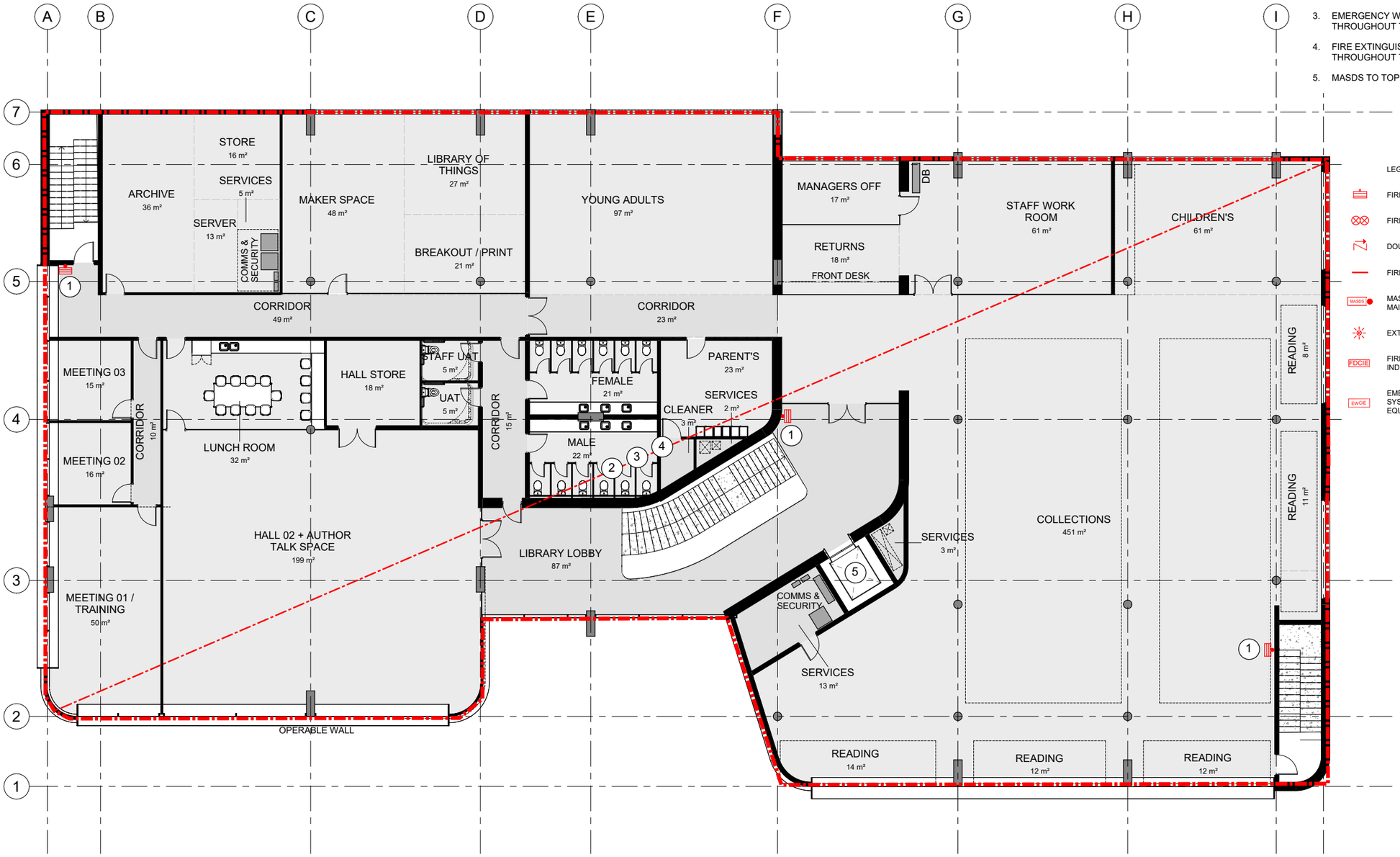
12. Fire & Civil / NDY

Fire Services

01. Flow & Residual Pressure Test Report
02. Hydrant Coverage - Site Plan
03. Hydrant Coverage - Ground Floor Plan
04. Hydrant Coverage - First Floor Plan

NOTES

1. WALL MOUNTED FIRE HOSE REEL EXPOSED OR WITHIN ARCHITECTURAL CABINET. MIN DIMENSIONS OF FHR CABINET ARE 800mm (W) x 450mm (D) x 2000mm (H). HOSE REEL DIMENSIONS ARE APPX.
2. FIRE DETECTION TO BE PROVIDED THROUGHOUT TO AS1670.1 WITH SPACING 10m x 10m.
3. EMERGENCY WARNING TO BE PROVIDED THROUGHOUT TO AS1670.4
4. FIRE EXTINGUISHERS TO BE PROVIDED THROUGHOUT TO AS2444.
5. MASDS TO TOP OF LIFT SHAFT



LEGEND

- FIRE HOSE REEL
- FIRE HYDRANT (DUAL HEAD)
- DOUBLE CHECK VALVE
- FIRE HYDRANT MAIN
- MASDS — MASDS CONTROL PANEL WITH MAINTENANCE BLOW OUT POINT.
- EXTERNAL VISUAL ALARM DEVICE
- FDCIE — FIRE DETECTION CONTROL AND INDICATING EQUIPMENT
- EWCIE — EMERGENCY WARNING AND INTERCOM SYSTEM CONTROL AND INDICATING EQUIPMENT.

GENERAL NOTES

FIRE HYDRANT DESIGN INCORPORATES A PERFORMANCE SOLUTION TO PERMIT HYDRANT COVERAGE VIA THREE HOSE LENGTHS (SUBJECT TO BRIGADE ACCEPTANCE).

FURTHER INVESTIGATION WITH DFES REQUIRED TO DETERMINE IF COVERAGE VIA THREE HOSE LENGTHS IS ACCEPTABLE UTILISING THE EXISTING IN GROUND (SINGLE OUTLET) HYDRANT

FIRE HOSE REELS MAY BE OMITTED VIA PERFORMANCE SOLUTION (SUBJECT TO BRIGADE ACCEPTANCE)

NOT FOR CONSTRUCTION

FOR INFORMATION

Rev	Description	Date
P01	ISSUE FOR INFORMATION	25/06/25
P02	UPDATED CONCEPT PLAN	03/02/26
P03	UPDATED CONCEPT PLAN	25/03/26

NDY QA SYSTEM
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Verification Of Latest Amendment: AS : 25 MAR 2026

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Project: SHIRE OF MUNDARING MASTER PLAN
Title: FIRE PROTECTION SERVICES CULTURAL HUB FIRST FLOOR

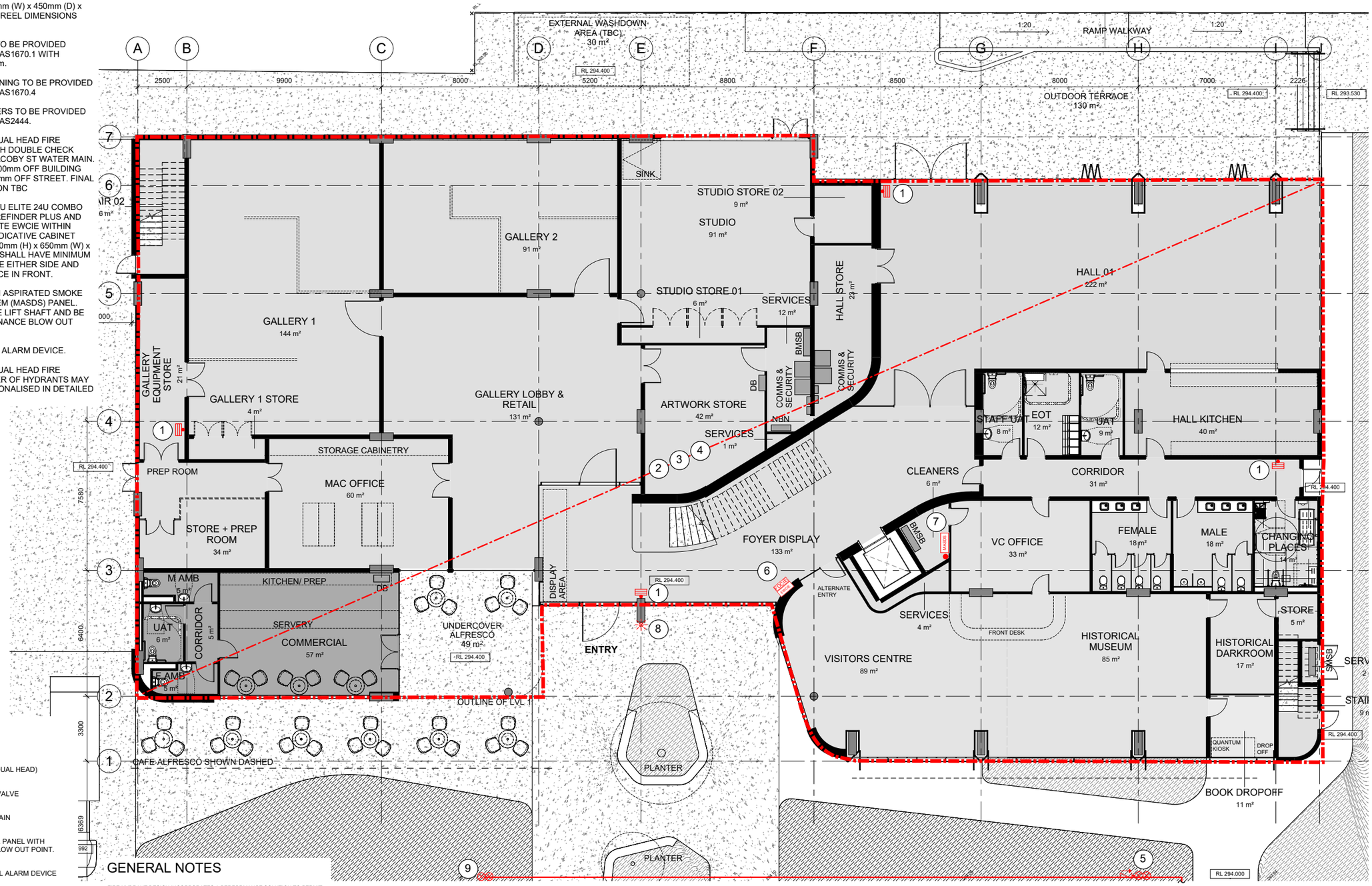
Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	AT	AT	P68864.0001

Revit Version 2022
DRAWING IN COLOUR
Drawing No. F-01-001
Revision P03

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

NOTES

1. WALL MOUNTED FIRE HOSE REEL EXPOSED OR WITHIN ARCHITECTURAL CABINET. MIN DIMENSIONS OF FHR CABINET ARE 800mm (W) x 450mm (D) x 2000mm (H). HOSE REEL DIMENSIONS ARE APPX.
2. FIRE DETECTION TO BE PROVIDED THROUGHOUT TO AS1670.1 WITH SPACING 10m x 10m.
3. EMERGENCY WARNING TO BE PROVIDED THROUGHOUT TO AS1670.4
4. FIRE EXTINGUISHERS TO BE PROVIDED THROUGHOUT TO AS2444.
5. NEW EXTERNAL DUAL HEAD FIRE HYDRANT C/W WITH DOUBLE CHECK VALVE FED OFF JACOBY ST WATER MAIN. HYDRANT MIN 10000mm OFF BUILDING FACADE AND 1000mm OFF STREET. FINAL HYDRANT LOCATION TBC
6. NEW AMPAC EVACU ELITE 24U COMBO PANEL. AMPAC FIREFINDER PLUS AND AMPAC EVACU ELITE EWCIE WITHIN SAME CABINET. INDICATIVE CABINET SPATIALS ARE 1800mm (H) x 650mm (W) x 380mm (D). PANEL SHALL HAVE MINIMUM 500mm CLEARANCE EITHER SIDE AND 1000mm CLEARANCE IN FRONT.
7. NEW VESDA MULTI ASPIRATED SMOKE DETECTION SYSTEM (MASDS) PANEL. SYSTEM TO SERVE LIFT SHAFT AND BE C/W WITH MAINTENANCE BLOW OUT POINT.
8. EXTERNAL VISUAL ALARM DEVICE.
9. NEW EXTERNAL DUAL HEAD FIRE HYDRANT . NUMBER OF HYDRANTS MAY BE FURTHER RATIONALISED IN DETAILED DESIGN



LEGEND

- FIRE HOSE REEL
- FIRE HYDRANT (DUAL HEAD)
- DOUBLE CHECK VALVE
- FIRE HYDRANT MAIN
- MASDS CONTROL PANEL WITH MAINTENANCE BLOW OUT POINT.
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GENERAL NOTES

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Project: SHIRE OF MUNDARING MASTER PLAN

Title: FIRE PROTECTION SERVICES CULTURAL HUB GROUND FLOOR

Scale	Project Commencement	Drawn	Design	Project No.
1:100 @ A1	MAY 2025	AT	AT	P68864.0001

Revit Version 2022

DRAWING IN COLOUR

Drawing No. F-0G-001 Revision P03

A1 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 When reproduced at correct scale this line measures 150mm

Fire and Civil
(WA)

3165 Jacoby Street, Mundaring
Flow and Residual Pressure Test Report
-Site Number 2815-
Report A

29th April 2025

CONTENTS

1.0- Preamble

2.0- Overview of Tests Conducted

3.0- Photograph/s of Test Location/s and Description

4.0- Site Map of Test Location/s Specified

5.0- Hydraulic Performance Evaluation Data

6.0- Calibration Certificates

1.0-Preamble
Fire and Civil WA

Company: NDY

Address: Level 11, 200 St George's Tce, Perth WA 6000

Attention: Adeel Silat

Site Address: 3165 Jacoby Street, Mundaring

Project:

29th April 2025

Email: greg@fireandcivil.com
Greg Mobile: 041 111 5060
Sue Mobile: 041 226 3000

Postal: P O Box 7083
Applecross North
WA 6153

ABN: 65 009 442 648

Dear Adeel,

We thank you for your instructions to undertake a flow and residual pressure test/s at the above site. Fire and Civil (WA) is pleased to provide the following report.

The results particularised herein were obtained by measuring the water flow and residual pressure at the listed test location/s (see section 2). Our comments and findings set out herein meet the requirements of, or are within the acceptable parameters of the following (as and if applicable): DTS (Deemed to Satisfy) provisions of the Building Code of Australia (BCA) (Vol. 1) Part E 1.3.

Please Note: The flow and residual pressure test results, set out in this report are **indicative only** and obtained solely for design/maintenance purposes.

The test results show flow and residual pressure rates for the time and date on which the tests were performed only. No representation is made or warranty given that the same result/s can be achieved in any further, or additional test/s on account of flow and pressure being affected or compromised by factors including, but not limited to:

1) Time of day/week/year of water test
2) Increased demand on infrastructure (internal/external)
3) Age/maintenance of infrastructure (internal/external)
4) Infrastructure modifications (internal/external)
5) Installation of backflow prevention device/s etc.
6) Local demand variations (internal/external) etc.
7) Water Corporation Pressure Management Programme
8) Service Performance Standards for Water Corporation supplied water is set out in Schedule 2, Sections 1.1 and 1.2 (http://www.erawa.com.au/water) for the Perth Metropolitan area being - minimum 15m head static (147 kPa) @ 20L/minute flow.

Further Note: Whilst all care and diligence is taken using best practice methodology in trying to identify all issues or causes affecting flow and residual pressure results, many factors affecting such results are either inaccessible or undisclosable to our state of the art exploratory equipment and practices or may be limited to the specific scope of instructions given by you. Accordingly, although optional scopes of works may be suggested to overcome substandard or non-compliant pressures and flow rates in our report/s, no representation of clear and satisfactory results can be guaranteed or is warranted by us or should be inferred by your acting on such optional scopes of works suggested or is any warranty expressed or implied by us that your infrastructure will not be damaged by your acting on such optional scopes of works suggested or that your scope of instructions meet all applicable standards and regulatory requirements for the infrastructure and its use as a result of the provision of the services provided to you by Fire and Civil (WA) on this or any other occasion.

Should you require any further information, contact Greg Lock on 041 111 5060.

Regards

Greg Lock
Plumber's Licence No. 5247
Water Corporation Contractor ID: C5256718
Backflow Prevention No. 2676
PVC Handling Licence No. 13983594
White Card Holder 11th July 2013
National Police Clearance Application Number: 11009221-5700178 04/04/2025
Email: greg@fireandcivil.com

2.0-Overview of Tests Conducted

Test No.	Location (L) No.	Brief Test Description
1A	**L 1** Street feed fire hydrant	**Flow and residual pressure test conducted** **L 1 - M 1** **“ - M 3 – Total maximum flow = 25L/s**

NOTE:

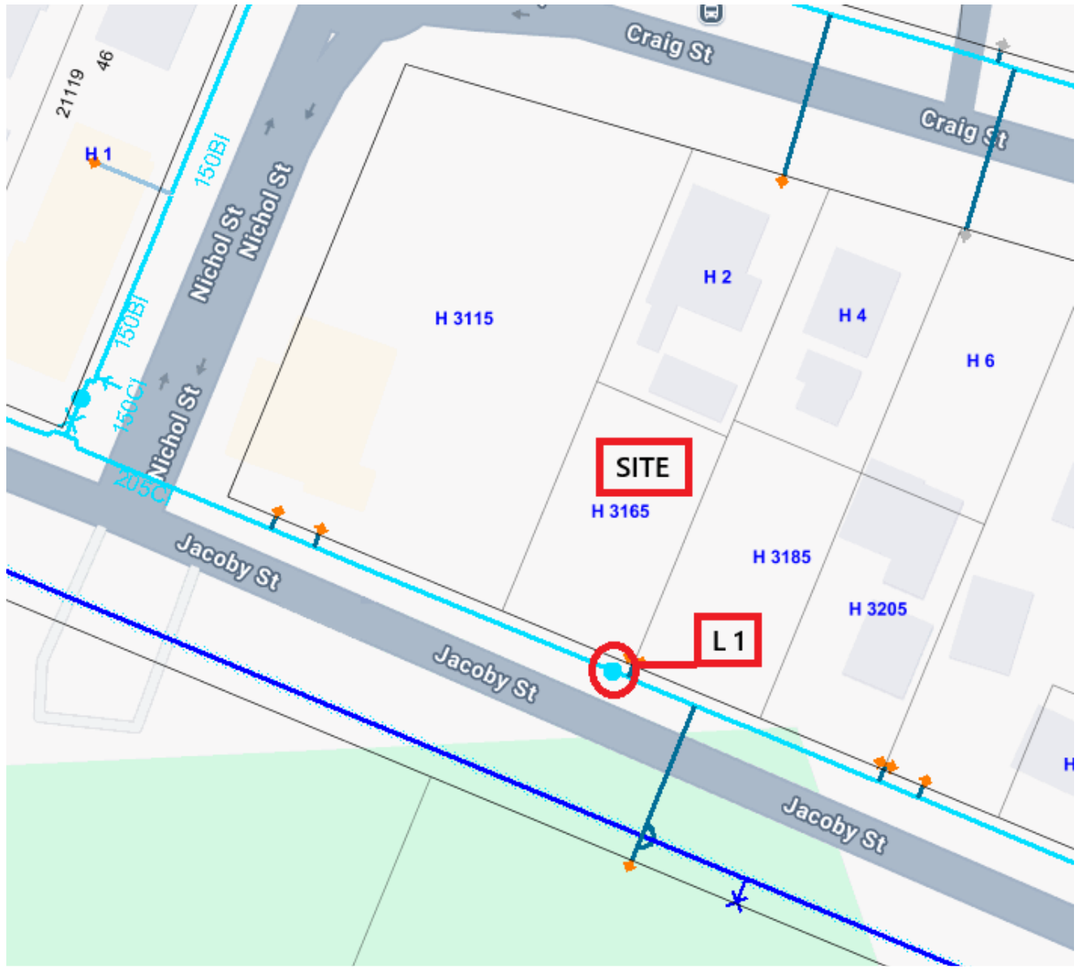
1) The information provided in this report is correct to the best of my knowledge given the information provided by the client or their representative.
2) Tests were conducted to determine hydraulic performance ONLY.
3) Unless identified NO assessment of fire system design parameters (including hose length coverage) are considered when flow and residual pressure tests are conducted.

