Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 7 September 2021; 11:00am

Meeting Number: MOJDAP/120 Meeting Venue: Via Zoom

To connect to the meeting via your computer - https://zoom.us/j/94907856299

To connect to the meeting via teleconference dial the following phone number - 7150 1149

Insert Meeting ID followed by the hash (#) key when prompted - 949 0785 6299

This DAP meeting will be conducted by electronic means open to the public rather than requiring attendance in person.

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Attendance

DAP Members

Mr Ian Birch (Presiding Member)
Ms Sheryl Chaffer (Deputy Presiding Member)
Mr John Syme (A/Third Specialist Member)

Item 8.1

Mayor Rhys Williams (Local Government Member, City of Mandurah)

Item 8.2

Cr Suzanne Thompson (Local Government Member, City of Joondalup) Cr Philippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Item 8.1

Mr Jason Carr (Western Australian Planning Commission)
Ms Nicole Lucas-Smith (Western Australian Planning Commission)
Mr Ben Dreckow (City of Mandurah)

Item 8.2

Mr Chris Leigh (City of Joondalup)
Mr Byron McKie (City of Joondalup)

Minute Secretary

Ms Adele McMahon (DAP Secretariat)

Applicants and Submitters

Item 8.1

Mr Deon White (Hatch Roberts Day)

Mr Jason Ball (ADCO)

Mr Troy Rutter (ADCO)

Mr Ben Mynott (Public Transport Authority)

Mr Jason Henneveld (Public Transport Authority)

Ms Kasia Kalczynska (Public Transport Authority)

Item 8.2

Mr George Ashton (element)

Mr Dean Rigby (Lendlease)

Mr Dean Symington (Hames Sharley)

Members of the Public / Media

Nil

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

This meeting is being conducted by electronic means open to the public. Members are reminded to announce their name and title prior to speaking.

2. Apologies

Mr Jason Hick (Third Specialist Member) Cr Caroline Knight (Local Government Member, City of Mandurah)

3. Members on Leave of Absence

Nil

4. Noting of Minutes

Signed minutes of previous meetings are available on the <u>DAP website</u>.

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Member	Item	Nature of Interest
Mr Jason Hick	8.1	Pecuniary Interest –
TVII DASOTTTIICK		Mr Hick is a shareholder, Director and employee of Emerge Environmental Services Pty Ltd (trading as Emerge Associates). Emerge Associates have provided consulting services to support the application, and would be involved in future aspects of its delivery if approved.
Mr Jason Hick	8.2	Pecuniary Interest – Mr Hick is a shareholder, Director and employee of Emerge Environmental Services Pty Ltd (trading as Emerge Associates). Emerge Associates have provided consulting services to support the application



7. Deputations and Presentations

- 7.1 Mr Deon White (Hatch Roberts Day) presenting in support of the recommendation for the application at Item 8.1. The presentation will address Overview of proposal, Program for development, Review proposal with conditions an Ongoing collaboration.
- **7.2** Mr Dean Rigby (Lendlease) presenting in support of the recommendation for the application at Item 8.2. The presentation will address the development strategy and consistency with the broader vision for the Lakeside Joondalup site.
- 7.3 Mr Dean Symington (Hames Sharley) presenting in support of the recommendation for the application at Item 8.2. The presentation will address the architect's site context analysis and design response for the delivery of a landmark development.
- 7.4 Mr George Ashton (element) presenting in support of the recommendation for the application at Item 8.2. The presentation will address support for the officer recommendation and consistency with the Joondalup Activity Centre Plan.

The Western Australian Planning Commission and City of Joondalup may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lots 800 & 3002 (5) Ashwood Parkway, Lakelands

Development Description: Lakelands Metronet Train Station
Applicant: Hatch RobertsDay on behalf of ADCO

Constructions

Owner: Public Transport Authority of WA (PTA)
Responsible Authority: Western Australian Planning Commission

DAP File No: DAP/21/02011

8.2 Lot 708 (420) Joondalup Drive, Joondalup

Development Description: Commercial Office Development, Café and

Childcare Facility

Applicant: Element Advisory Pty Ltd

Owner: Lendlease Funds Management Limited as

trustee of the Joondalup Trust

Responsible Authority: City of Joondalup DAP File No: DAP/21/02004

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil



10. State Administrative Tribunal Applications and Supreme Court Appeals

Current SAT Applications				
File No. & SAT DR No.	LG Name	Property Location	Application Description	Date Lodged
DAP/19/01708 DR 138/2020	City of Kwinana	Lot 108 Kwinana Beach Road, Kwinana	Proposed Bulk Liquid Storage for GrainCorp Liquid Terminals	01/07/2020
DAP/01729 DR 176/2020	City of Kalamunda	Lot 130 (74) Warlingham Drive, Lesmurdie	Aged Residential Care Facility	28/8/2020
DAP/20/01764 DR 204/2020	City of Swan	Lot 780 (46) Gaston Road, Bullsbrook	Proposed Stock Feed Grain Mill	8/09/2020
DAP/20/01829 DR 001/2021	City of Swan	Lot 1 (42) Dale Road & Lot 4 (43) Yukich Close, Middle Swan	Aged care and community purpose	08/01/2021
DAP/21/01952 DR 096/2021	City of Rockingham	Lot 265 (40) Talisker Bend, Golden Bay	Mixed commercial development	14/05/2021

11. General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12. Meeting Closure

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Deon White	
Company (if applicable)	Hatch Roberts Day	
Please identify if you have	YES □ NO ⊠	
any special requirements:	If yes, please state any accessibility or special requirements:	
	Click or tap here to enter text.	

Meeting Details

DAP Name	MOJDAP/120
Meeting Date	7 th September
DAP Application Number	DAP/21/02011
Property Location	Lot 800 and 3002 (5) Ashwood Parkway, Lakelands
Agenda Item Number	8.1

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	YES ⊠	
Is the presentation in support of or against the report recommendation)? (contained within the Agenda)	SUPPORT 🗵	AGAINST 🗆
Is the presentation in support of or against the <u>proposed</u> <u>development</u> ?	SUPPORT 🗵	AGAINST 🗆
Will the presentation require power-point facilities?	YES ⊠ If yes, please a	NO □ attach



Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	The presentation will address: Overview of proposal Program for development Review proposal with conditions Ongoing collaboration
inclusion on the Agenda	Program for development Review proposal with conditions

In accordance with Clause 3.5.2 of the <u>DAP Standing Orders</u>, your presentation request <u>must</u> also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Refer attached file.