3.0-Photograph/s of Test Location/s and Description

L 1: Street feed fire hydrant tested

L 1: Internal view of street feed fire hydrant tested

4.0-Site Map of Test Location/s Specified



5.0-Hydraulic Performance Evaluation Data

Test No. 1A - Flow and Residual Pressure Test at L 1

See 3.0 - Photograph/s of Test Location/s and Description and 4.0 Site Map

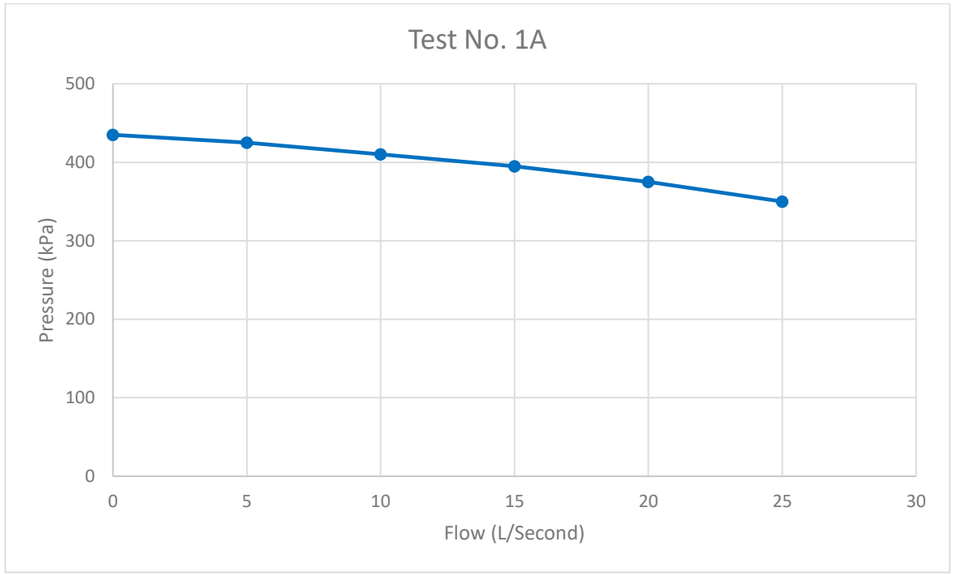
Note:

1. All data below is recorded simultaneously at the **Flow Rate** listed in 5L/s or 10L/s increments or part thereof
2. When multiple testing instruments are flowed at a single location the results are the average of the interpreted combined numerical data generated, the flow is measured in Litres per Second (L/s) and residual pressure measured in Kilopascals (kPa) and rounded up or down to the nearest 5 or 10 kPa increment.
3. No flow is required for a static pressure test.
4. Street feed fire hydrant (SFFH).
5. Refer to 6.0- Calibration Certificates for Flow Machine (M) Instruments only.

The table below reports the flow and coinciding residual pressure testing results interpreted in 5 L/s or 10 L/s increments, or part thereof.

Test:	**Test 1A**				
Time:	**14:12**				
Date:	**29/04/25**				
Location (L):	**L 1**				
Instruments used Machine (M):	**M 1 & 3**				
Brief Current Description:	**SFFH FLOW & LOG**				
Flow Rate (L/s)					
Static 0	**435 kPa**				
5	**425**				
10	**410**				
15	**395**				
20	**375**				
25	**350**				

See graph/s below when applicable



6.0-Calibration Certificates

LES COOKE INSTRUMENT CO.PTY.LTD

NATA

NATA accredited laboratory No 1736

Certificate Number
35384/130325/2

Date Of Calibration: 12 Mar 2025
Serial No.: 1815
Customer Ref.:
Submitted By: Fire & Civil
PO Box 7083, Applecross North 6153

Make:
Model: Flowmaster
Range: 0/25 bar

Machine (M) No. 1

NOMINAL APPLIED VALUES		As Found		As Left		
bar		MEAN INDICATED VALUES	Correction	MEAN INDICATED VALUES	Correction	
		bar				
0.00		0.00	nil	0.00	nil	
1.95		1.95	nil	1.95	nil	
2.00		2.01	-0.01	2.01	-0.01	
2.05		2.07	-0.02	2.07	-0.02	
2.50		2.50	nil	2.50	nil	
3.00		3.01	-0.01	3.01	-0.01	
5.00		5.05	-0.05	5.05	-0.05	
7.00		7.02	-0.02	7.02	-0.02	
9.00		9.05	-0.05	9.05	-0.05	
10.00		10.04	-0.04	10.04	-0.04	
13.00		13.03	-0.03	13.03	-0.03	
16.00		16.07	-0.07	16.07	-0.07	
20.00		20.06	-0.06	20.06	-0.06	
25.00		25.02	-0.02	25.02	-0.02	
20.00		20.06	-0.06	20.06	-0.06	
16.00		16.07	-0.07	16.07	-0.07	
13.00		13.03	-0.03	13.03	-0.03	
10.00		10.04	-0.04	10.04	-0.04	
9.00		9.03	-0.03	9.03	-0.03	
7.00		7.02	-0.02	7.02	-0.02	
5.00		5.02	-0.02	5.02	-0.02	
3.00		3.02	-0.02	3.02	-0.02	
2.50		2.52	-0.02	2.52	-0.02	
2.05		2.06	-0.01	2.06	-0.01	
2.00		2.03	-0.03	2.03	-0.03	
1.95		1.95	nil	1.95	nil	
0.00		0.00	nil	0.00	nil	

REMARKS maximum deviation does not exceed 0.28 % of maximum scale range

The results of the tests, calibrations and/or measurements included in this document are traceable to National measurement Institutes or facilities accredited to ISO/IEC17025 by a signatory to ILAC MRA.

Page 2 of 2

PLUMBING TESTING Laboratory

PO Box 3225, Malaga WA 6945 Australia
Atley St (corner Victoria Rd)
Malaga WA 6090 Australia
Phone: (61 8) 6465 1888 Fax: (61 8) 9249 7700

Flow Meter Calibration

CUSTOMER: Keyrange Group Pty Ltd
PO Box 7083
Applecross, WA 6153

REPORT No: TT3295A

TEST DATE: 13/11/2023

Machine (M) No. 1

INSTRUMENT DESCRIPTION

MANUFACTURER: Flowmaster	SERIAL NO: 1815
SIZE: 65 mm	CLIENT ID:
TYPE: Magflow EMF 300E	

TEST CONDITIONS

REFERENCE INSTRUMENT: Siemens MAG 6000	
SERIAL NO: 7ME652784902N399	TEST FLUID: Water
AMBIENT TEMPERATURE: 20°C	

TEST RESULTS

NOMINAL FLOW RATE L/MIN	INSTRUMENT UNDER TEST FLOW RATE	MEASURED FLOW RATE	CORRECTION L/MIN	PERCENTAGE OF ERROR
300	300.00	307.66	7.66	2.49
600	598.33	602.65	4.32	0.72
900	900.00	895.95	-4.04	-0.45
1200	1201.66	1188.24	-13.42	-1.13
1500	1493.33	1475.22	-18.10	-1.23
1800	1798.33	1769.21	-29.11	-1.65
2100	2100.00	2058.19	-41.80	-2.03

Test Method: The instrument under test was placed in line with a reference flow meter. Six readings were recorded off both meters alternatively over a period of one minute. The readings were averaged and tabulated above.

Tested By:
Lawrence Saw
Laboratory Manager

Authorised Signatory:
Lawrence Saw
Laboratory Manager

PTL-F-0908-63

LES COOKE INSTRUMENT CO.PTY.LTD

NATA

NATA accredited laboratory No 1736

Certificate Number
35390/140325/5

Date Of Calibration: 14 Mar 2025
Serial No.: 1845
Customer Ref.:
Submitted By: Fire & Civil
PO Box 7083, Applecross North 6153

Make:
Model: Flowmaster
Range: 0/25 bar

Machine (M) No. 3

NOMINAL APPLIED VALUES		As Found		As Left		
		MEAN INDICATED VALUES	Correction	MEAN INDICATED VALUES	Correction	
bar		bar				
0.00		0.00	nil	0.00	nil	
1.95		1.91	0.04	1.91	0.04	
2.00		1.97	0.03	1.97	0.03	
2.05		2.01	0.04	2.01	0.04	
2.50		2.45	0.05	2.45	0.05	
3.00		2.95	0.05	2.95	0.05	
5.00		4.97	0.03	4.97	0.03	
7.00		7.02	-0.02	7.02	-0.02	
9.00		8.99	0.01	8.99	0.01	
10.00		10.00	nil	10.00	nil	
13.00		12.96	0.04	12.96	0.04	
16.00		15.99	0.01	15.99	0.01	
20.00		20.01	-0.01	20.01	-0.01	
25.00		25.03	-0.03	25.03	-0.03	
20.00		20.02	-0.02	20.02	-0.02	
16.00		16.02	-0.02	16.02	-0.02	
13.00		12.99	0.01	12.99	0.01	
10.00		9.99	0.01	9.99	0.01	
9.00		9.01	-0.01	9.01	-0.01	
7.00		7.02	-0.02	7.02	-0.02	
5.00		4.99	0.01	4.99	0.01	
3.00		2.96	0.04	2.96	0.04	
2.50		2.45	0.05	2.45	0.05	
2.05		2.02	0.03	2.02	0.03	
2.00		1.97	0.03	1.97	0.03	
1.95		1.91	0.04	1.91	0.04	
0.00		0.00	nil	0.00	nil	

REMARKS maximum deviation does not exceed 0.2 % of maximum scale range

The results of the tests, calibrations and/or measurements included in this document are traceable to National measurement Institutes or facilities accredited to ISO/IEC17025 by a signatory to ILAC MRA.

Water Corporation

Meter Testing Laboratory
37 Lemnos Street
Shenton Park, WA 6008

AMSLWorkshop@watercorporation.com.au

NATA
WORLD RECOGNISED ACCREDITATION

Measurement results for volume are traceable to SI units. Reference equipment has been calibrated by the National Measurement Institute or NATA accredited laboratories. Accredited for compliance with ISO/IEC 17025 - Calibration

METER TEST REPORT

REPORT No: MET-LAB-2023-0828-A

Customer: Fire & Civil
Street Address: PO Box 7083
Suburb: Applecross, North WA, 6153
Customer Order No: 2045/46

No. 5471

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Machine (M) No. 3

Meter Make	Meter Type	Meter Number	Meter Size	Graduation Interval
Flowmaster	Mag Flow	1845	65mm	1 L

Test ID	Nominal Flow rate		Calibrated Volume	Time	Actual Flow Rate	Meter Readings (L)			Error (%)	Uncertainty	Water Temp (°C)		Water Pressure (kPa)		
	L/s	kL/H	Litres	Sec	L/s	Initial	Final	Total			Start	Finish	Start	Read 1	Read 2
A	5.0	18.0	4412.9	877.6	5.03	5	4421	4416	0.07%	0.42%	19.4	19.4	50	50	50
B	10.0	36.0	7764.6	775.3	10.02	30	7833	7803	0.49%	0.42%	17.5	17.6	50	50	50
C	15.0	54.0	4751.4	319.5	14.87	18	4809	4791	0.83%	0.43%	19.2	19.2	50	50	50
D	20.0	72.0	18964.1	952.2	19.92	23	19100	19077	0.60%	0.42%	17.8	19.2	80	80	80
E	25.0	90.0	12833.6	516.6	24.84	44	13010	12966	1.03%	0.42%	17.7	17.8	80	80	80
F	35.0	126.0	13710.5	392.6	34.92	84	13920	13836	0.92%	0.43%	17.8	17.7	100	100	100

Comment:

Test Equipment Used:

Test Rig:	CW592
Reference Flow Meter:	Asset ID: 93024; 100mm Line (1 to 60 L/Sec)
Reference Flow Meter:	Asset ID: 93026; 200mm Line (61-200 L/Sec)
Pressure Gauge:	Asset ID: 93018
Timing Device:	Asset ID: 59045
Thermometer:	Asset ID: 93031
Calibration Procedure:	AMSI-W-133

Note:

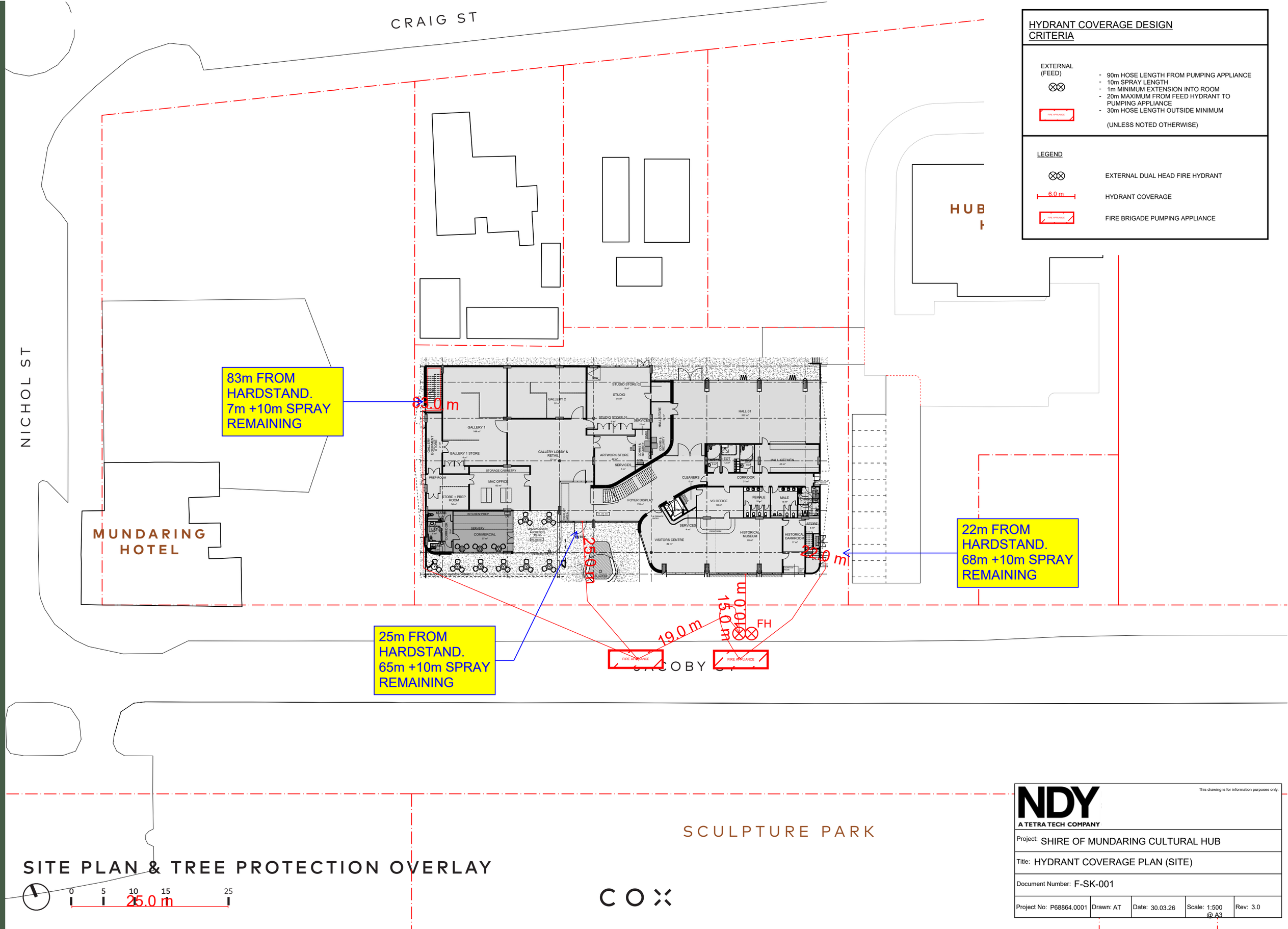
1) Actual Flow Rate = (Calibrated Volume) / (Time)
2) Meter Readings (Total) = Final - Initial Meter Reading
3) % Error = ((Meter Registration (Total) - Calibrated Volume) / Calibrated Volume))*100
4) Reported error is calculated by using calibrated volume
5) Water used as test medium

Measurement Uncertainty:

Measurement Uncertainties are calculated on test volumes and reported at 95% confidence with a coverage factor of 2.

Tested By: R.Threlfall — 26/10/2023

Certified By: R.Turley (Name) — (Signed) — 26/10/2023 (Date) (Approved Signatory)



HYDRANT COVERAGE DESIGN CRITERIA

EXTERNAL (FEED)

- 90m HOSE LENGTH FROM PUMPING APPLIANCE
- 10m SPRAY LENGTH
- 1m MINIMUM EXTENSION INTO ROOM
- 20m MAXIMUM FROM FEED HYDRANT TO PUMPING APPLIANCE
- 30m HOSE LENGTH OUTSIDE MINIMUM

(UNLESS NOTED OTHERWISE)

LEGEND

EXTERNAL DUAL HEAD FIRE HYDRANT

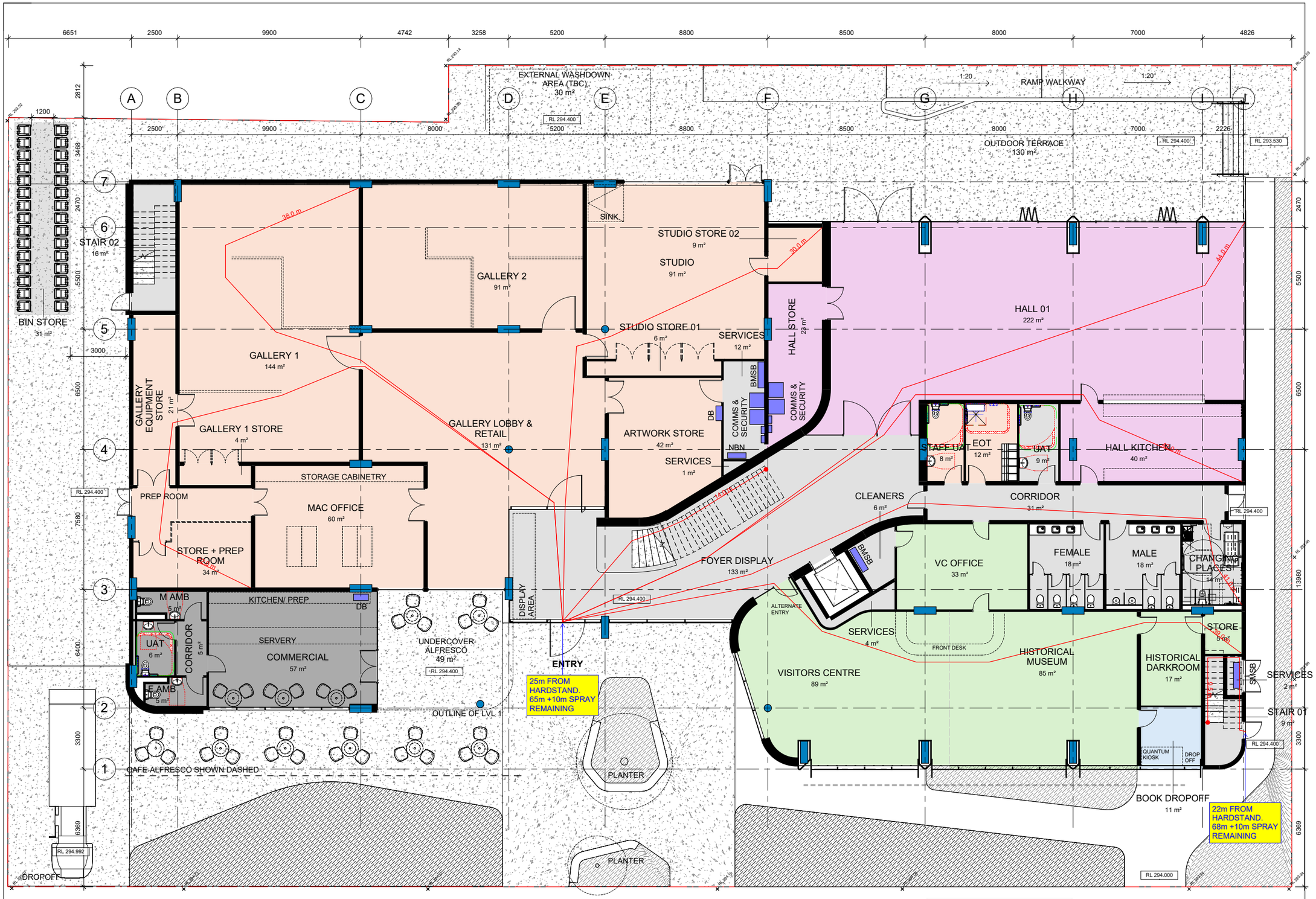
6.0 m HYDRANT COVERAGE

FIRE BRIGADE PUMPING APPLIANCE

NDY
A TETRA TECH COMPANY

This drawing is for information purposes only.

Project: SHIRE OF MUNDARING CULTURAL HUB				
Title: HYDRANT COVERAGE PLAN (SITE)				
Document Number: F-SK-001				
Project No: P68864.0001	Drawn: AT	Date: 30.03.26	Scale: 1:500 @ A3	Rev: 3.0



HYDRANT COVERAGE DESIGN CRITERIA

EXTERNAL (FEED)
- 90m HOSE LENGTH FROM PUMPING APPLIANCE
- 10m SPRAY LENGTH
- 1m MINIMUM EXTENSION INTO ROOM
- 20m MAXIMUM FROM FEED HYDRANT TO PUMPING APPLIANCE
- 30m HOSE LENGTH OUTSIDE MINIMUM

(UNLESS NOTED OTHERWISE)

LEGEND

EXTERNAL DUAL HEAD FIRE HYDRANT

1.0 m HYDRANT COVERAGE

FIRE BRIGADE PUMPING APPLIANCE

NDY
A TETRA TECH COMPANY

This drawing is for information purposes only.

Project: SHIRE OF MUNDARING CULTURAL HUB

Title: HYDRANT COVERAGE PLAN (GROUND FLOOR)

Document Number: F-SK-002

Project No: P68864.0001	Drawn: AT	Date: 30.03.26	Scale: 1:100 @ A3	Rev: 3.0

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Rev	Description	By	Date
A	Post Council Meeting	TS	250116
B	Stakeholder Review	TS	250120
C	Stakeholder Review 2	TS	250129
D	Landscape Coordination	TS	250219

COX

Cox Architecture
coxarchitecture.com.au

Client: Shire of Mundaring

Project No.: 624105.00

Project: Mundaring Cultural Hub
3165 - 3185 Jacoby Street

Acknowledgement

Drawing Title: GROUND FLOOR - GENERAL ARRANGEMENT PLAN

Document Control Status:

Co-ordinated: MB

Drawn: TS

Project Architect: TS

Scale: 1 : 100 @ A1

Project Director: MB

Date: 07/07/2025

Drawing Number: A-20-01

Revision: D

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PLOT STAMP DATE: 19/03/2026 12:11:22 PM

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Rev	Description	By	Date
A	Post Council Meeting	TS	250116
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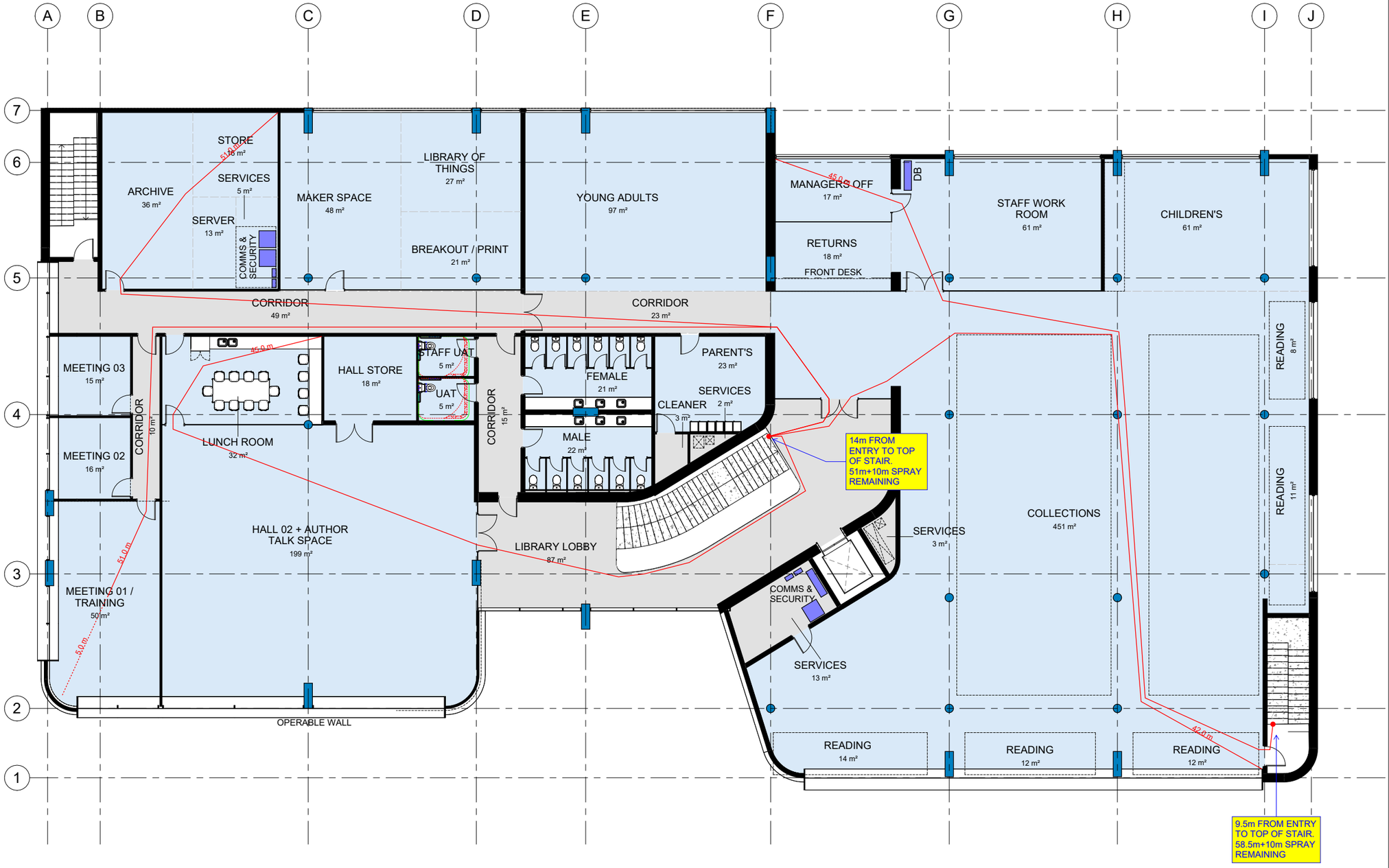

HYDRANT COVERAGE DESIGN CRITERIA

EXTERNAL (FEED)

- 90m HOSE LENGTH FROM PUMPING APPLIANCE
- 10m SPRAY LENGTH
- 1m MINIMUM EXTENSION INTO ROOM
- 20m MAXIMUM FROM FEED HYDRANT TO PUMPING APPLIANCE
- 30m HOSE LENGTH OUTSIDE MINIMUM

(UNLESS NOTED OTHERWISE)

LEGEND

EXTERNAL DUAL HEAD FIRE HYDRANT

1.0 m HYDRANT COVERAGE

FIRE BRIGADE PUMPING APPLIANCE

NDY
A TETRA TECH COMPANY

This drawing is for information purposes only.

Project: SHIRE OF MUNDARING CULTURAL HUB

Title: HYDRANT COVERAGE PLAN (LEVEL 1)

Document Number: F-SK-003

Project No: P68864.0001	Drawn: AT	Date: 30.03.26	Scale: 1:100 @ A3	Rev: 3.0

COX

Cox Architecture
coxarchitecture.com.au

Client: Shire of Mundaring

Project No.: 624105.00

Project: Mundaring Cultural Hub

3165 - 3185 Jacoby Street

Acknowledgement

Drawing Title: LEVEL 1 - GENERAL ARRANGEMENT

Document Control Status:

Co-ordinated:	Drawn:
TS	TS
Project Architect:	Scale:
TS	1 : 100 @ A1
Project Director:	Date:
MB	07/07/2025
Drawing Number:	Revision:
A-20-02	C

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Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

13. ESD / NDY

Ecological Sustainable Development Services

01. ESD Report
02. Sustainability Workshop Presentation

CONSULTANT ADVICE NOTICE

PROJECT: **SHIRE OF MUNDARING - CULTURAL HUB CONSTRUCTION**

CAN NO: **G-001[1.0]**

Date: **15 April 2025** **Project No:** **68864 - 001** **Pages:** **6**

NAME		COMPANY	EMAIL
To:	Matthew Batchelor	Cox Architecture Pty Ltd	matthew.batchelor@cox.com.au
	Jonathan Chong	Cox Architecture Pty Ltd	jonathan.chong@cox.com.au

SUSTAINABILITY INITIATIVES

This Consultant Advice Note (CAN) outlines the key sustainability initiatives recommended for implementation for the Mundaring Cultural Hub Project, Mundaring, WA.

Key sustainability principles have been identified for consideration and implementation to the project. These high-level initiatives are identified as capable of providing the most benefit to the project. Initiatives such as energy-efficient systems, water conservation measures, and the use of lower embodied carbon materials, not only reduces the carbon footprint but also fosters a healthy and sustainable environment. By promoting such initiatives, the project can instil a strong sense of sustainability to the building occupants, regular users and the wider community.

This CAN provides a high-level overview of sustainability principles that are applicable to the project, and the key initiatives for each for consideration. These initiatives will be further developed with the broader design team during further design phases.

- Operational Carbon
- Embodied Carbon
- Water Efficiency
- Responsible Procurement
- Health and Wellbeing
- Adaptation and Resilience
- Sustainable Transport
- Positive Ecology
- Waste

NDY, A TETRA TECH COMPANY LEVEL 11 200 ST. GEORGES TERRACE, PERTH WA 6000 AUSTRALIA
T +618 9281-6800 F +618 9281-6888 WWW.NDY.COM
NDY Management Pty Limited trading as NDY, A Tetra Tech Company ABN 29 003 234 571

Operational Carbon

Objective: to minimise carbon in operation.

Scope: emissions associated with operational energy and water usage.

Key Initiatives for Consideration:

- High performance building envelope with a key focus on passive design to enhance energy efficiency
- Ultra-energy efficient building services and controls that are 100% electrified for net zero operations
- Maximise on site renewables, and battery storage to balance energy loads to be reviewed
- Refrigerants with low global warming potential
- Off-site renewables via a renewable energy contract
- Maximise opportunities for natural ventilation
- Appropriate metering and monitoring to enable operational management of energy and water
- Strong commissioning and tuning plans to ensure the building is operating efficiently.

Outlined in Figure 1 below are the key considerations for the development to minimise the operational carbon footprint. The Project will consider several initiatives and strategies in line with this approach, with a key focus on passive design outcomes including external shading, and balancing window-to-wall ratio considering thermal comfort, energy as well as daylight access and views. Further design considerations and future proofing will be explored in the following design stages.

Off-site energy generation and offsets

- Green Power
- Purchase high-quality carbon offset units

Active design – On-site energy generation

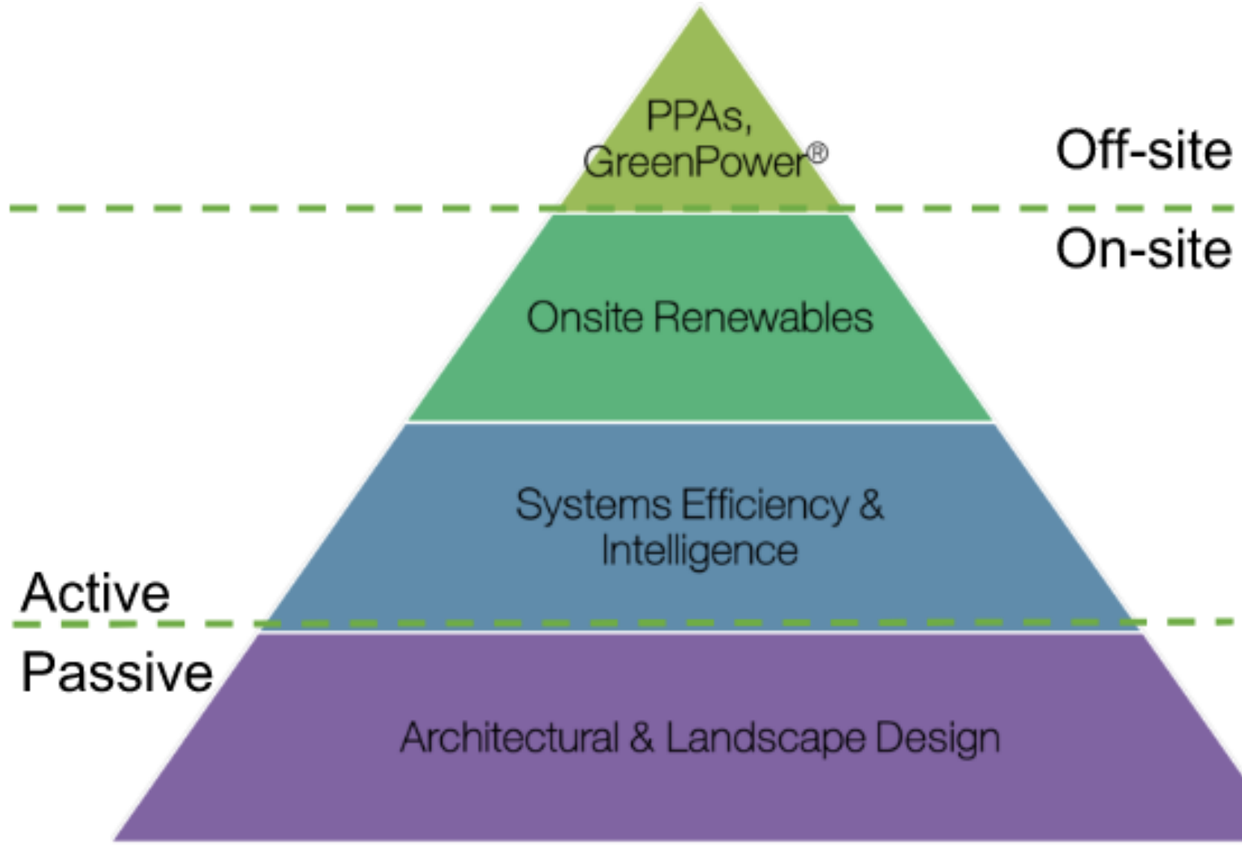
- Electrification
- Rooftop solar photovoltaics & onsite battery storage

Active design

- Efficient services
- Occupancy responsiveness for all services
- High efficiency equipment & lighting

Passive design

- Vegetation & light colours for urban heat island minimisation
- High performance building fabric and glazing
- Substantial passive external shading
- Thermal mass & insulative performance



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NDY Management Pty Limited trading as NDY, A Tetra Tech Company ABN 29 003 234 571

Embodied Carbon

Objective: to minimise upfront and embodied carbon.

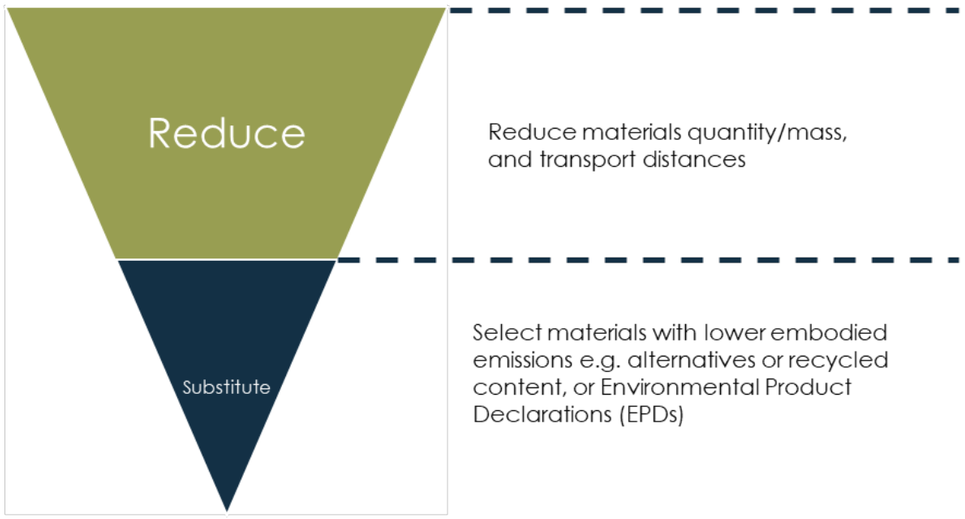
Scope: emissions associated with building materials, manufacturing, equipment and construction methodologies.

The potential to reduce embodied carbon for a development is strongest in the planning stage with the impact reducing significantly as the project progresses and the building form is established. Understanding hotspots across the project is key to developing robust design improvement strategies and to balance the performance across embodied (including upfront) and operational carbon.

Key Initiatives for Consideration:

- Life cycle assessment undertaken to identify embodied carbon hotspots* not currently in NDY scope, however, a scope and fee can be provided
- Specification of low carbon materials (concrete, steel, etc.) and products
- Prioritise carbon sequestering materials (timber)
- Specify refrigerants with low global warming potential
- Lower carbon construction activities
- Early engagement with contractors and suppliers
- Procure high quality nature based carbon offsets with strong co benefits.

The figure below demonstrates the hierarchy of effectiveness when considering the impacts of embodied carbon, demonstrating the largest impact are achievable through the reduction of materials.



Water Efficiency

Objective: to create a building with low water use.

Scope: potable water use associated with building operations and maintenance.

Key Initiatives for Consideration:

- Inclusion of water efficient fixtures
- Ultra-water efficient building services and controls including smart metering
- Hyper-local and climate resilient landscaping integrated into the broader project
- Rain gardens/stormwater management
- Recycled water options e.g. rainwater, greywater.

Responsible Procurement

Objective: procurement process for key products, materials, and services for the building's design and construction follows best practice environmental and social principles.

Scope: materials selection, social procurement policies

Key Initiatives for Consideration:

- Prioritising materials and products with sustainable credentials
- Key focus on an efficient structural and façade design that optimises material usage, reducing upfront carbon
- Risk-led process to manage sustainable impacts within the supply chain
- Product and materials selection from recognised certification programs
- Indigenous procurement initiatives
- Procurement initiatives to support local businesses and workforce.

Health and Wellbeing

Objective: to create a building that is conducive to occupant health and wellbeing and enhances the health and wellbeing of the building occupants and the community.