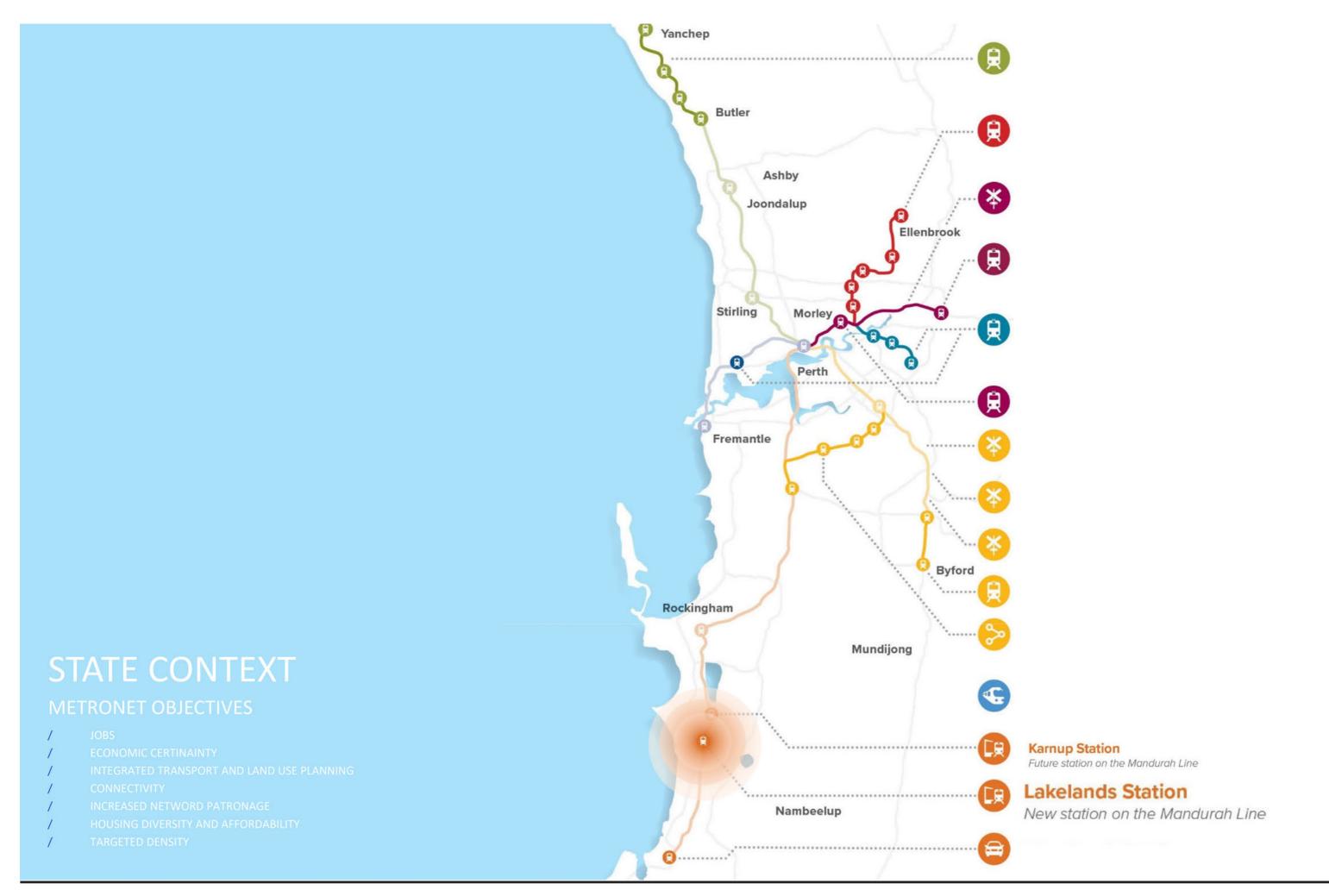










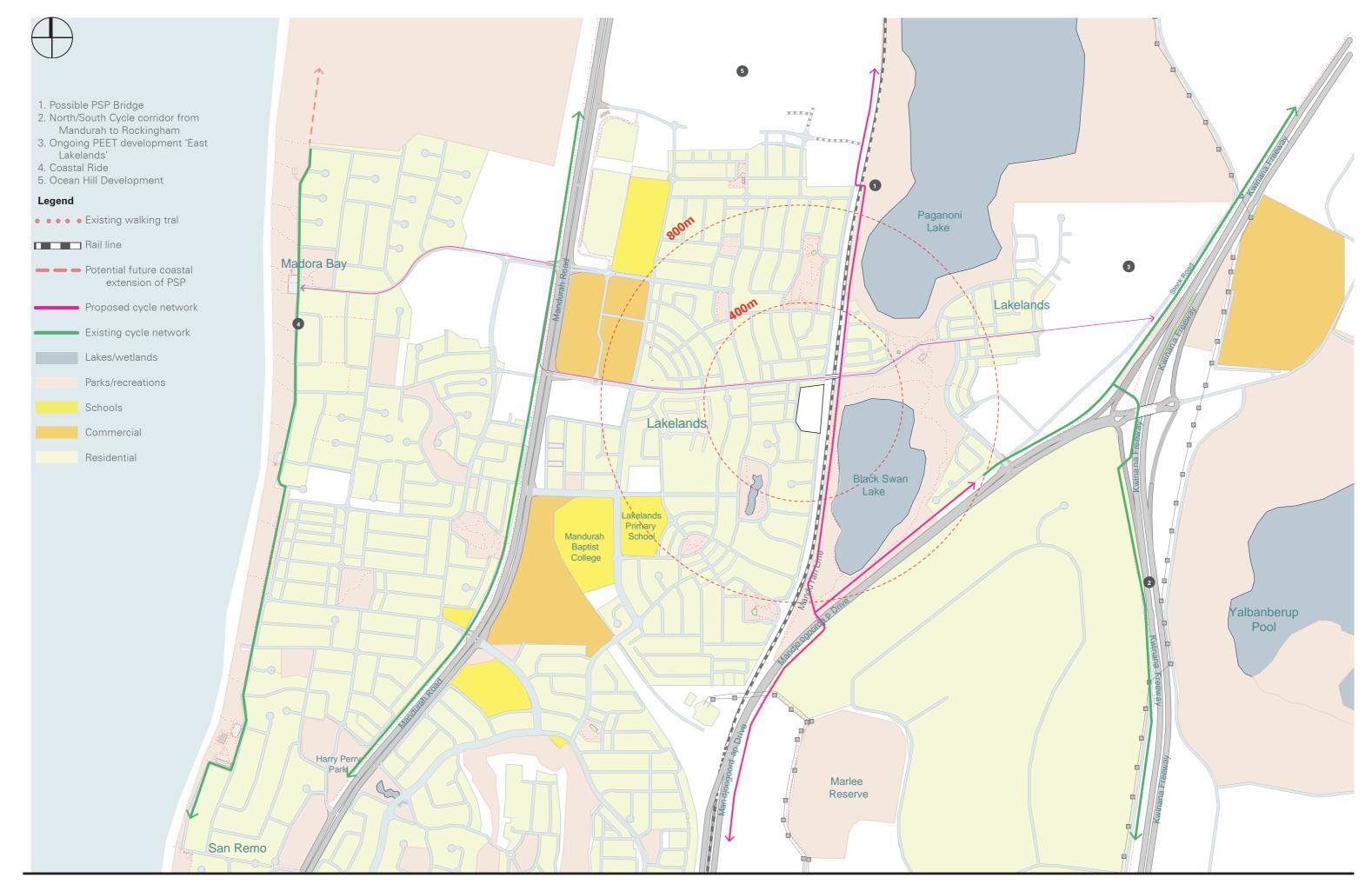


State Context CONTEXT