Scope: building occupants, employees and staff.

Key Initiatives for Consideration:

- High quality ventilation (mechanical and/or natural)
- High quality filtration on mechanical ventilation
- Daylight levels in line with best practice requirements
- Prioritise biophilic design and access to nature
- Enhanced acoustic performance
- Universal access and design for inclusion
- Design to encourage active movement through the building
- Inclusion of wellness and restorative spaces
- Maximise high quality views from internal to external
- Specification of finishes with low VOCs.

Adaptation and Resilience

Objective: to be resilient to the impacts of climate change and other acute and long-term risks.

Scope: building site, infrastructure networks, occupants and services.

Key Initiatives for Consideration:

- Undertake a climate change and resilience assessment and develop a risk register that considers climate change risks and acute shocks and stresses
- Undertake stakeholder engagement with relevant project stakeholders to identify resilience gaps and opportunities
- Consider future climate scenarios in whole building thermal modelling e.g., increased temperature, increased building occupancy
- Align the building specific climate change and resilience mitigation strategies with the business continuity plan for the centre.

Sustainable Transport

Objective: reduce the environmental impact of associated travel and provide alternative travel methods that are sustainable.

Scope: occupants, visitors and staff

Key Initiatives for Consideration:

- Provision for EV charging facilities included in design
- Secure bike parking for staff and visitors with end of trip facilities such as showers and lockers for staff
- Electric bike and scooter charger and storage provisions

Positive Ecology

Objective: enhance biodiversity of the site through nature positive design.

Scope: site and construction supply chain.

Key Initiatives for Consideration:

- Maximise landscaping opportunities
- Prioritise the specification of native plant species
- Prepare a Biodiversity Management Plan for the site
- Prioritise on site stormwater retention and treatment
- Minimise light pollution.

Waste

Objective: enhance waste streams are captured and disposed of in a sustainable manner.

Scope: occupants and staff

Key Initiatives for Consideration:

- Minimise waste sent to landfill associated with construction and demolition works
- Waste management to capture general, organic and comingled recycling, as well as any project specific waste streams (e.g. e-waste) during operation
- Specialist areas (e.g. kitchens) to have receptacles for all nominated waste streams
- Waste management and collection to align best practice guidelines for storage and collection.

NDY, A Tetra Tech Company

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Norman Disney & Young
A TETRA TECH COMPANY

SHIRE OF MUNDARING – CULTURAL HUB

SUSTAINABILITY

SUSTAINABILITY CONTEXT

The City's commitment to sustainability is embedded in the vision detailed in the Shire's Strategic Community Plan (SCP) 2020/2030 – to be "The place for sustainable living"

This vision is captured throughout the SCP, in particular in the 4 key goals being:

- **Community**
- **Natural Environment**
- **Built Environment**
- **Governance**

Figure extract from: Shire of Mundaring Strategic Community Plan 2020/2030

Sustainability

PROJECT KEY OBJECTIVES AND OUTCOMES

The project objectives is to enhance the social, economic and environmental vitality of Mundaring.

The project's focus is on creating a vibrant, sustainable and attractive town centre that meets the various needs of the residents, local businesses and visitors.

The proposed Cultural Hub aims to contribute to this by providing a high-quality facility that is fit for purpose and meets the needs of the community, resulting in improved efficiencies in energy use, facility maintenance and staff resourcing.

The key outcomes that have been identified for the project:

- Enhanced community engagement and social interaction

- Improved access to community services

- More efficient use of resources

- More efficient and adaptable Shire buildings

- Improved environmental sustainability

- Increased visitation and community service utilization

A SUSTAINABLE PRECINCT

THE NEW DEVELOPMENT WILL BE CONCEIVED AND DEVELOPED AS A SUSTAINABLE PROJECT AND PLACE “FROM THE GROUND UP”: ECOLOGICALLY, CULTURALLY, SOCIALLY AND ECONOMICALLY SUSTAINABLE

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THE PROJECT WILL SET A NEW BENCHMARK IN MUNDARING FOR INNOVATION AND SUSTAINABILITY DEMONSTRATING HOW TO ADAPT AND CHANGE WITH THE CHALLENGES OF THE FUTURE WITH AN EMPHASIS ON COMMUNITY VALUES AND VOICES.

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THE PROJECT REPRESENTS AN OPPORTUNITY TO DELIVER..

A BUILDING AND PRECINCT THAT IS ZERO-CARBON AND PEOPLE-CENTRIC - BUILDING LONG TERM RESILIENCE WITH THE LOCAL MUNDARING COMMUNITY AND CULTURE AT ITS HEART

SUSTAINABILITY VISION

For the Mundaring Cultural Hub, four focus areas have been identified as critical in ensuring an ambitious and meaningful sustainability vision is developed – ensuring alignment with the Shire of Mundaring's values and delivering on the project objectives.

1) **Carbon –** Considering whole of life carbon
2) **Social Value –** Celebrating and supporting community health, wellness and culture
3) **Place –** Designed with country, on country – architecture that celebrates place and its people
4) **Resilience –** Designed for todays and future climates, and Mundaring community – cultivating community, advocating, and educating

KEY SUSTAINABILITY INITIATIVES

OPERATIONAL CARBON

Sustainability

OPERATIONAL CARBON

Objective: to minimise carbon in operation.

Target: Carbon Neutral in Operations to align with Shire of Mundaring Emission Reduction Strategy

Target: reduction in Greenhouse gas emissions of 30% by 2030

Scope: emissions associated with operational energy and water usage – noting Electricity from facilities makes up significant component of the Shir of Mundaring emissions profile.

Key Initiatives:

- High performance building envelope with a key focus on passive design to enhance energy efficiency – NDY and Cox have ongoing workshopping to review passive design opportunities
- Inclusion of mix mode and natural ventilation – subject to review and design progression
- Efficient and responsive building services and controls that are 100% electrified for net zero operations
- Inclusion of on site renewables through Solar PV – optimized based on energy profile and demand for the site
- Off site renewables via a renewable energy contract or power purchase agreement with WALGA to be confirmed by the Shire of Mundaring. Potential for the Shire of Mundaring to be Climate Active Carbon Neutral certified.
- Strong commissioning and tuning plans to ensure the building is operating efficiently
- Explore rainwater collection and re use, and greywater treatment and re use on site noting extensive irrigation demand within the broader precinct and owner operated building

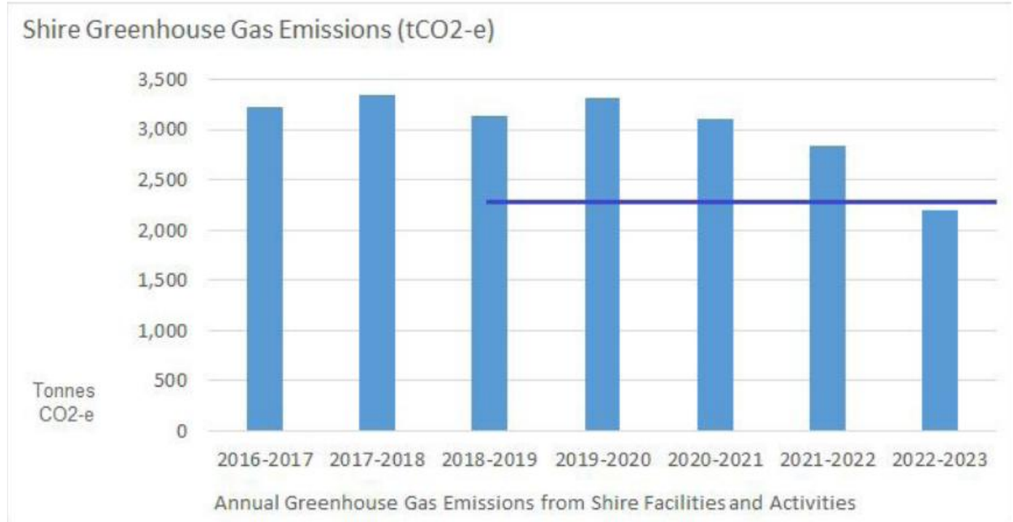


Figure extract from: Shire of Mundaring Emissions Reduction Strategy 2024

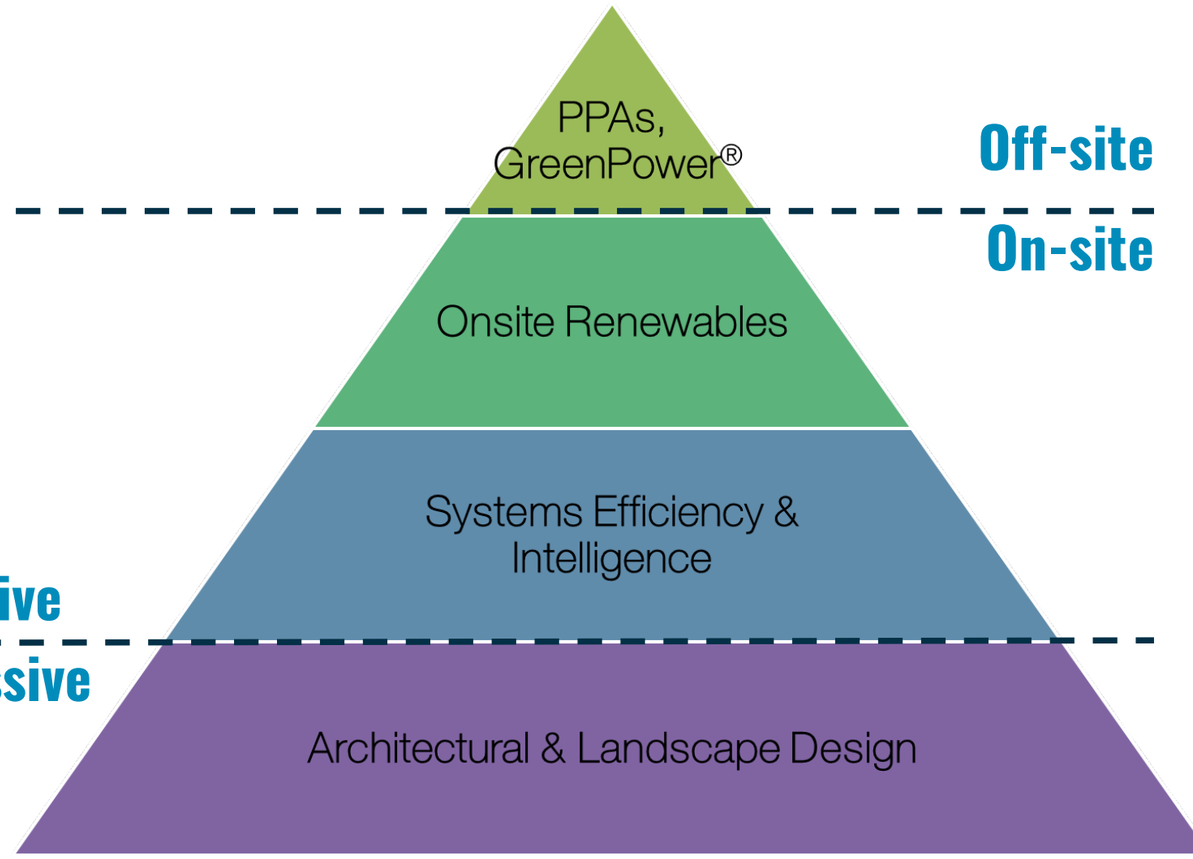
SUSTAINABILITY

OPERATIONAL CARBON

- Purchase high-quality carbon offset units
- Green power

- Maximise on site renewables
- Electrification
- Efficient services
- Occupancy responsiveness for all services
- High efficiency equipment & lighting

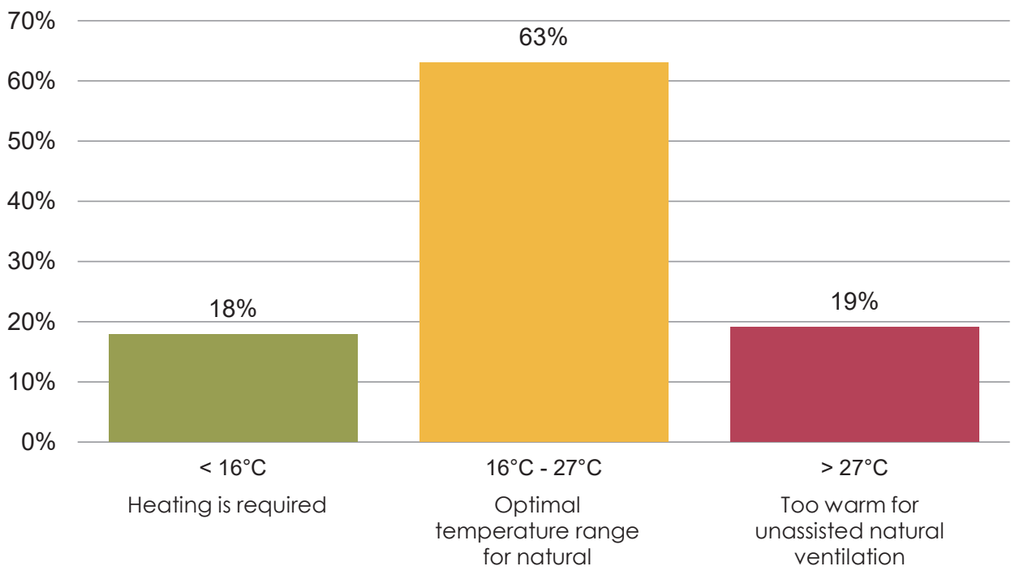
- Vegetation & light colours for urban heat island minimisation
- High performance building fabric and glazing
- High level of passive design



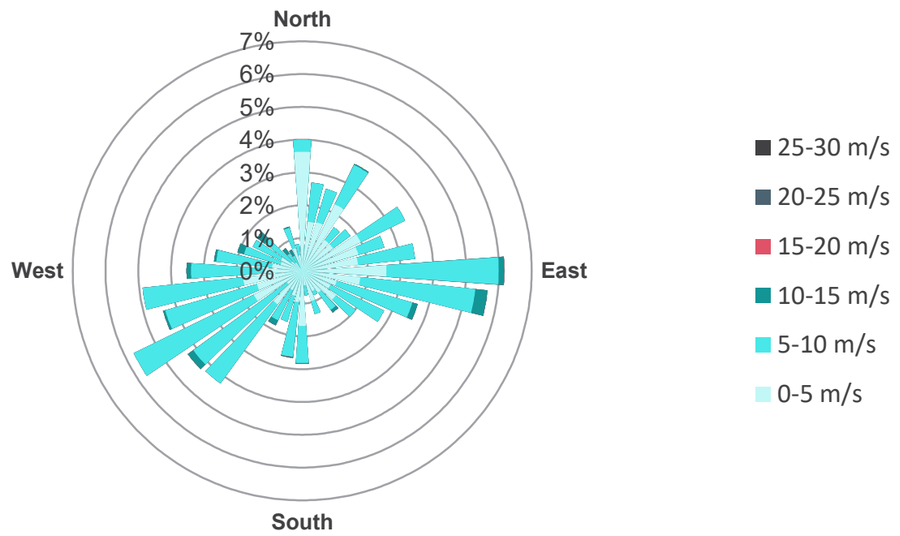
Sustainability

OPERATIONAL CARBON

Natural Ventilation Effectiveness – Daytime Hours



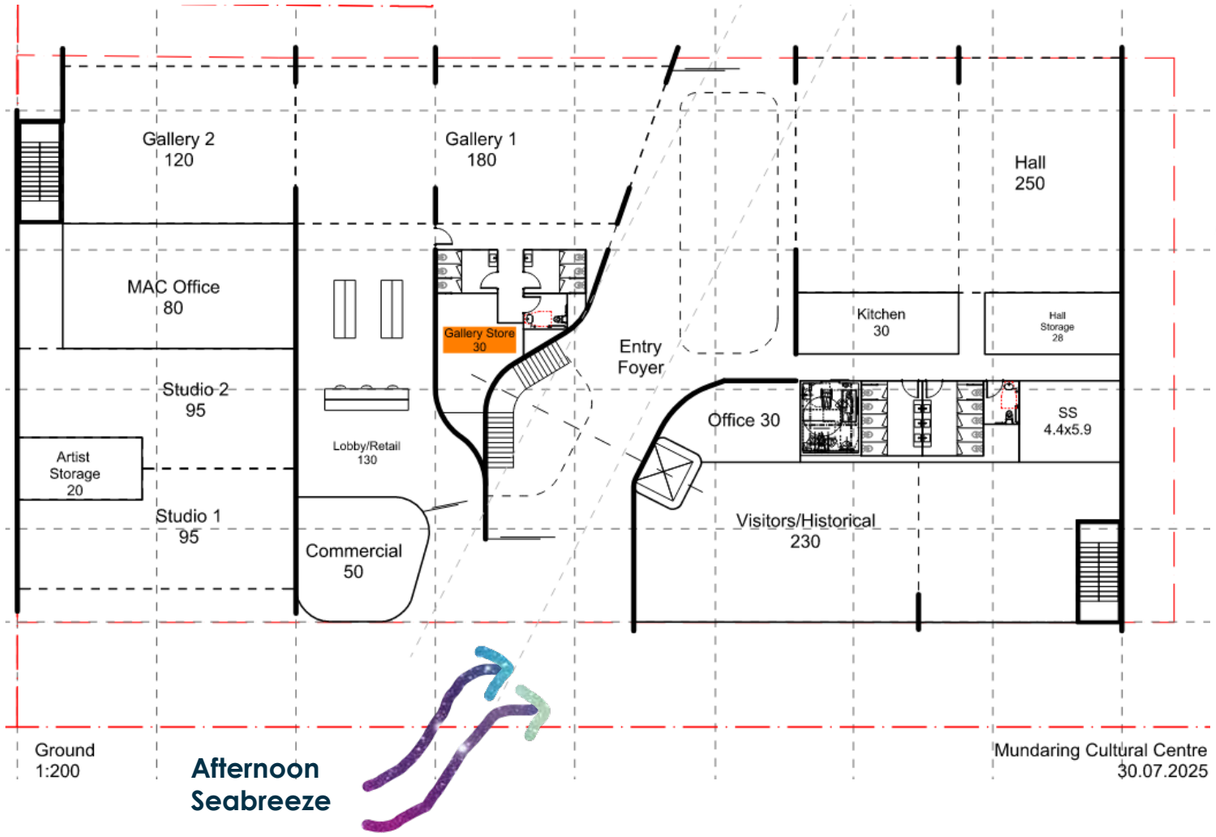
Annual Wind Frequency and Speed

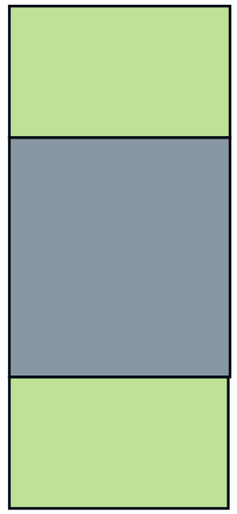


With relaxed set points to community spaces and identified internal zones there is an opportunity to operate in natural ventilation mode for significant periods of the year taking advantage of the local climate – NDY and Cox to workshop opportunities.

Sustainability

OPERATIONAL CARBON





Variable Condition Zone (relaxed set points, mixed mode)

High Control Zone

Variable Condition Zone (relaxed set points, mixed mode)

With relaxed set points to rooms adjacent to terraces, community spaces and identified internal zones there is an opportunity to operate in natural ventilation mode for significant periods of the year taking advantage of the local climate – reducing operational carbon and supporting occupant health and wellbeing – NDY and Cox to workshop opportunities.