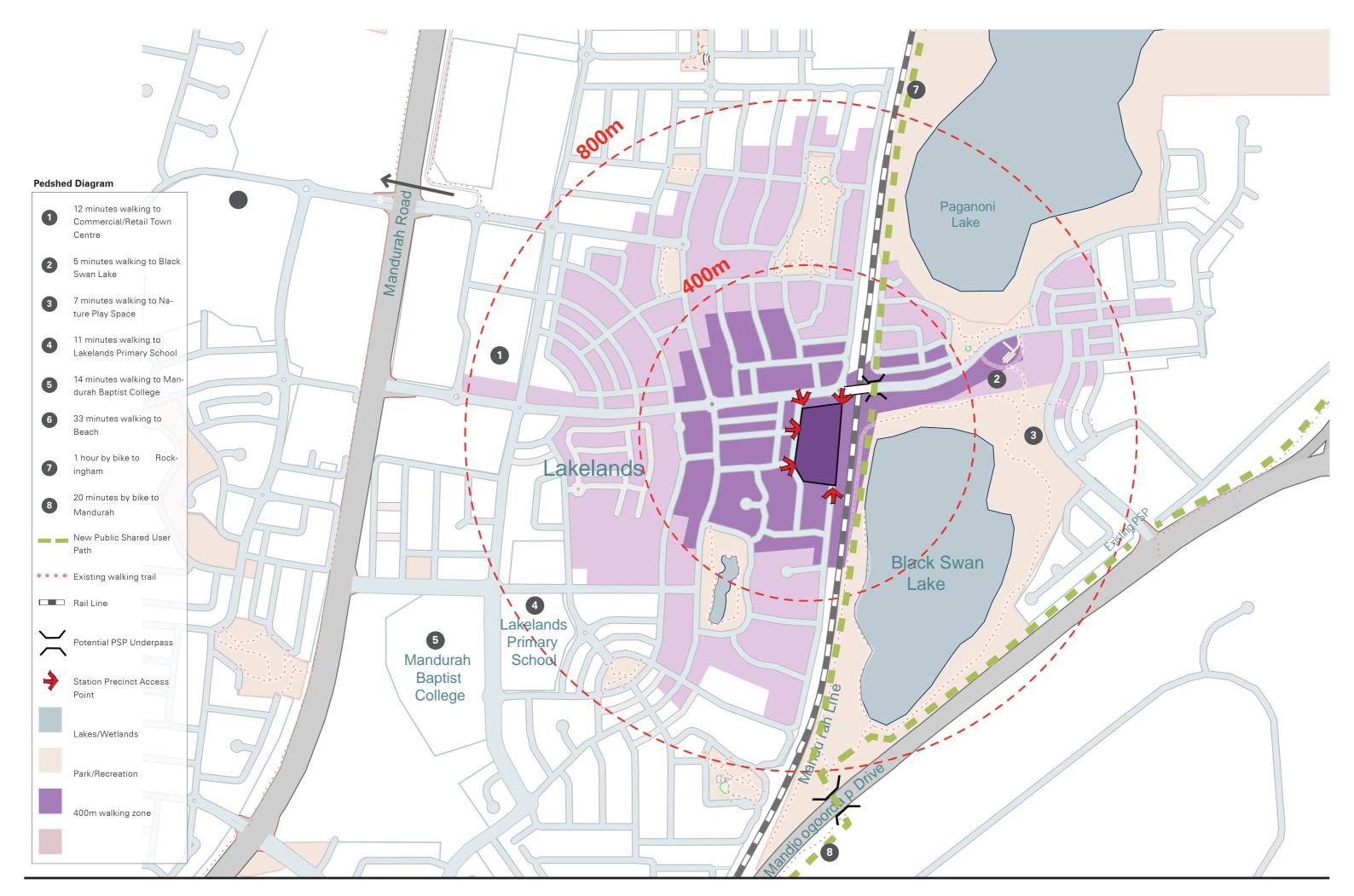
Local Government Context

CONTEXT



Local Authority Context

CONTEXT