Sustainability

OPERATIONAL CARBON

Design Targets

- 10-20% improvement over minimum DTS – absolute energy target TBC
- Key focus on occupant health and wellbeing (high quality daylight, maximise views, mixed mode, increased OA rates)
- Exceed NCC 2022 compliance
- Carbon Neutral in Operations TBC

Recommended Façade System Performance and Opportunities

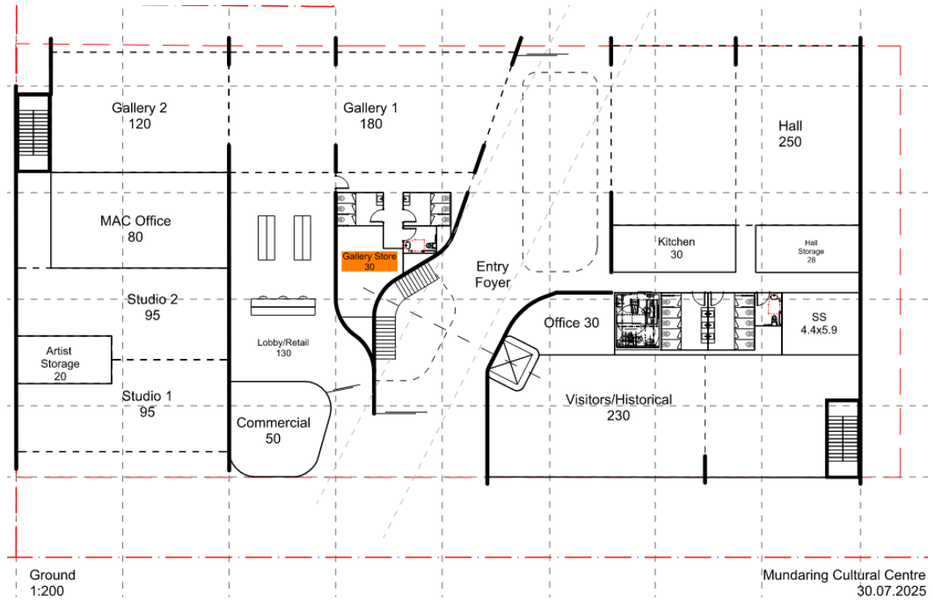
- Total System U-value 2.5 – 3.5 subject to passive design and WWR
- Spandrel and External Wall Total System R-value 1.0-1.2+
- SHGC 0.30-0.35 - VLT 0.55 - 0.6

Additional opportunities include

- Shading to N, E and W façade to be assessed holistically considering embodied carbon, daylight, views and thermal comfort
- Alternative façade specification to variable condition zones with relaxed set points – operability to the terraces?
- Improved façade thermal performance over and above NCC – with passive design principles
- Integration of double height spaces internal through voids and stairs to enhance indoor environmental quality, connectivity, daylight penetration and potentially support natural ventilation strategy (stack effect)
- Maximise extent of on site renewables
- Efficient and responsive services design

North
- Decrease WWR
- Horizontal shading fin detail to the north to be explored
- Improved glazing specification

West
- Decrease WWR
- Vertical shading fin detail to be explored
- Improved glazing specification
- Glazing specification to consider views, daylight and energy



South
- Maximise views – increased WWR – design out blinds.

East
- Balance WWR (60%)
- Vertical shading fin detail to be explored – design out blinds if feasible to enhance internal to external connection and views
- Glazing specification to consider views, daylight and energy

PASSIVE DESIGN REVIEW

NDY and Cox to workshop key focus areas for Passive Design – NDY Building Physics team will undertake a high level review and provide advice on opportunities to improve the passive design outcomes, to inform and support design decisions.

EMBODIED CARBON

Sustainability

EMBODIED CARBON

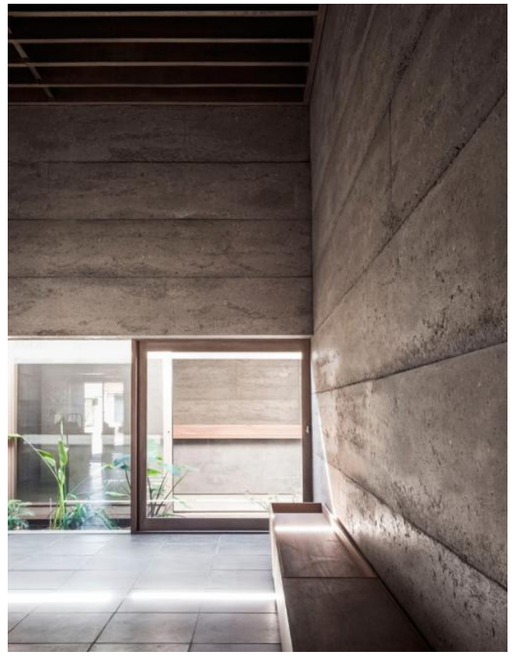
Objective: to minimise upfront and embodied carbon.

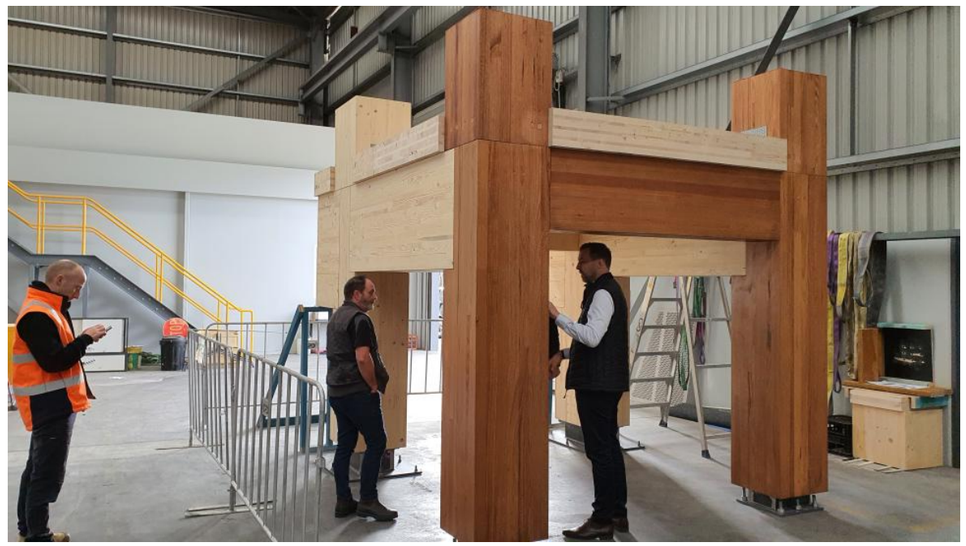
Target: 10-20% reduction in upfront carbon with absolute targets to be confirmed

Scope: emissions associated with building materials, manufacturing, equipment and construction methodologies.

Key Initiatives:

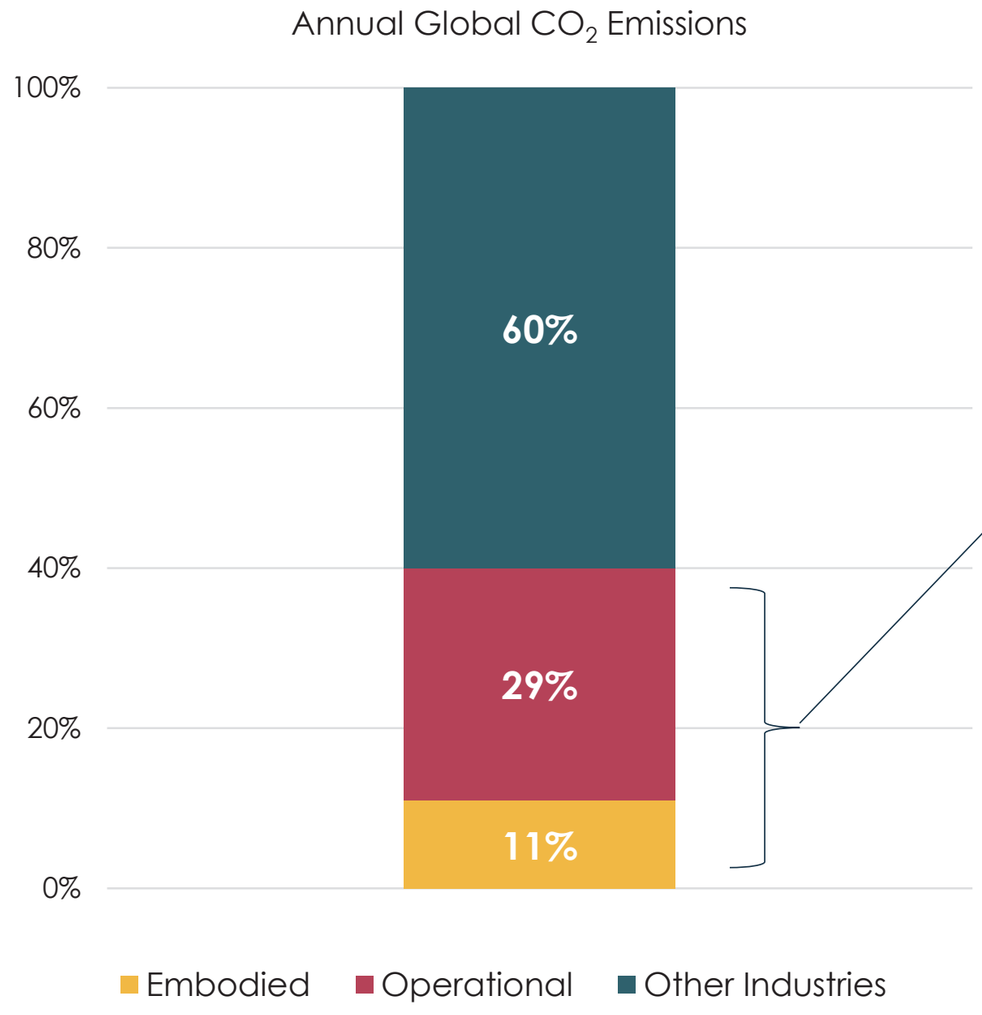
- Initial review of structural design and proposed materiality to identify embodied carbon hotspots
- Efficient structural design design to reduce the extent of materials, consideration for modern methods of construction and design for disassembly
- Prioritise dematerialization - ensure structure can be left as a raw finish as part of the fitout
- Specification of low carbon materials and products (rammed earth, timber)
- Prioritise carbon sequestering materials (timber)
- Key focus on circularity and design for disassembly – this is a key opportunity to collaborate with local suppliers and trades as part of the fit out works.
- Lower carbon construction activities to be implemented by Head Contractor during construction
- Set stringent construction and demolition waste targets – prioritise re use of existing materials on site in landscape design and broader precinct





Sustainability

WHY UPFRONT CARBON MATTERS?



40% of annual global CO_2 emissions are generated by the **built environment**

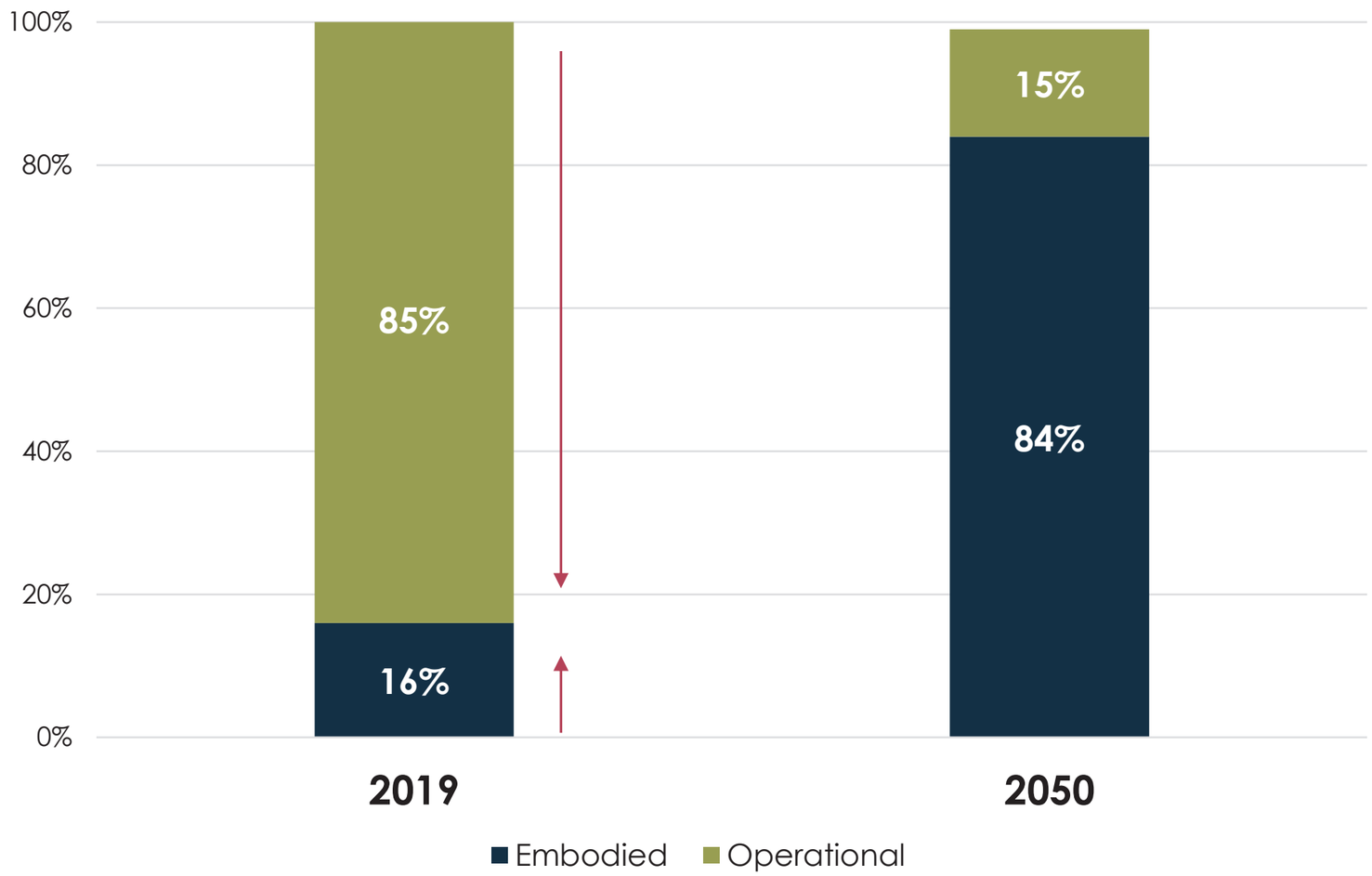
29% are from building operations

11% are from embodied emissions from materials and construction

https://www.nabers.gov.au/sites/default/files/2022-12/NABERS%20Embodied%20Emissions%20-%20Consultation%20Paper.pdf

Sustainability

THE PRIORITY IS SHIFTING

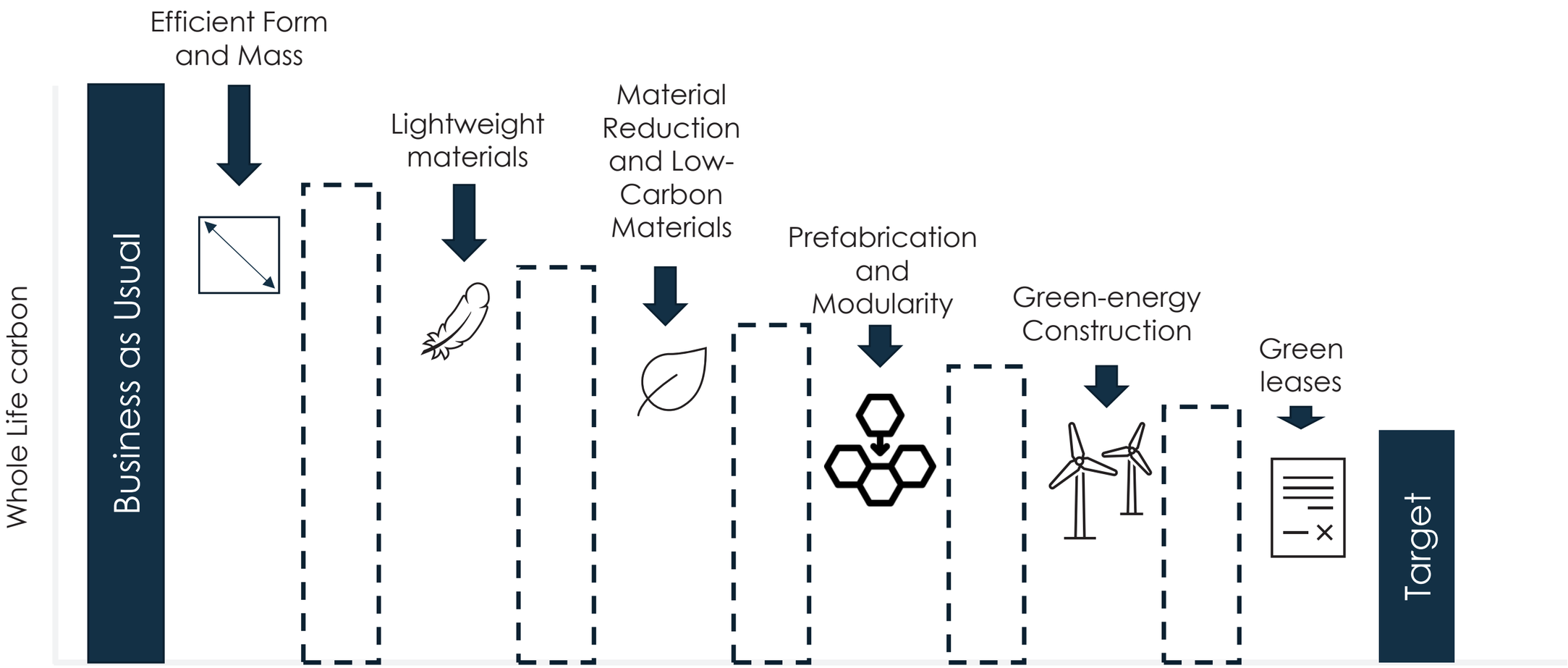


The Shire of Mundaring is committed to a power purchase agreement with WALGA reducing operational carbon and shifting the focus to embodied carbon

https://www.nabers.gov.au/sites/default/files/2022-12/NABERS%20Embodied%20Emissions%20-%20Consultation%20Paper.pdf

Sustainability

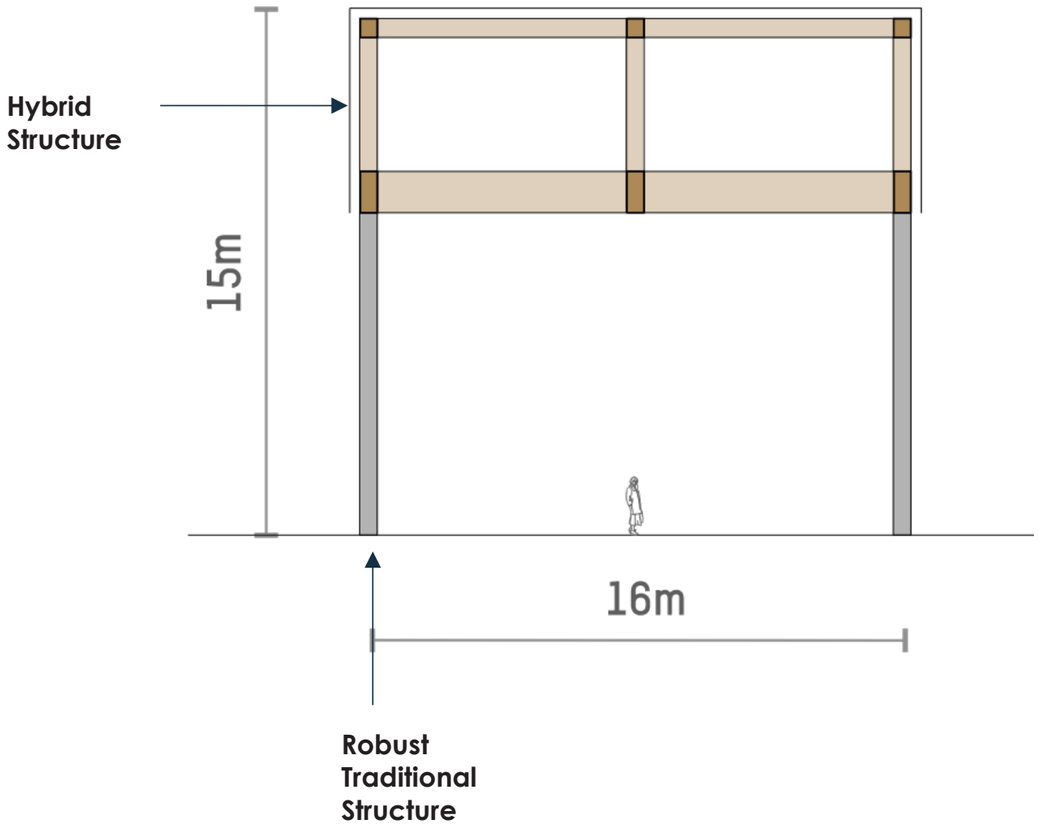
SUMMARY OF REDUCTION PRINCIPLES



Sustainability

STRUCTURAL OPPORTUNITIES

- 40%-60% of structural carbon budget is in the floor plate.
- Grid studies to be reviewed to identify opportunities to reduce materials volumes over BAU – options to be considered in the context of carbon, space planning, services integration, flexibility and modular construction opportunities.
- Additional opportunities include
  - Explore alternative structural systems (Rammed Earth, Timber/ Hybrid) – key opportunity for upper floor, and vertical integration (stairs and voids)
  - Lower embodied carbon concrete for slabs and foundations (Boral Envisia and alternatives available in WA market)
  - Focus on modular assembly and design for disassembly – early engagement with market to challenge this



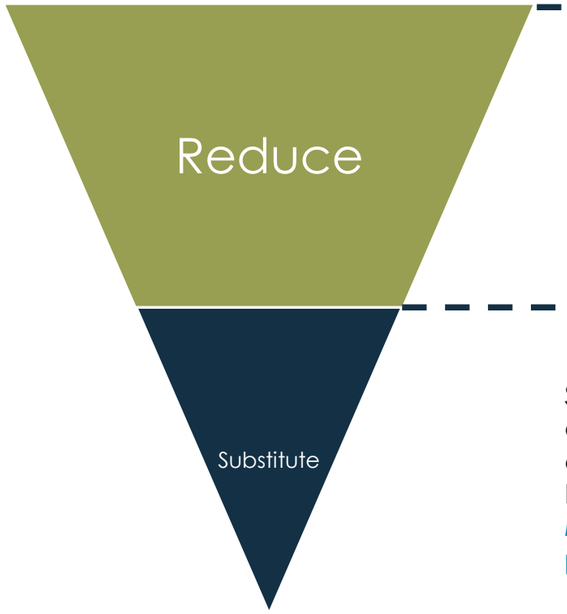
Sustainability

FACADE OPPORTUNITIES

- Façade materials make up 15-20% of the carbon budget – key focus on façade system design to reduce material quantities (to be considered holistically with operational carbon – additional shading vs embodied carbon penalty)
- Per kilogram of material, aluminium and glass are major contributors to upfront carbon – early engagement with supply chain for lower embodied carbon products
- Modular design and design for disassembly to be explored.
- Ensure embodied carbon does not outweigh operational energy gains
- Alternative materiality such as terracotta and clay could be explored for shading integration and passive design strategy – aligns with Mundaring History and Context of site

FURTHER MATERIAL REDUCTION OPPORTUNITIES

- Locate services core central to reduce service runs and reticulation (less materials) – prefabrication, modular approach that considers design for disassembly to services integration.
- Exposed ceilings – how can services become part of the architecture?
- Identify and prioritise products and materials sourced with an Environmental Product Declaration (EPD)
- Engagement with local supply chains, prioritise recycled materials (partnership with Local Suppliers? University partnerships on material science? Green Steel?)
- Ensure social value and co benefits are considered in supply chain.
- Partnerships with local and national designers and suppliers such as Remington Matters, Second Edition , Natural Brick and Revival Projects to explore circularity and sustainable material opportunities



Reduce materials quantity/mass, and transport distances
Typically results in lower cost

Select materials with lower embodied emissions e.g. alternatives or recycled content, or Environmental Product Declarations (EPDs)
May have cost premium or procurement risk.

HEALTH AND WELLNESS

Sustainability

HEALTH AND WELLBEING

Objective: to create a building that is conducive to occupant health and wellbeing and enhances the health and wellbeing of the community.

Target: Best practice target for daylight access, high quality views, biophilic design, acoustic comfort, natural and mechanical ventilation, and community benefit.

Scope: building occupants, employees, staff and the local community.

Key Initiatives:

- High quality ventilation (mechanical and natural)
- High quality filtration on mechanical ventilation
- Maximise access to high quality views and daylight levels
- Prioritise biophilic design and access to nature both within the building and how the building interacts with the broader precinct
- Enhanced acoustic performance
- Universal access and design for inclusion with key engagement with Shire of Mundaring to ensure integration with fitout works and the broader precinct – beyond the code approach to universal design, this could include adopting principal for material contrast, lighting, acoustic, signage and wayfinding that cater for neuro diversity
- The terraces and outdoor spaces provider key opportunity for inclusion of wellness and restorative spaces for building occupants, staff and the local community – can these spaces be used for education, events, training – diverse spaces that change with the needs of the community
- Maximise high quality views form internal to external – can we design out the need for blinds and glare control to the north, west and east façade – enhance the internal to external connection – spaces within the trees
- Specification of finishes with low VOCs and formaldehyde – with a focus on natural materials that support the biophilic design strategy

ECOSYSTEM AND ECOLOGY

Sustainability

ECOSYSTEM AND ECOLOGY

Objective: enhance biodiversity of the site through nature positive design, that considers local climate, climate change and resilience, site context and water sensitive urban design.

Scope: site and construction supply chain, building and precinct operations.

Key Initiatives:

- Inclusion of water efficient fixtures
- Ultra-water efficient building services and controls
- Hyper-local and native landscaping integrating with the broader precinct
- Inclusion of productive landscaping and community gardens with community access and training on best practice urban agriculture – to be considered as part of the broader precinct noting limited site area for the Cultural Hub – refer the Cultivating Community at Burwood Brickworks
- Specification of rainwater harvesting and re use and greywater treatment and re use on site to be reviewed
- Water sensitive urban design – priroitise retention and treatment of stormwater runoff passively on site through bioswales, raingardens, infiltration.
- Landscaping prioritises the specification of native and productive planting
- A Biodiversity Management Plan to be prepared for the site to ensure ongoing maintenance and management of planting
- As part of the biophilic design strategy, the building provides significant opportunity for the inclusion of indoor landscaping and planting to outdoor rooms, terraces

Sustainability

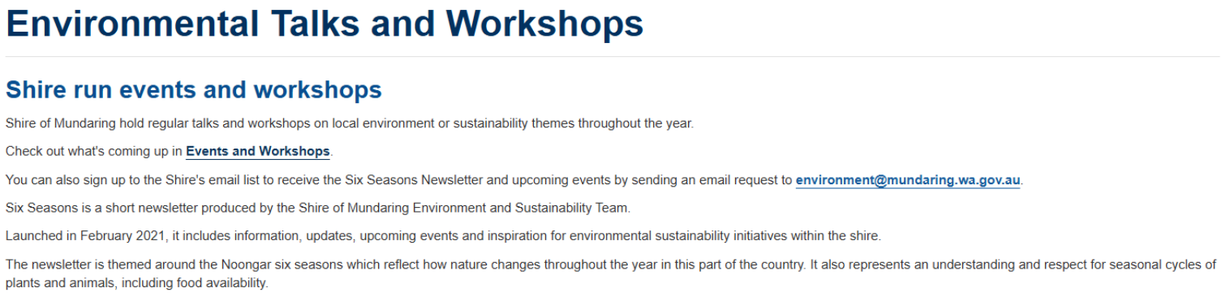
ECOSYSTEM AND ECOLOGY

Objective: enhance biodiversity of the site through nature positive design, that considers local climate, climate change and resilience, site context and water sensitive urban design.

Scope: site and construction supply chain, building and precinct operations.

Key Initiatives Continued:

- A project specific climate change and resilience assessment can be undertaken and a risk register developed that considers climate change risks and acute shocks and stresses – with key risks and mitigation strategies integrated into the design
- The architecture works with the existing landscaping considering the local climate, reducing heat island effect, providing climate ready high quality spaces internally and externally
- Ongoing stakeholder engagement with relevant project stakeholders will be held through detailed design and in coordination with the Shire of Mundaring to identify resilience gaps and opportunities
- Community education days, events and training can be facilitated within the new building and precinct to increasing engagement, enhancing wellbeing, and cultivating community from the inside out



Environmental Talks and Workshops

Shire run events and workshops

Shire of Mundaring hold regular talks and workshops on local environment or sustainability themes throughout the year.

Check out what's coming up in **Events and Workshops**.

You can also sign up to the Shire's email list to receive the Six Seasons Newsletter and upcoming events by sending an email request to **environment@mundaring.wa.gov.au**.

Six Seasons is a short newsletter produced by the Shire of Mundaring Environment and Sustainability Team.

Launched in February 2021, it includes information, updates, upcoming events and inspiration for environmental sustainability initiatives within the shire.

The newsletter is themed around the Noongar six seasons which reflect how nature changes throughout the year in this part of the country. It also represents an understanding and respect for seasonal cycles of plants and animals, including food availability.

Sustainability

SOCIAL VALUE

Objective: embed social value into the building and precinct design to create spaces that enhance wellbeing and strengthen our communities

Scope: site, building occupants, employees, staff and the local community

Key Initiatives:

- **Celebrate Culture and Identity through Indigenous Engagement:** Ensure the building and precincts design and construction incorporates design elements using the Indigenous design and planning strategies and principles from the Australian Indigenous Design Charter and engagement with an Indigenous Working Group
- **Equal access to the building:** Provide equitable, appealing, safe, and secure access in a manner that does not segregate or stigmatise users through all principal entrance points and main thoroughfares inside and outside the building and improving access within the broader precinct.
- **Diverse wayfinding:** Introduce visual, physical, olfactory, and auditory solutions to help individuals navigate the site in a safe and enjoyable manner.
- **Inclusive spaces:** Introduce internal and external spaces for a diverse range of users, including parents, family restrooms, emergency rooms, quiet rooms, wellness rooms and social interaction rooms.

Employment Opportunities

- Generation of employment opportunities for disadvantaged and under-represented groups can be achieved either:

- Directly, through workforce targets

- Indirectly, through social procurement as part of the ongoing operations of the building and precinct.

A big opportunity for the design team and Shire of Mundaring to engage directly with local Indigenous Business and use the project to deliver tangible positive outcomes

CERTIFICATION OPTIONS

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Environment – Australia, NZ, South Africa

Occupant Health & Wellbeing - Global

Green Star Buildings	WELL Interiors
Living Building Challenge	Carbon Neutrality

Holistic and Exemplar Sustainability – Global

Environment – Australia and Global

Sustainability

GREEN STAR BUILDINGS

Green Star Buildings is a voluntary sustainability rating tool for buildings in Australia, administered by the Green Building Council of Australia (GBCA), to lead the sustainable transformation of the built environment.

Green Star is a holistic rating system, covering a wide range of sustainability themes and initiatives. The categories included under the Green Star Buildings framework are as follows.

RESPONSIBLE: Recognizes activities that ensure the building is designed, procured, built, and handed over in a responsible manner.

PLACES: Supports the creation of safe, enjoyable, integrated, and comfortable places.

HEALTHY: Promotes actions and solutions that improve the physical and mental health of occupants.

PEOPLE: Encourages solutions that address the social health of the community.

RESILIENT: Encourages solutions that address the capacity of the building to bounce back from short-term shocks and long-term stresses

NATURE: Encourages active connections between people and nature and rewards creating biodiverse green spaces in cities.

POSITIVE: Encourages a positive contribution to key environmental issues of carbon, water, and the impact of materials.

LEADERSHIP: Recognizes projects that set a strategic direction, build a vision for industry, or enhance the industry's capacity to innovate.

Green Star's many benefits are applicable to this project, which includes:

- **Lower operating costs.** Green Star put emphasis on energy and water efficient design, lowering ongoing operational costs.
- **Enhanced marketability.** Green Star rated buildings receive strong recognition within the market – helping to showcase the building's and Shire of Mundaring's overarching sustainability commitment.
- **Healthier, more productive places to live and work.** Healthier buildings, governed by Green Star's IEQ requirements, are proven to provide benefits to occupant wellbeing and assist in greater workplace productivity.
- **Demonstration of Corporate Social Responsibility.** A sustainability certified Cultural Hub aligns with Shire of Mundaring's corporate ESG policies.

*It is important to note that certification against Green Star will require the engagement of specialist consultants over and above the current design team, and certification fees payable to the GBCA, as such, given the projects budget – a bespoke sustainability strategy with absolute targets for sustainability initiatives (carbon, water IEQ etc.) may be more fit for purpose for this project and needs to be workshopped between NDY, Cox and the Shire of Mundaring

Project target	TBC

Sustainability

LIVING BUILDING CHALLENGE

What if every single act of design and construction made the world a better place?

The Living Building Challenge is a philosophy, advocacy tool, and certification program defining today's most advanced measure of sustainability in the built environment. It addresses all buildings at all scales and is an inclusive tool for transformative design.

The Living Building Challenge provides a framework for designing, constructing, and improving the symbiotic relationships between people and all aspects of the built and natural environments. Imagine a building that is as efficient as a flower; a simple symbol for the ideal built environment. The Living Building Challenge is organized into seven performance areas.

PLACE: Restoring a healthy inter relationship with nature.

WATER: Creating developments that operate within the water balance of a given place and climate.

ENERGY: Relying only on current solar income.

HEALTH & HAPPINESS: Creating environments that optimise physical and psychological health and well being.

MATERIALS: Endorsing products that are safe for all species through time.

EQUITY: Supporting a just and equitable world.

BEAUTY: Celebrating design that uplifts the human spirit.

CORE GREEN BUILDING CERTIFICATION

CORE GREEN BUILDING CERTIFICATION

Core Green Building Certification (Core Certification) is for projects seeking a high aspiration certification that is verified, holistic and readily achievable. Projects must meet the requirements of the ten Core Imperatives – up to two Core Imperatives per Petal – and verify performance for water and energy through a twelve month performance period. All Imperatives required for this certification are described in this Standard, and are consolidated into the Core Green Building Certification Standard.

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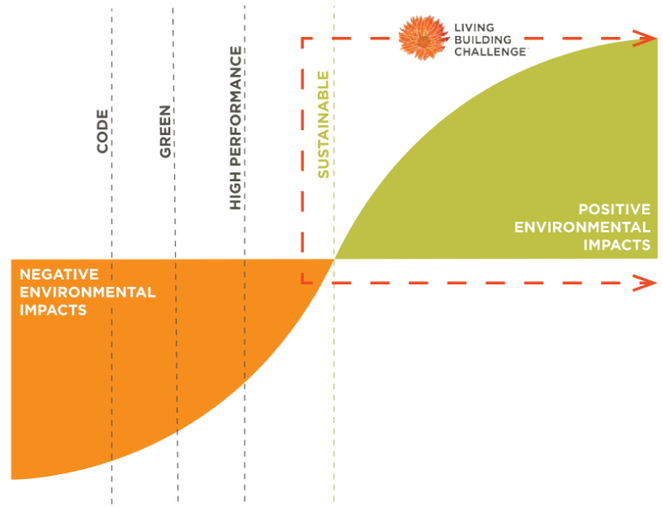
LIVING BUILDING CHALLENGE

THE LIVING BUILDING CHALLENGE IS A PHILOSOPHY, CERTIFICATION, AND ADVOCACY TOOL FOR PROJECTS TO MOVE BEYOND MERELY BEING LESS BAD AND TO BECOME TRULY REGENERATIVE.



The Living Building Challenge aligns closely with the projects sustainability aspirations and provides a strong and robust framework for the development and implementation of the sustainability strategy, however, there are a number of minimum expectations that must be met for certification such as 100% of energy and water provided within the site boundary, both will be difficult to achieve for the project noting the project budget and site constraints – NDY recommend alignment to the LBC is, and a broader bespoke sustainability strategy.

Project target	Alignment

Sustainability

CARBON NEUTRALITY

The Climate Active Carbon Neutral Standard for Buildings (Building Standard) is a voluntary standard to manage greenhouse gas emissions and achieve carbon neutrality. It provides best- practice guidance on how to measure, reduce, offset, validate and report emissions that occur as a result of the operations of a building. **The ILFI ZERO Carbon Certification or Net Zero Energy certification** is governed by the International Living Future institute and provides a pathway for new buildings to certify as Net Zero Energy (considering all operational carbon) and/ or Net Zero Carbon (considering all embodied and operational carbon).

Carbon Neutrality or Net Zero Carbon certification under one of the certification frameworks has several benefits for this project, which includes:

- **Market-leading demonstrated commitment to Carbon Neutrality.** Third party verified certification for Carbon Neutrality, including public reporting that aligns with Shire of Mundaring's commitments.
- **Improved marketing and brand collateral.** Including perception of Shire of Mundaring's efforts and actions towards sustainability and wellness amongst its staff.
- **Carbon accounting.** That can be used more broadly by the Shire of Mundaring's team as part of an organisational carbon account.

NDY
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Climate Active Carbon Neutral ORGANISATION

ZERO CARBON CERTIFICATION

ZERO CARBON CERTIFICATION
Zero Carbon (ZC) Certification is for projects focused on impacting climate change through energy and materials. This certification requires that one hundred percent of the operational energy use associated with the project be offset by new on- or off-site renewable energy. It also requires a targeted energy efficiency level and a reduction in the embodied carbon of the project's primary materials.[7] In addition, one hundred percent of the carbon emissions impacts associated with the construction and materials of the project must be disclosed and offset.

OPERATIONAL CARBON is defined as the greenhouse gas emissions associated with the operational energy use of a building. This includes all carbon from energy required to heat and power the building, including but not limited to lighting, plug loads, heating and cooling, and cooking.

EMBODIED CARBON is defined as the greenhouse gas emissions associated with the raw material extraction, manufacturing and processing, transportation, and installation of all building materials.

The Zero Carbon Certification program is structured around three key strategies:

REDUCE operational and embodied carbon emissions through design optimization, the use of efficient and combustion-free building systems, and the responsible selection of materials;

DISCLOSE the actual energy consumption of the building and the embodied carbon of the installed materials and construction process;

OFFSET all carbon emissions associated with the project through the procurement of renewable energy, carbon-sequestering materials, and carbon offsets.

The Shire of Mundaring Emissions Reduction Strategy 2024 outlines the pathway to ongoing emissions reductions – as such we recommend alignment with the ILFI Zero Carbon Certification – to be combined with a broader bespoke sustainability strategy with absolute targets for sustainability initiatives (carbon, water, IEQ etc.) as detailed in this presentation.