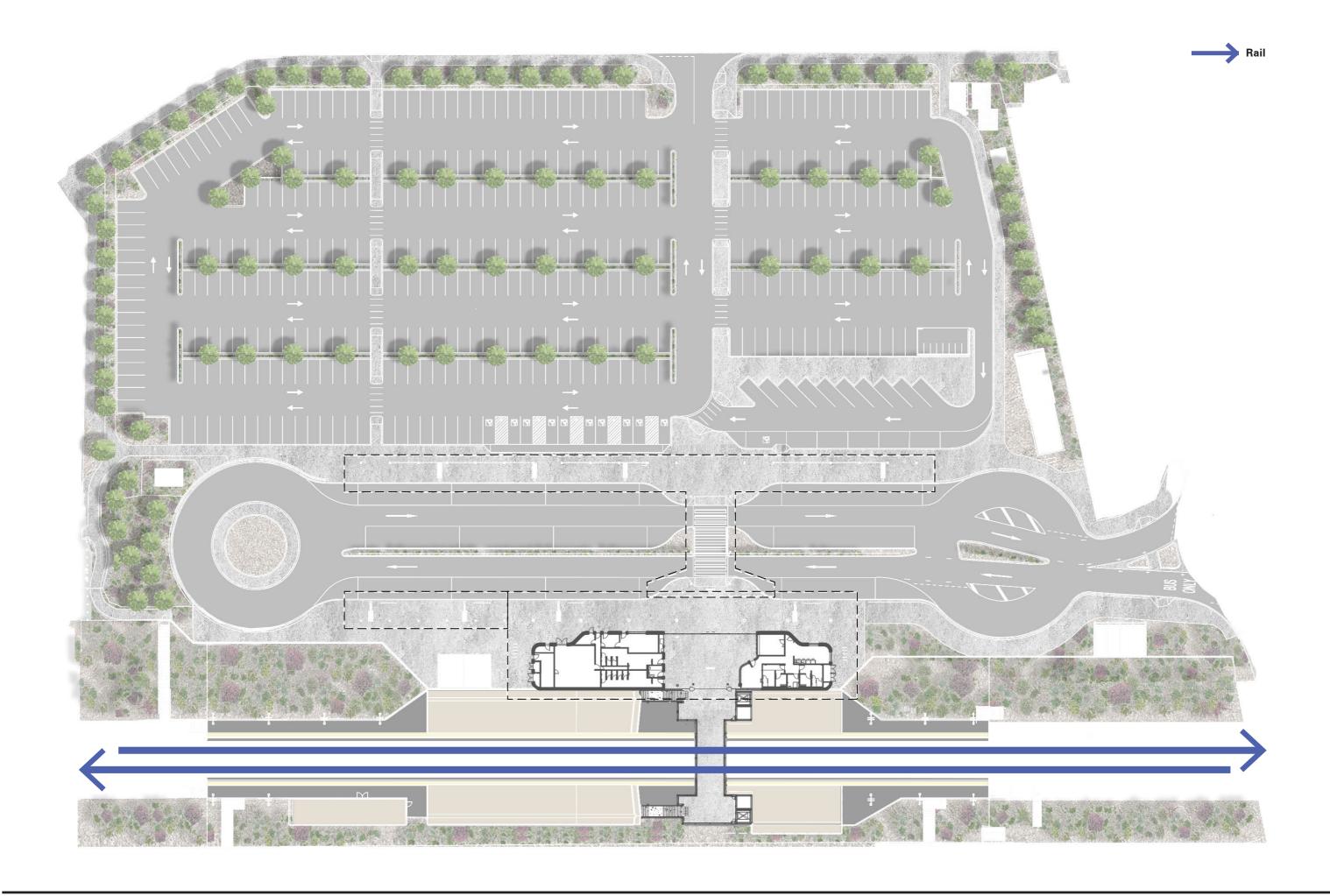


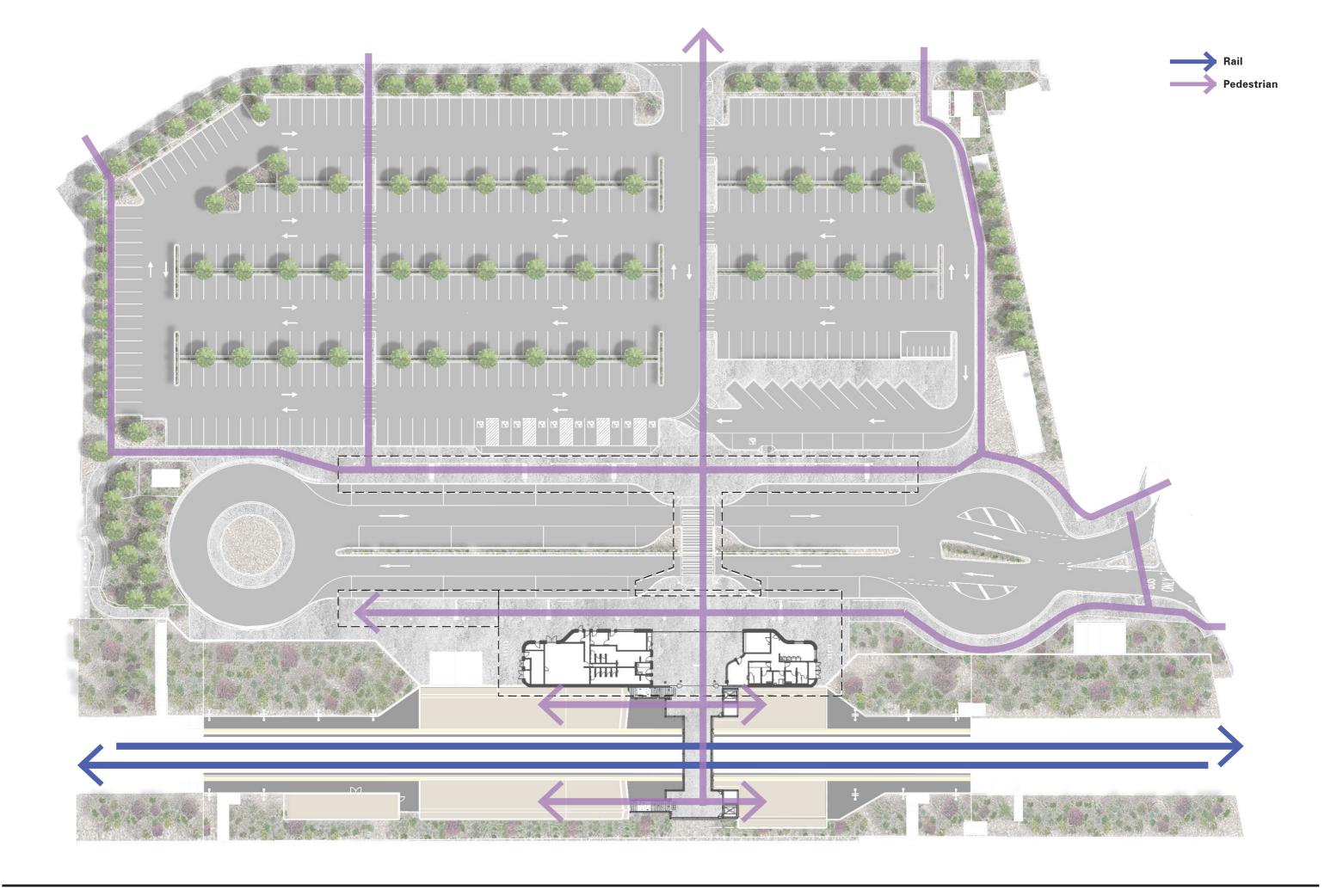
Site Plan

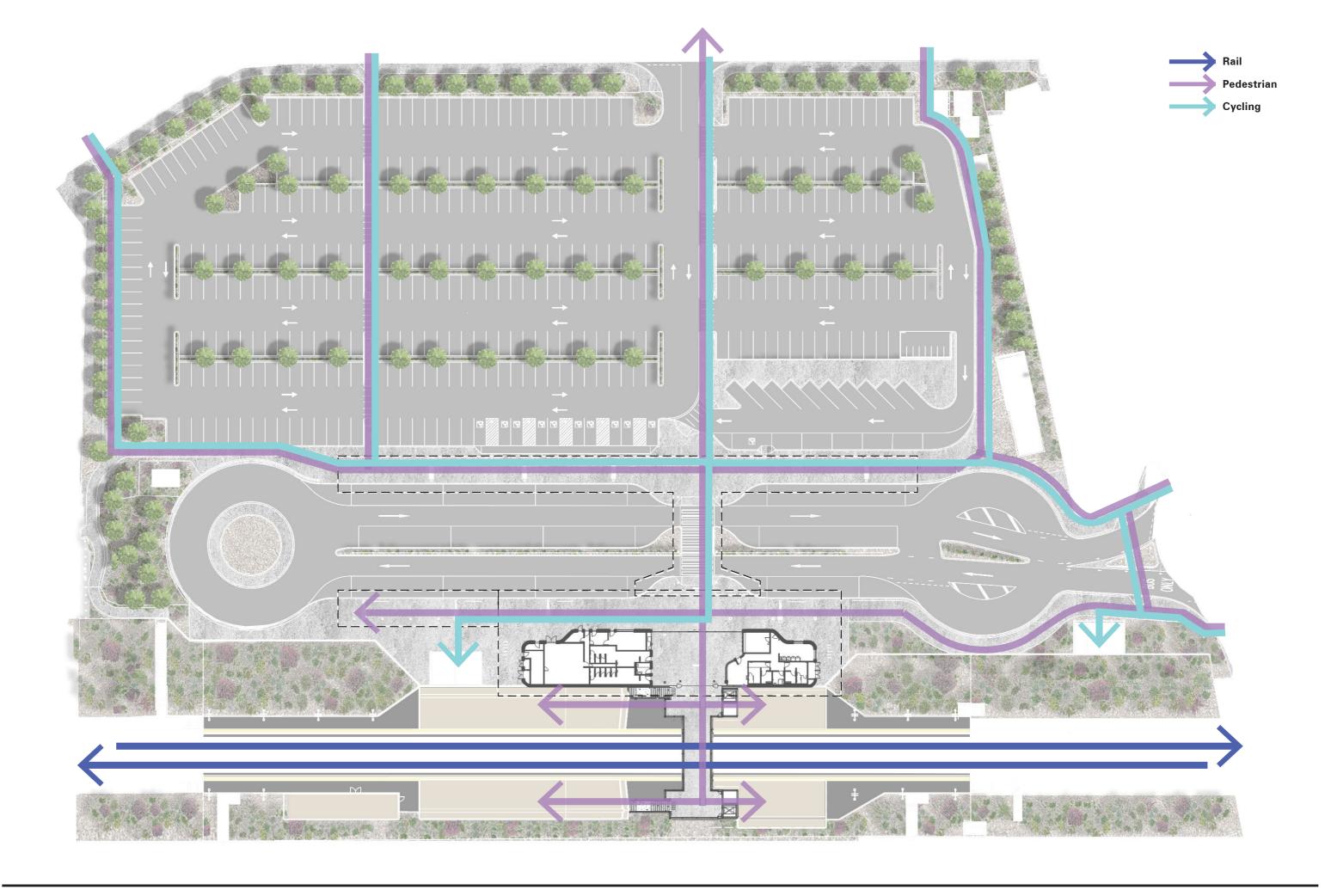
- 1. Station Forecourt
- 2. Station Pods
- 3. Concourse Bridge4. Up-Main Platform
- 5. Down-Main Platform
- 6. Bus Interchange