Project target	Zero Carbon Certification TBC

Sustainability

WELL BUILDING STANDARD

The WELL Building Standard is a vehicle for buildings and organizations to deliver more thoughtful and intentional spaces that enhance human health and well-being. Backed by the latest scientific research, WELL includes strategies that aim to advance health by setting performance standards for design interventions, operational protocols and policies and a commitment to fostering a culture of health and wellness. Built on the pioneering foundation of the first version of the WELL Building Standard (WELL v1), WELL v2 draws expertise from thousands of WELL users, practitioners, medical professionals, public health experts and building scientists around the world.

WELL has several benefits for this project, which includes:

- **Market-leading demonstrated commitment to staff health and wellbeing.** A certified WELL rating will provide a tangible response to staff, demonstrating that their health and wellbeing is essential to them and company success.
- **Enhanced marketability.** WELL certified buildings and workspaces provide a signal to the market that health and wellbeing matters.
- **Healthier, more productive places to live and work**. Healthier buildings are proven to provide benefits to occupant wellbeing and assist in greater workplace productivity.

NDY recommend project alignment with the design and construction features of the WELL Building Standard with a key focus on occupant health and wellbeing, without formal certification – as noted against Green Star, a bespoke sustainability strategy with absolute targets for sustainability initiatives (carbon, water, IEQ etc.) is fit for purpose for this project and needs to be workshopped between NDY, Cox and the Shire of Mundaring prior to formalising the strategy for the final submission.

Project target	Alignment

Norman Disney & Young
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THANK YOU

Mundaring Cultural Centre

Concept Design Report

August 2025

Appendices

14. BAL / Bushfire Prone Planning

BAL Assessment Services

01. BAL Contour Map

Figure 3

BAL Contour Map

Lot 4, 6 and 8 on Diagram 040540
3205 Jacoby Street,
Mundaring
SHIRE OF MUNDARING

LIBRARY LANE
NICHOL ST
NICHOL ST
CRAIG ST
MUNDARING WEIR RD
JACOBY ST
MADDOCK ST
JACOBY ST
MUNDARING WEIR RD
PHILLIPS RD

------ LEGEND ------

- Subject Site
- Cadastral
- Hydrants
- 100m Assessment Area

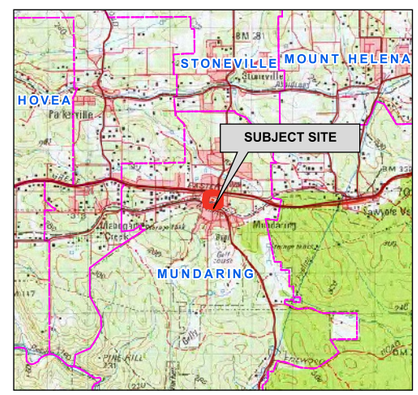
Bushfire Attack Levels

- BAL-FZ
- BAL-40
- BAL-29
- BAL-19
- BAL-12.5
- BAL-LOW

0 10 20 30 40 50

Metres

------ LOCALITY ------



AERIAL IMAGERY: Landgate/SLIP

Coordinate System: GDA 1994 MGA Zone 50
Projection: Universal Transverse Merctaor Units: Metre
Map by: 23-07-2025
SCALE (A3): 1 : 1100

BUSHFIRE PRONE PLANNING

Disclaimer and Limitation: This map has been prepared for bushfire management planning purposes only. All depicted areas, contours and any dimensions shown are subject to survey. Bushfire Prone Planning does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequence which may arise from relying on any information depicted.

241287_Fig 3_BAL_Mundaring Cultural Hub Jacoby Street Mundaring.qgz

Mundaring Cultural Centre

Concept Design Report
(REV B)

March 2026

Appendices

15. Waste

/ ENCYCLE

Operations & Service Delivery

01. Operational & Service Delivery Model - Concept Design Report

Design Brief

Mundaring Cultural Hub

Rev_0

Project No. 24-1671

Cox Architecture

22 March 2026

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Revision	Drafted by	Reviewed by	Date issued
Rev_0 (draft)	J Bradbury		5 February 2026
Rev_0	J Bradbury	J Ferguson	22 March 2026

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Encycle Consulting 2026

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1 Development details

This Design Brief has been prepared for the following project:

Project	**Mundaring Cultural Hub,** 3165 (Lot 8), 3185 (Lot 6), 3205 (Lot 4) Jacoby Street and 8 (Lot 277) Craig Street, Mundaring WA
Client	Shire of Mundaring
Architect	Cox Architecture
Main point of contact	Tim Seals – Cox Architecture
Planning status	Pre Development Application Lodgement (Concept Design)
Overview of development	The Mundaring Cultural Hub is proposed as a new, purpose-built facility to consolidate community services into a single location. It is intended to include spaces for a library, an arts centre with galleries and studios, a visitor centre, a local history display area, shared-use community hall and hall flex space and a commercial space
Sustainability objectives and targets	The original Mundaring Cultural Hub RFT outlined sustainability initiatives expected to contribute to a Green Star rating, however it did not specify the number of stars. It is assumed to be rated under the Green Star Buildings V1.1 and therefore, the mandatory Operational Waste credit (credit 4) will be required to be achieved.
Architectural plans	Architectural plans, received from Tim Seals on 27 January 2026
Local Government Authority	Shire of Mundaring

2 Actions – design team

This report is not a Waste Management Plan. The purpose of this report is to provide information to the design team so that compliant waste management and recycling systems can be incorporated into the architectural plans.

For Encycle to prepare and finalise the Waste Management Plan for Development Application (DA), actions in Table 1 are required to be carried out by the design team.

Allow up to two (2) weeks after completion of actions for Encycle to issue the Waste Management Plan.

Table 1: Action list

Action list	Document reference
☐ Check and confirm project parameters are correct ☐ Check and confirm assumptions are correct ☐ Confirm management assumptions are correct ☐ Address design considerations	**Section 3**
Send to Encycle the final area schedule with: ☐ commercial tenancy NLAs and uses	**Section 3**
☐ Create and send to Encycle the swept path analysis drawings	**Section 4**
☐ Confirm collection point/s and method ☐ Include waste collection access requirements in design	**Section 4**
☐ Confirm if green waste (e.g. from green walls) will be generated from the development, and require storage in the bin store	**Section 5**
☐ Incorporate number of bin stores and number of bins per bin store in design	**Section 5**
☐ Create and send to Encycle bin store plans including bins and equipment are marked up as outlined in 'Bin store design'	**Section 5 and Section 6**
☐ Interior designers to include waste streams/bin stations in interior design plans	**Section 8**

3 Project parameters, assumptions and design considerations

3.1 Project parameters

The development when operational will include the following areas:

- Ground floor and first floor development with a total floor area of 3,088 m^2
- Total waste generating floor area 1,479 m^2
  - Cafe space - 106 m^2 (includes alfresco area)
  - Library/office/gallery/hall/meetings rooms – 1,151 m^2
  - Retail space – 222 m^2

3.2 Assumptions

In calculating the waste generation for the development, the following assumptions have been made:

- The building, including the commercial space is assumed to is assumed to operate 6 days per week
- The commercial space is assumed to be a cafe
- The café will utilise cooking oil and therefore require cooking oil collection
- Organic waste (food waste) will be source separated and taken to an off-site composting facility by a service provider
- Minimal garden waste will be produced and can be accommodated in the foo waste bins
- CDS-eligible containers generated from the building areas will be segregated into CDS bins
- Best practice waste systems for segregation of recyclables will be implemented
- The separation of waste streams relies on good internal infrastructure for bins and signage
- Areas occupied by plant / equipment, corridors, storage areas, water closets and void spaces are non-waste generating areas and have been excluded from the calculations where possible
- Secure document bins will be used, however these will be collected directly from their location and will not be stored in a bin store
- Weekly collection of waste and commingled recycling is possible
- Food and drink will not be permitted in the library (apart from the authors talk space, meeting rooms and hall), visitors centre, museum and lobby area near the gallery

3.3 Management assumptions

It is assumed that the following management measures in Table 2 will be in place when the development becomes operational.

Table 2: Management assumptions

Management measure	Assumption
Maintenance of the bin store – ensuring stores are clean and tidy	Cleaners
Setting bins out on the verge for collection	Cleaners
Communication with visitors/staff about source separation of waste streams	Building Management
Communication with visitors/staff about correct use of the waste and recycling systems/equipment	Building Management

3.4 Local Government Guidelines

The following have been used in the development of this report:

- WALGA Commercial and Industrial Waste Management Plan Guidelines (2018)

3.5 Local Government requirements and discussions

- The Shire of Mundaring has confirmed that 240 L bins will be used for collection via email correspondence with Lynette Correia, Axis Project Solution, 5 February 2026
- The Shire of Mundaring confirmed the uses of spaces, waste management practices and waste streams to include via email correspondence with Lynette Correia, Axis Project Solution, 10 March 2026.

4 Vehicle access and collection

4.1 Service providers and vehicle types

The Shire of Mundaring will service the general waste, recycling and organic bins using a side-lift vehicle. The bins will be required to be presented on the verge of Jacoby Street. In addition, a small tanker vehicle will require access to service the used cooking oil storage unit from the café and a tanker will be used to service the grease trap. A flatbed truck will service the CDS bins.

The Shire can also service the café or a private service provider could be engaged. Private contractors use rear-lift vehicles.

4.2 Swept path analysis

The vehicle sizes provided in Appendix B should be used to carry out a swept path analysis to determine accessibility of the vehicles to the collection area. Swept path analysis for the largest vehicle is required for the Waste Management Plan (WMP). Accommodating the largest vehicle will enable the building operators to have a wider choice of waste service providers in operation and may decrease service costs relative to relying on small (less efficient) vehicles. Vehicle access must comply with access requirements outlined in Table 3.

4.3 Vehicle access requirements

Access requirements are outlined in Table 3.

Table 3: Vehicle access requirements

Item	Requirement
Access for waste collection vehicles	☐ Waste collection vehicles must be able to safely enter, operate and exit the development without or with minimal reversing or manoeuvring ☐ Side-lift vehicles require the 'arm' of the vehicle to access bins presented on a hardstand on the vergeside and that there are no over-head obstructions such as trees ☐ Rear-lift vehicles and flat-bed vehicles will require the rear of the vehicle to be as close as possible to where the bins are stored/presented to minimise labour and time manually transferring bins ☐ Tanker vehicles have poor visibility to the rear; for health and safety, these should enter and leave the site without the need to reverse

Vehicle head height clearance	☐ Head height clearance required for waste and recycling collection vehicles where vehicles will enter a building or need to move under overhead restrictions ☐ Additional space is required as a buffer between the ceiling, pipes, walls and duct work etc. and the vehicle and its operating components
Walkways	☐ Provide safe access walkways to waste collection vehicle points to reduce the risk of accidents
Grease traps	☐ Grease traps should be located within 10 m of the tanker vehicle access/parking so that the hose can reach ☐ Pipe distance between the collection vehicle and the collection point can be up to 40 m but a longer pumping time will be required (up to several hours) ☐ **Show on plan** – location of grease trap and access point
Used cooking oils	☐ If used cooking oil unit remains in situ during collection, unit must be located within 17 m of the collection vehicle access/parking so that the hose can reach

5 Bin stores, bin numbers and equipment

5.1 Waste generation rates

WALGA waste generation rates are used here as a guide in addition to Encycle's experience and knowledge of the use of the building to calculate the estimated generation of waste, recyclables and food organics.

5.2 Number of bin stores required

Two bin stores will be required to service the cafe and cultural hub separately:

i. Café bin store

ii. Cultural hub bin store

5.3 Number of bins required – café

The number of bins to be stored in the café bin store are set out in Table 4. The bin numbers are based on the collection frequencies offered by the Shire (i.e. weekly collections for both waste and commingled recycling.

Table 4: Number of bins to be stored in the café bin store

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code*
General waste (excluding food waste)	240	7	Weekly	**W**
Commingled recycling	240	6	Weekly	**CM**
CDS recycling	240	2	As required	**CDS**
Used cooking oil	200	1	Fortnightly	**CO**
Organic waste (food and garden) (placeholder)	120	4	Weekly	**FO**
Electronic waste (e-waste)	240	1	As required	**E**

***Note**: colour codes should be used in the architectural plans to easily identify bin types.

5.4 Number of bins required – cultural hub

The number of bins to be stored in the cultural hub bin store are set out in Table 5.

Table 5: Number of bins to be stored in the cultural hub bin store

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code*
General waste (excluding food waste)	240	3	Weekly	W
Commingled recycling	240	4	Weekly	CM
CDS recycling	240	1	As required	CDS
Organic waste (food and garden)	120	1	Weekly	FO
Electronic waste (e-waste)	240	1	As required	E
Bulk general waste	2 m^2	1	As required	B

***Note**: colour codes should be used in the architectural plans to easily identify bin types.

5.5 Bin sizing and requirements:

- **Bulky waste and *ad hoc* items**: space is recommended for storing bulk waste items (e.g. furniture and pallets) awaiting collection; this can also be used as backup storage space should a waste collection service be missed or delayed. *Ad hoc* items such as batteries, light globes, printer cartridges etc. can be collected and stored centrally for recycling. Waste service provider/s will provide storage containers for these recycling streams as needed.

5.6 Dimensions – mobile garbage bins

Bin store layout must be designed to take into account the dimensions of the bins in Table 6. Please note that the dimensions of bins vary slightly between manufacturers and should be used as a guide only.

Table 6: Dimensions of mobile garbage bins

Volume	*Image*	Height (mm)	Depth (mm)	Width (mm)	Footprint (m^2)
120L		940	560	485	0.26
240L		1060	730	580	0.43

Note: these dimensions are indicative and may vary slightly between manufacturers

5.7 Dimensions – Auscol used cooking oil storage units dimensions

Bin store layout must be designed to take into account the dimensions of the cooking oil storage unit in Table 7.

Table 7: Dimensions of used cooking oil storage units

	200 L Specifications
Model	0200M / 0200MH1EA
Capacity (L)	200
Weight (kg)	30
Lid clearance height (mm)	1270
Opening (mm)	260 x 450
Height (mm)	1010
Width (mm)	450
Length (mm)	900

6 Bin store design

Best practice bin store design is an essential component of waste management. See Table 8 for a checklist of bin store design requirements.

Table 8: Bin store design requirements

Item	Requirement
Location	☐ On ground floor level ☐ On same level as collection point ☐ Near to lifts and vehicle collection point ☐ Show on plan **– bin store location** ☐ Show on plan **– finished floor level/relative level**
Fully enclosed	☐ Bin stores fully enclosed and weatherproof ☐ Only accessible by staff/cleaners, building management and waste service provider/s

Spatial requirements	☐ Accommodate bins and equipment as set out in Section 5
	☐ Allow sufficient space to manoeuvre and wash the bins
	☐ Bins stored in single rows
	☐ Maximum of two rows accepted if there is a full-time caretaker for the building, do not double stack against the wall
	☐ Include personnel access way between rows of bins a minimum of 800 mm wide
	☐ Provide a 50 mm clearance on all sides of bins
	☐ **Show on plan** –
	  ☐ bin store dimensions
	  ☐ personnel access width

Layout of bins	☐ Locate same waste stream bins together ☐ General waste and commingled recycling bins are most frequently accessed and should be located near the door ☐ Locate heavy/difficult to move streams near the door (e.g. cooking oil unit) ☐ Locate organics bins away from the door to avoid accidental use as general waste bins ☐ Locate waste/recycling streams that are not collected every day in far corners ☐ Bins can go over bin wash area, ensuring there is space to move them when washing is in progress ☐ **Show on plan** – bin store layout of bins (labelled with waste/recycling stream) and equipment

Bin wash	☐ Impermeable walls and floors grading to an industrial floor waste ☐ Charged 'water-trap' connected to sewer or an approved septic system ☐ Hose cock to enable bins and/or the bin store to be washed out ☐ 100 mm floor waste gully to waste outlet ☐ Both hot and cold running water available ☐ Allow 2-3 m x 2-3 m depending upon the overall size of the bin store ☐ **Show on plan** – hot/cold taps and floor waste
Doors	☐ Ventilated internal and external doors ☐ Self-closing doors to eliminate access to vermin ☐ Widths of doors minimum 1100 mm to enable bins to be easily wheeled into and out ☐ **Show on plan** – widths of doors/access to bin store/s
Security	☐ Security measures installed to limit access to the bin store, e.g. PIN code (not key cards as easy to lose) ☐ Waste service providers allowed access to bin store (to reduce operational costs of building staff putting bins out for collection)
Walls and ceilings	☐ Internal walls to be cement rendered (solid and impervious) ☐ Ceilings finished with a smooth faced, non-absorbent material ☐ Walls and ceilings finished or painted in a light colour
Floors	☐ Floor constructed in concrete in accordance with AS 2870 ☐ Floor evenly graded to an approved liquid refuse disposal system ☐ Slab thickness minimum of 100 mm ☐ Slab impervious and with a brush finish treatment
Ventilation and odour	☐ Provide adequate separate ventilation system that complies with Australian Standard 1668 (AS 1668) ☐ Ventilation outlet not in the vicinity of windows or intake vents associated with other ventilation systems
Lighting	☐ Artificial lighting installed, with sensor or switch controls both internal and external to the bin store ☐ Artificial lighting provided in laneways/loading bays and access walkways to bin stores, to ensure staff safety and decrease antisocial behaviour
Noise	☐ Noise minimised through considering the location of the bin store and collection point and the timing of collections
Signage	☐ Visual aids and signage to be provided to ensure that the area works as intended

Cooking oils	☐ Bunding required for oil storage, including used cooking oil ☐ Used cooking oil tanks, although on wheels, are difficult to move and must be located appropriately within the bin store

7 Bin store location/s and internal transfer

7.1 Bin store location

The bin stores are proposed to be located on the ground floor in an external area separate to the building, facing Jacoby Street (refer to Figure 1).

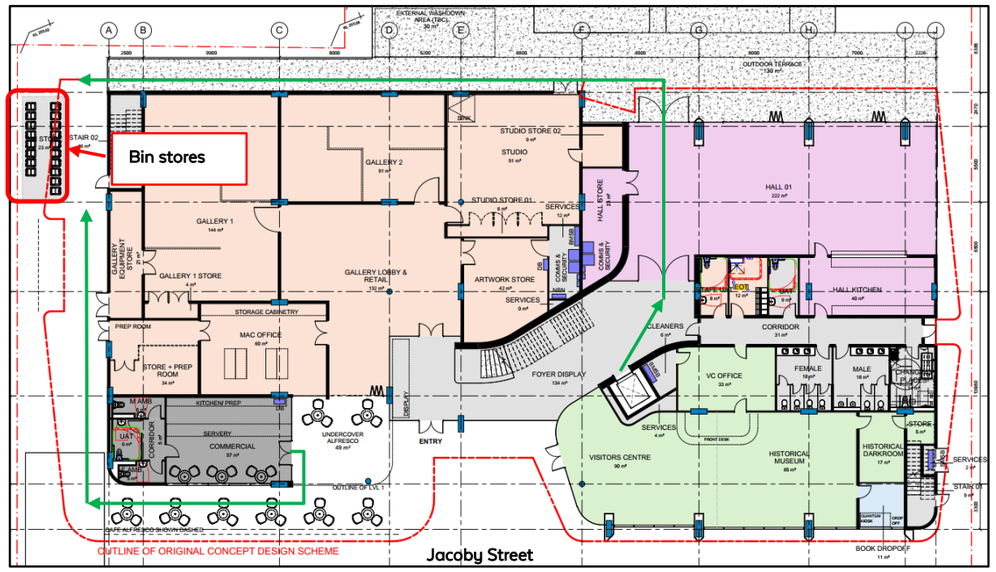

Figure 1: Bin stores location and internal transfer route (green arrows)

7.2 Internal transfer route

The cleaners will be responsible from emptying the bins from the public space areas and offices and retail area and transferring them to the relevant bin store. The bins on the first floor will be transferred via the lift to the ground floor (refer to Figure 1). The café staff will be responsible for taking cafe bins from the kitchen and front of house areas to the bin store (refer to Figure 1).