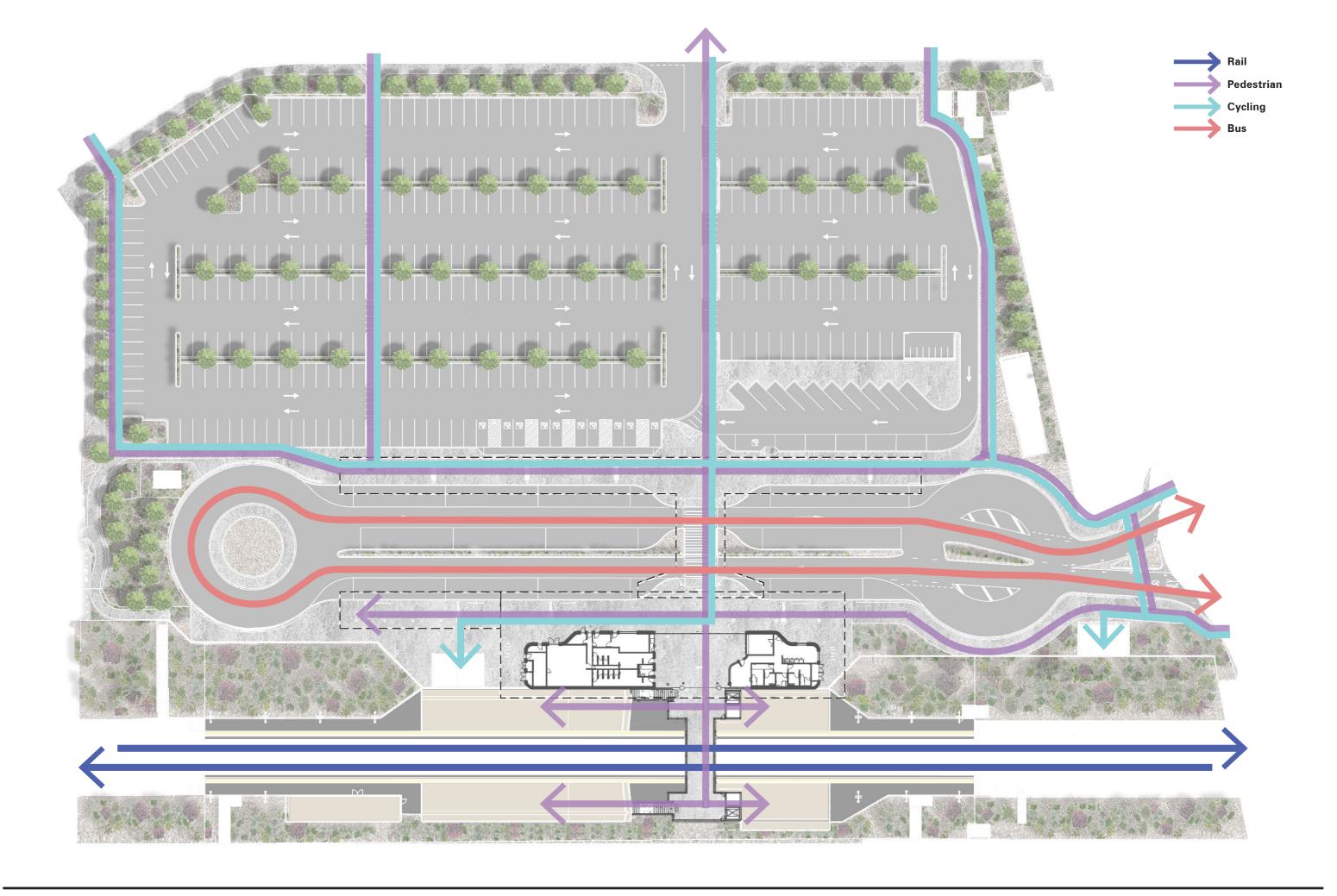
- 7. Bus Layover 8. Bus Entry/Exit 9. Carpark Entry/Exit
- 10. Emergency Exit
 11. Short Term Parking
 12. Kiss & Ride/Taxi

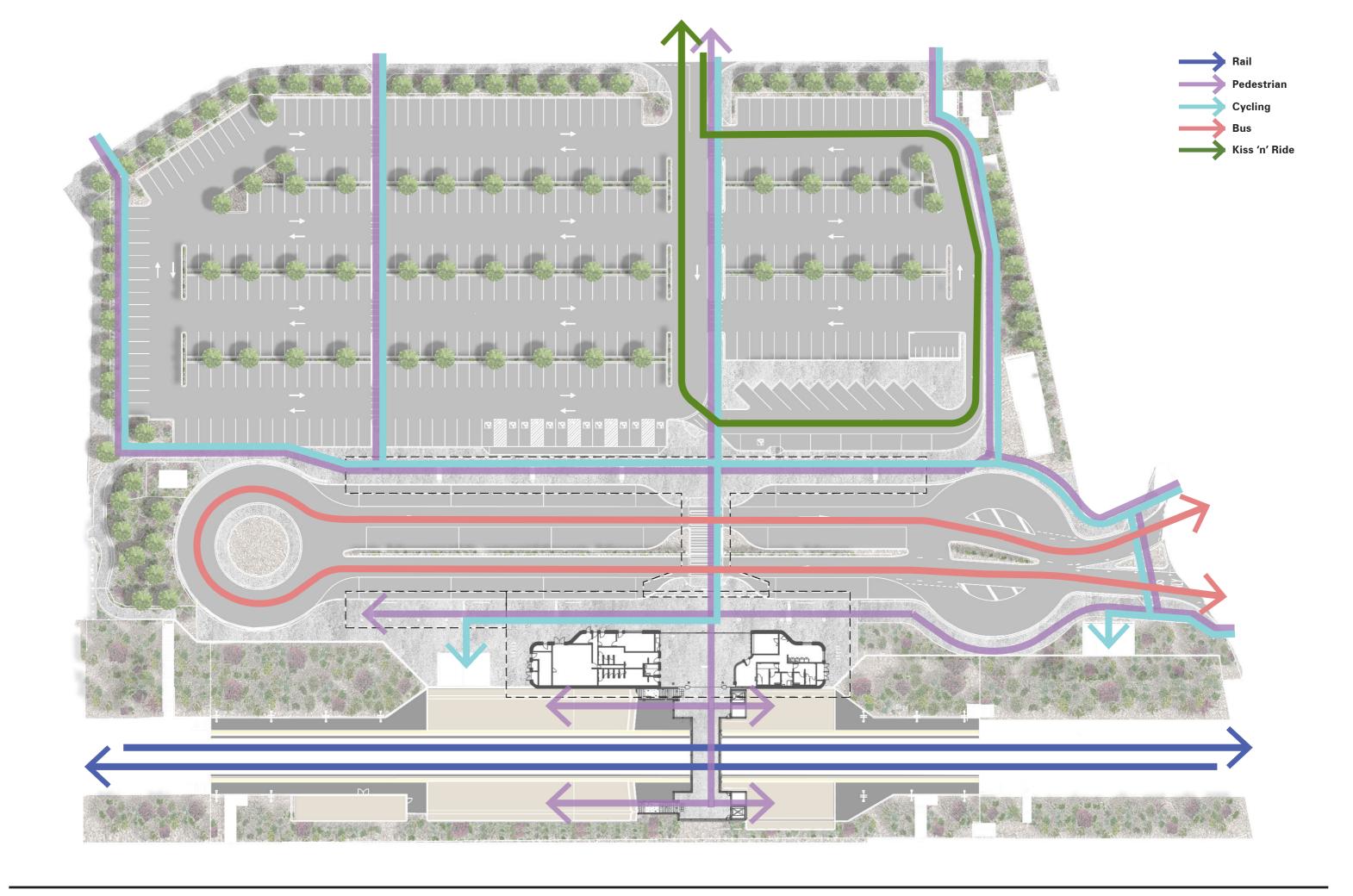
- 13. Accessible Parking
- 14. Carpark
- 15. Motorcycle Parking16. Bike Shelter
- 17. Pedestrian Entry
- 18. Pedestrian Axis
- 19. Walking Trail
 20. Water Tank/Pump House
- 21. Irrigation 22. Internal Bin Store
- 23. Existing Communication Hut
- 24. Existing Communication Equipment
- 25. Existing Communication Pole
- 26. Existing Residential Hous-
- 27. Electrical Substation
- 28. Isolation Transformer
- 29. Platform Building