7.3 Internal access requirements

Access requirements are outlined in Table 9.

Table 9: Internal access requirements

Item	Requirement
User access route	☐ Avoid stairs/steps and steep ramps (grade of slope <1:14) and other potential hazards between points of waste generation, storage and collection ☐ Avoid moving bins, particularly when full, over significant distances ☐ **Show on plan** – finished floor level/relative level
Manual handling	☐ Exclude manual handling of waste in garbage bags from the waste management systems wherever possible
Aisle door and lift width	☐ All doors, corridors and lifts on the transfer route must fit the largest bin, i.e. be at least 1100 mm wide -
Walkways	☐ Provide safe access walkway to bin store for staff

8 Interior bins

Internal bins will be required to segregate waste and recycling at source in the library, gallery, foyer, museum, offices and café. It is essential to provide the relevant bin infrastructure in internal areas to align with the bins specified in Section 5 and to enable separation of materials at locations where they are generated.

Encycle recommends that internal bins be placed in 'bin stations' or banks of bins. The bin station configurations will vary depending on the area they are located and the waste generated there. The bin sizes may also vary from one bin station to another depending on requirements including volume of waste generated and space available for bins. Smaller bins will need more frequent emptying than larger bins used in the same area.

The internal bins will be emptied by cleaning staff. Waste and recycling will be transferred to bins in the bin store.

Suggested internal bins to assist and facilitate waste separation within the facility are outlined in **Error! Reference source not found.** below. However these should be tailored by facility management in order to maximise source separation and recycling.

These bins do not need to be shown on the drawings, however it is necessary to consider space for them when designing the internal fitout of buildings.

Table 10: Internal bin suggestions

Internal location	Waste streams for separation
Library service desks (public)	☐ General waste ☐ Commingled recycling
Library printing areas (public)	☐ General waste ☐ Commingled recycling
Children areas (public)	☐ General waste
Staff breakout and tea point	☐ General waste ☐ Commingled recycling ☐ Organics ☐ CDS recycling
Café BOH	☐ General waste ☐ Commingled recycling ☐ Organics ☐ CDS recycling
Café seating area (public)	☐ General waste ☐ CDS recycling
Outdoor plaza bins	☐ General waste ☐ CDS recycling

Figure 2 shows example bin stations from a company called Method.

Figure 2: **Example internal bin station set up**

9 Public Place waste and recycling

9.1 Design considerations

As outlined in **Error! Reference source not found.** (above) a range of public bins will be required in the library areas, the café and in the outdoor plaza area.

Best practice public place recycling infrastructure should consist of:

- 'Housings' or bin enclosures around a standard wheelie bin (240 L)
- Library:
    - A two-bin system consisting of co-located bins for waste and commingled recycling to mitigate contamination of recycling streams
    - Additionally, paper/cardboard bins should be placed near printers
- Café:
    - A two-bin system consisting of co-located bins for waste and CDS for optimal recycling and to mitigate contamination. It is not advised that an organics/compostable packaging bin is provided unless packaging utilised by the café operator is verified suitable for onward processing and waste directed to a licensed facility. There is currently only one service provider that can process compostable packaging in WA.
- Outdoor plaza areas
    - A two-bin system consisting of co-located bins for general waste and CDS recycling to mitigate contamination. Commingled recycling is often contaminated when collected from public areas such as plazas and not recommended.

Design considerations for 'housings' include:

- **Aesthetics** – in keeping with the 'look' and branding of the area
- Housings are **robust** - particularly in high foot-traffic areas and weatherproof if placed outside
- **Colours, shapes** or other means are used to clearly distinguish general waste from comingled recycling and organics (food waste) bins
- **Clear signage** at eye level if possible; can also communicate sustainability messages and ethos of the development
- **Apertures** are shaped appropriately for the material accepted to reduce contamination (i.e. round holes for drinks containers, larger openings for general waste)
- **Rosettes or bristles** are in place on recycling bins to act as a deterrent to general waste (a barrier makes the bin user choose this option more carefully than the readily available general waste option adjacent to it)

- **Branding/communicating** sustainability messages and ethos of the development.

Refer Figure 3 and Figure 4 for types of bin enclosure that would be suitable. Figure 3 shows 2-bin systems (general waste and recycling) and demonstrates the robustness of the enclosures and clear signage. Figure 3 also demonstrates how Charopy[1] smart bin technology can be utilised to prevent the contamination of CDS bins. Robust enclosures to withstand extreme weather conditions, exclude wildlife and vermin, and displaying clear signage, are essential for outdoor locations.

Figure 3: Example of robust enclosures and CDS bin with Charopy smart bin technology (right)

Figure 4: Example of public bin bank with 3 waste streams and reusable 'Stack' cup return

[1] https://www.charopy.com.au/

9.2 Public place bin signage

Signage must be clear and simple, using both words and symbols to describe what should be placed in each bin. Avoid the use of generic language such as '*recycling*' and instead stipulate exactly what is to be placed in the bin; e.g. "*bottles and cans only*" or "*food waste only*".

Not all users of the bins will be able to read English and many English-speakers may have a preference for symbols over written language, making the use of simple symbols a powerful way to communicate.

Signage is preferably at eye-level to enable users to very easily read/see the bin type without needing to bend down or search out the description of accepted material.

9.3 Collection of waste and recycling from enclosures

Waste bins from the public place bins will be either, transferred directly from the bins to the collection vehicle or stored within the bin store on site for collection later. The approach for ownership and management of the public place bins within the development should be confirmed by the Shire of Mundaring.

Appendix A: Glossary of terms and acronyms

Bulk waste	Bulk waste includes old and broken furniture, white goods and large electronic items. Commercial developments/tenancies are generally responsible for removing bulk waste via skip bins or organising transport to a waste transfer facility or landfill.
Bulky waste storage	An area designed to store any unwanted bulky waste items
Collection point	The permitted area on a footpath, roadway or private property (where applicable) that waste, recyclables and bulky waste are loaded into collection vehicles.
Commingled recycling	Common recyclables such as glass, plastics, aluminium, steel, or liquid paper board (milk cartons). Commingled recycling may include paper but often, and particularly in offices, paper and cardboard are collected separately.
Container Deposit Scheme (CDS)	Also known as Containers for Change. In Western Australia 'eligible containers' (usually for soft and alcoholic drinks) have a 10 cent deposit which can be refunded when the container is redeemed at a refund facility.
E-waste	Discarded electronic appliances such as mobile phones, computers, and televisions.
Food organics	Waste food in commercial kitchen/food service settings, generated from preparation (peelings etc.), storage (out of date), or service (leftovers) that can be separated from the general waste stream for a more beneficial use.
Garden organics	Separated 'green' material (e.g. grass clippings or vegetation prunings).
General waste	Material that is intended for disposal to landfill (or in some States, incineration), normally what remains after the recyclables have been collected separately.
Grease trap	Collection of solid greases and oils in a tanker system to remove this material from water discharged to sewer from commercial kitchens or food processing facilities. Grease trap collection vehicle requirements can be included in the Waste Management Plan where relevant. Encycle are not hydraulics engineers and do not specify or advise on grease trap systems.
Organic waste	Waste derived from material that was once living (excluding petroleum-based materials).
Recyclable	Material that can be collected separately from the general waste stream and sent for recycling. The precise definition will vary, depending upon location (i.e. systems exist for the recycling of some materials in some areas and not in others).
Recycling	Where a material or product undergoes a form of processing to produce a feedstock suitable for the manufacture of new products.
Reuse	Replacing a 'disposable' or single-use item with one which can be used again (without needing to be processed or dismantled – i.e. 'recycled') e.g. using a washable ceramic coffee mug or travel cup in place of disposable cups.

Appendix B: Vehicle dimensions

Vehicle access must comply with requirements outlined below.

Item	Requirement
Dimensions	☐ Please note that the figures provided are the dimensions of the vehicles only. Allow space to ensure doors can fully open, operatives can access into, out of and around vehicles, and for mirrors.
Space allocation	☐ Additional space is required to allow for a buffer between the ceiling, pipes, walls and duct work etc. and the vehicle and its operating components.

The dimensions in the following table represent the largest vehicle of that type. Accommodating the largest vehicle will enable the building operators to have a wider choice of waste service providers in operation and may decrease service costs relative to relying on small (less efficient) vehicles.

Dimension	Rear-lift vehicle	Side-lift vehicle	Tankers servicing used cooking oil
Vehicle length – travel (m)	10.1	11	7.3
Vehicle length – in operation (m)	Allow 3 m to rear of vehicle for operative access		
Vehicle width (m) – including mirrors	2.85	3.1	2.5
Vehicle height – travel (m)	3.9	4.5	3.4
Vehicle height – in operation (during bin lifting) (m)	3.9	5.5	
Turning circle (m)	25	22.1	
Wheel base		5.2	
Number of wheels			
Axles	6 x 4	6 x 4	
Gross Vehicle Mass (GVM) – when full (t)	23	23	15-20

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Appendices

16. Operational & Service Delivery Models

/ PAATCH GROUP

Operations & Service Delivery

01. Operational & Service Delivery Model - Concept Design Report

PAATSCH GROUP

MUNDARING CULTURAL HUB

OPERATIONAL AND SERVICE DELIVERY MODELS – CONCEPT DESIGN UPDATE REPORT

August 2025

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PLACEHOLDER

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Appendices

17. BCA & NCC Compliance / CODE

BCA Services

01. BCA Compliance Report

Planning Workshop
TOILETS

Discussion Summary:

- Ground floor Male
  - 2 closet pans, 2 urinal, 3 wash basins
- Ground floor Female
  - 4 closet pans, 3 wash basins
- 1 UAT, 1 Staff UAT

- Level 1 Male
  - 6 closet pans, 3 wash basins

- Level 1 Female
  - 6 closet pans, 3 wash basins

- 1 UAT, 1 Staff UAT

- As per BCA feedback the preference is to fit as many facilities downstairs as we can. This has been achieved.
- Cafe facilities to be provided as part of their fitout
- All gender cubicle required. UAT on ground can become this space.

COX

From: Gary Cox <gary@codegroup.com.au>
Sent: Thursday, 5 February 2026 12:57 PM
To: Tim Seals
Cc: Lynette Correia; Matthew Batchelor
Subject: RE: CODE calcs for Building Compliance Team review

Hi Tim,
I chatted to Nick, had a positive chat and suggested a few things, summarised below:

- Realistic design numbers upstairs to reduce sanitary facility numbers that may have less use, base on how libraries are used in 2026, rather than 1980's when the library densities were included in the Building Code. We had paper typewriters back then 😊
- Fit as many sanitary facilities downstairs (within reason) to accommodate the building occupants plus the public who walk in off the street (exceed minimum). It's a Hub building.
- Reduce the number of UAT's on ground floor from 2 to 1, noting there is one UAT upstairs. Ensure they have 1 RH & 1 LH UAT in the building. Creates more space for additional facilities.
- Add an "All Gender" cubicle which covers another user group. The draft NCC 2025 recognises this user group.
- Café to provide facilities cater for their own and create flexibility in lease options not linked to the main building facilities. (morning bike riders or evening dinners etc)

He was going to chat to Steve in the building section about this, and Steve may give me a call.

There are no travel distance issues on the first floor.

Happy to chat, but heading to a meeting now.

Kind regards,

Gary Cox | Director
0439 983 791

CODE *Shaping a future of people-first places.*

Document Control			
Revision	**Date**	**Issued for**	**Author**
1	19/08/2025	Stakeholder review	Wayne Chant

1. Purpose of Compliance Review

The purpose of this review is to provide 'point-in-time' high-level guidance, to assist with design of the project as it progresses. The design is in its early stages and will continue to evolve with this review carried out based on Concept Presentation revision documentation. Note that design evolution and future reviews at project design junctures will supersede the contents of this document.

2. Project Description

The project is proposed to consist of a 2 storey multi-purpose civic building that will contain a public library, meeting and function space as well as art studios and galleries. The building will also contain historical society collections and complimentary commercial space.

Figure 1 – Jacoby Street Elevation

3. Building Compliance Characteristics

The building compliance characteristics inform the building compliance review. Some assumptions may be made for the review to be undertaken, therefore if the design team is aware of inaccurate information within the table below, it may affect the compliance assessment, therefore the Building Surveyor must be notified.

Table 1 – Building Characteristics

National Construction Code	Building Code of Australia 2022 (Currently applicable if building permit submission is made on or before 30 April 2026). Transition provisions for the applicable building standards as they currently stand are presented below. **Time application for building permit is made** / **BCA 2022** / **BCA 2022 Amdt 1** / **BCA 2022 Amdt 1 & 2** From 1 May 2025 until 28 July 2025: ✓ ✓ ✗ From 29 July 2025 until 30 April 2026: ✓ ✓ ✓ From 1 May 2026 until 28 July 2026: ✗ ✓ ✓ From 29 July 2026: ✗ ✗ ✓ The amendments to the BCA 2022 are minor in the context of early design review and as the project develops and the project program firms, more advice on the applicable building standards can be provided.
Building Address	3165-3205 Jacoby Street, Mundaring (Lots 4, 6 & 8)
Intended Building Use	Public building including public hall, meeting rooms, library and gallery.
Building Classification (based on intended use)	9b
Rise in Storeys	2
Effective Height	Approx. 4 m
Total Floor Area	3 935 m^2

Largest fire compartment – area & volume	Single fire compartment over 2 storeys with combined floor area of 3 935 m^2 and estimated volume of 16 000 m^3. Both of which are within the limits set within Table C3D3 of the BCA for a building of this configuration.
Type of Construction	Type B fire resisting construction. This generally requires 120 minutes fire resistance levels for loadbearing walls and columns. The suspended floor is also required to be fire rated with the minimum required fire resistance level being 30 minutes.
Importance Level	IL3 – is suggested given the number of occupants the building may contain. This is to be discussed further and agreed with all stakeholders and may be driven by client requirements. Once determined the importance level is to be nominated on structural drawings.
Permit Authority	Shire of Mundaring.
DFES Lodgement	Formal statutory lodgement is required.
Bushfire Prone Area	The building will be located within a designated bushfire prone area. The BCA does not require this building to be constructed to resist bushfire attack. Stakeholders are to be consulted to determine whether any bushfire attack mitigation measures are to be included in the design.
Flood Prone Area	TBC
Wind Region	Region A
Allotment Boundaries	The proposed building will be constructed over 3 lots. These lots are to be amalgamated to remove the fire source features presented by the allotment boundaries.
Public Building	Public building approval is likely to be required from the Shire of Mundaring Environmental Health Branch
Food Preparation Approval	The requirements for food preparation areas should be discussed with the Shire of Mundaring Environmental Health Branch
Liquor Licensing	Not part of scope. Compliance by others

4. Compliance Review

The following is an abbreviated summary of section 5 of this document, intended to provide a "snapshot" of the major compliance items identified during the document review. For further information, refer to section 5.

Amalgamation of lots

- The proposed building extends over 3 separate lots. These lots will need to be amalgamated

Structure and fire resistance

- The concept pack indicates the building will be constructed of rammed earth walls with the upper storey clad with aluminium panels. The proximity of the building to boundaries and the required fire resistance to be achieved are to be considered as the design progresses. Openings in external walls closer than 3 m to side or rear boundaries will require protection to minimise the potential for spread of fire.
- Type B construction requires loadbearing elements to be fire rated if exposed and to and within 18 m of a fire source feature.
- The use of rammed earth for loadbearing parts of the building will present challenges around structural adequacy, fire resistance and weatherproofing. This should be discussed further with the structural engineer in the first instance.
- As the building is required to be of Type B fire resisting construction all elements that make up the external walls of the building and any attachments to the external walls must be non-combustible. This includes insultation and external shading devices.

Safe movement and egress

- The building is required to be provided with a minimum of 2 exits from each storey with maximum travel distances of 20 m to the nearest exit or to a point of choice to alternative exits with total travel distance of 40 m from starting point of travel to the nearest exit.
- The central circulation stairway will need to function as a required exit also.
- Aggregate exit widths to be reviewed based on worst case occupant numbers. Based on 3 stairways serving level 1, each with a minimum 1 m unobstructed width, this would be sufficient for up to 420 occupants on this level.
- Tread dimensions to tapered treads within the central curved stairway are to be measured in accordance with Note 3 to Table D3D14 taking account of the WA Public Buildings requirements for treads of 280 mm minimum and risers of 180 mm maximum.
- Emergency lighting and exit signs will be required throughout the building.

Access for people with disabilities

- Access for people with disabilities is required from the allotment boundary to the principal pedestrian entrance to the building and to not less than 50% of all entrances with any entrance that is not accessible to be no more than 50 m from an accessible entrance.
- Thresholds at accessible entrances are to be step free.
- Access for people with disabilities is required throughout all areas normally used by the occupants. The lift is to incorporate accessible features and to have minimum lift car dimensions of 1400 mm wide x 1600 mm deep.

Dry fire systems required

- AS 1670.1 detection system will be required, and this system is to also shut down mechanical services.
- AS 1670.4 EWIS required throughout the building.

Wet fire systems required

- Hydrant system with performance based on a single Class 9b fire compartment of approx. 3 935 m^2.
- Fire hose reels will be required throughout the building.
- Portable fire extinguishers will be required.

Smoke hazard management

- The building contains spaces that may be configured and used for different purposes including the potential for much of the ground floor to be opened up and connected as exhibition space. The BCA requires an exhibition building of more than 2 000 m^2 floor area to be provided with various life safety services which can extend to the provision of automatic fire sprinklers and smoke exhaust system when the floor area exceeds 3 500 m^2. Based on scaling from the concept design the space at ground floor level that could function as an exhibition space is 1 100 m^2. This is to be reviewed as the design develops.

Sanitary Facilities

- Sanitary facilities are provided to both levels of the building. Based on the facilities proposed we have calculated the number of occupants that can be served by these facilities. These numbers should be checked against design numbers.

Location & user group	Calculated number of occupants
Ground floor hall patrons	400
Ground floor staff	80
First floor library patrons	400
First floor staff	20

- The ground floor changing places facility is to be designed to the latest edition of the Changing Places Specification if accreditation is to be sought when completed.

Health and Amenity

- Minimum air quality is to be maintained with mechanical ventilation systems designed to serve worst case occupant loads.
- Minimum ceiling heights of 2.7 m will be required where more than 100 occupants are possible.
- Weatherproofing of building envelope to be considered, in particular the rammed earth walls may present weatherproofing challenges.

Energy Efficiency

- Thew building will be required to comply with Section J of the BCA for maximising occupant health and amenity while minimising green gas emissions through efficient use of energy.
- Thermal performance of rammed earth will require review.
- Due to the building exceeding 2 500 m2 floor area energy use must be monitored and recorded in accordance with the requirements of BCA clause J9D3.

5. References

The NCC is Australia's primary set of technical design and construction provisions for buildings. As a performance-based code, it sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings. It primarily applies to the design and construction of new buildings and plumbing and drainage systems in new and existing buildings. In some cases, it may also apply to structures associated with buildings and new building work or new plumbing and drainage work in existing buildings.

6. Limitations

The findings of this 'point-in-time review will be superseded by design progression, new information, discussions during design meetings and as such, shall not to be included, appended or referenced in any consultant's design reports or documents.

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Appendices

18. Cost Plan Report / RLB

Cost Estimate Plan	
01.	Overall Cost Estimate Report
02.	Cost Estimate Summary

CONCEPT DESIGN COST ESTIMATE

MUNDARING CULTURAL HUB

DRAFT

PLACEHOLDER

RLB Rider Levett Bucknall