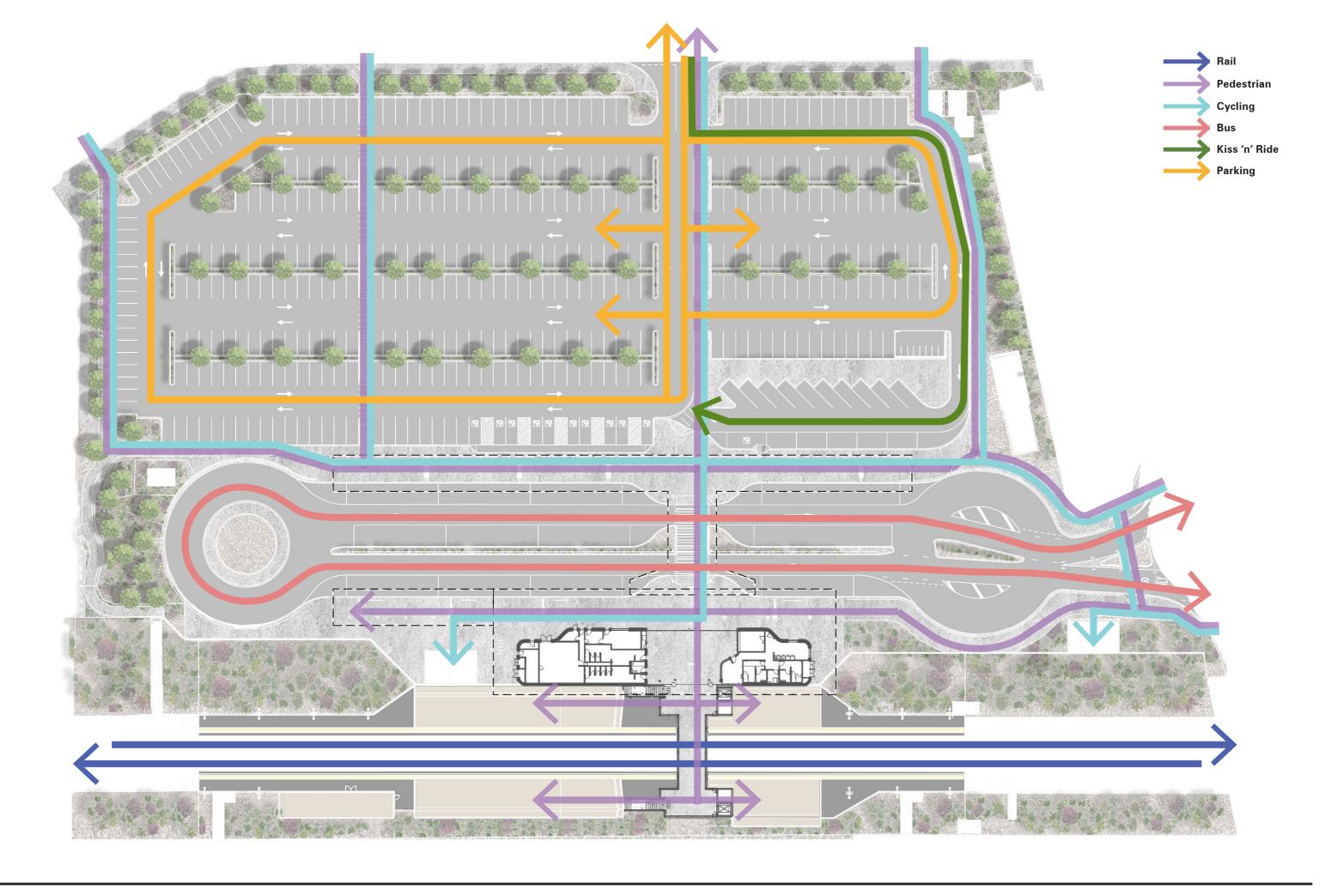


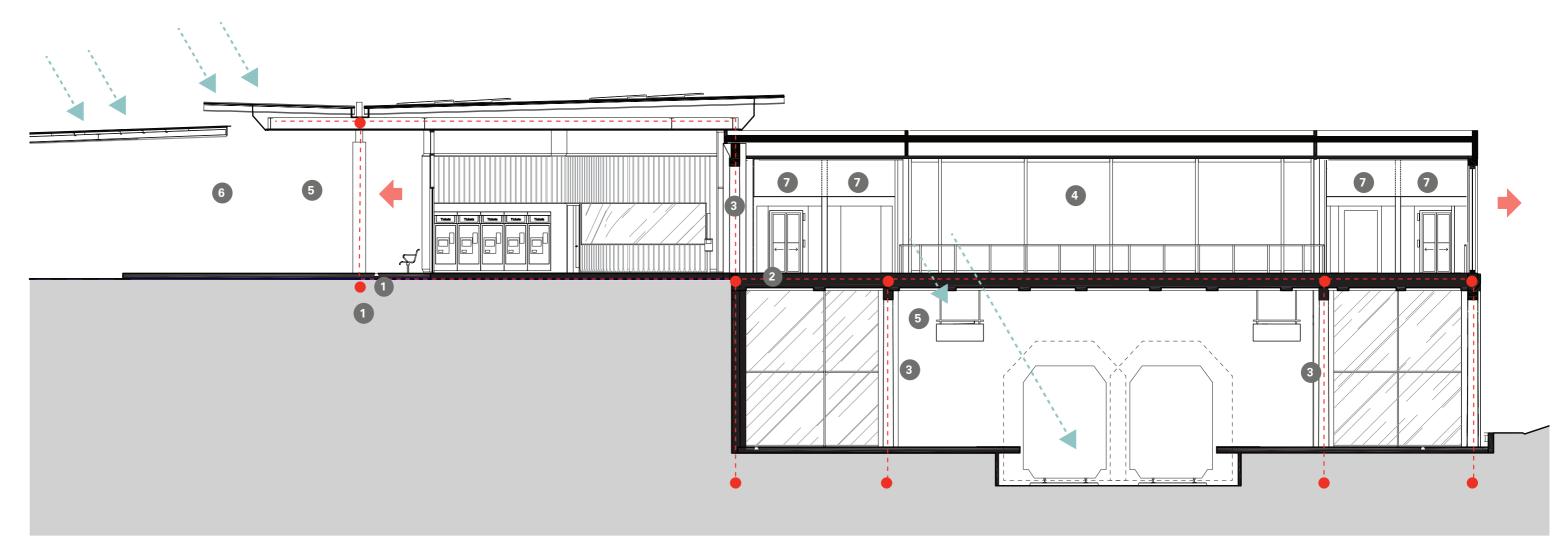








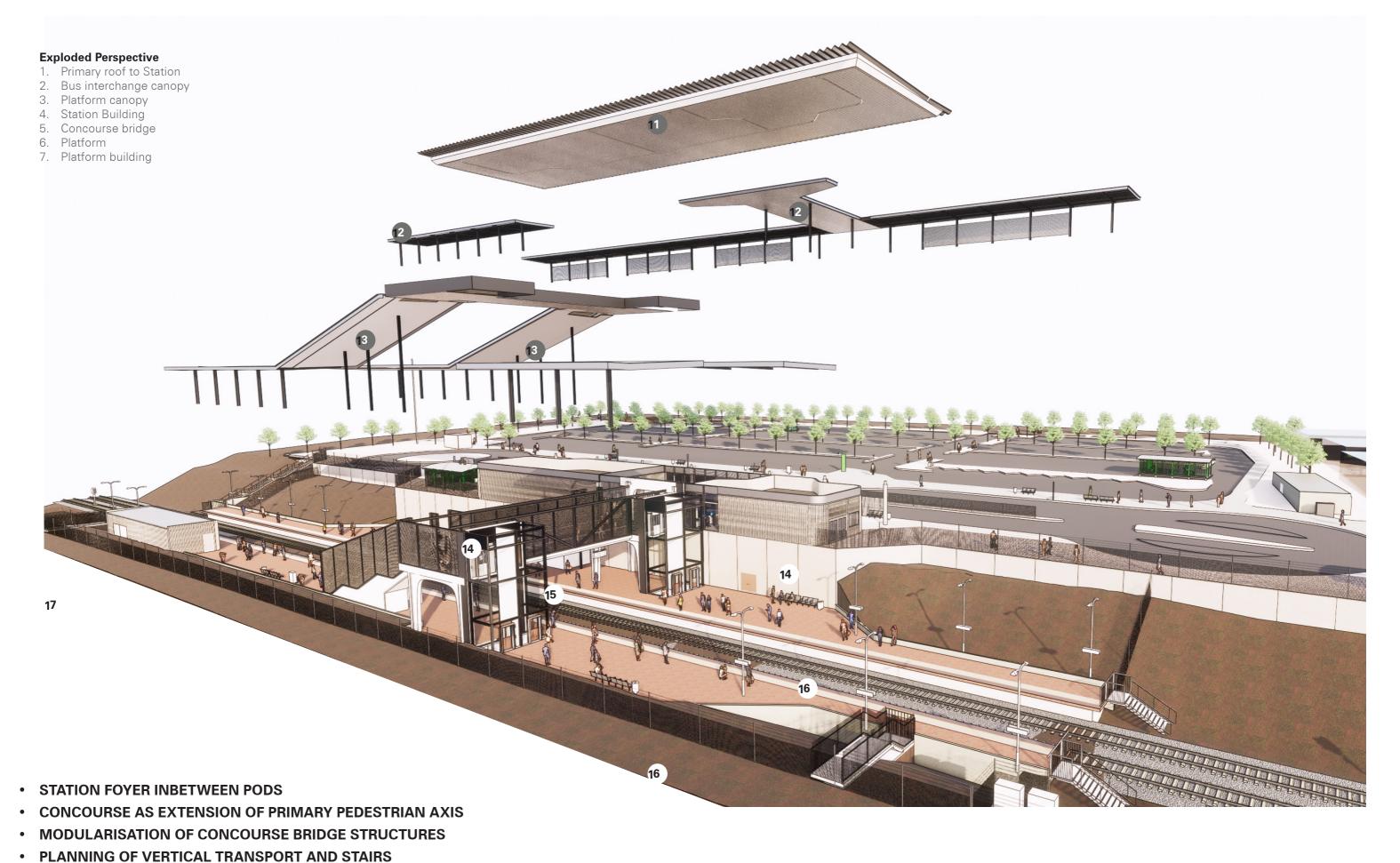




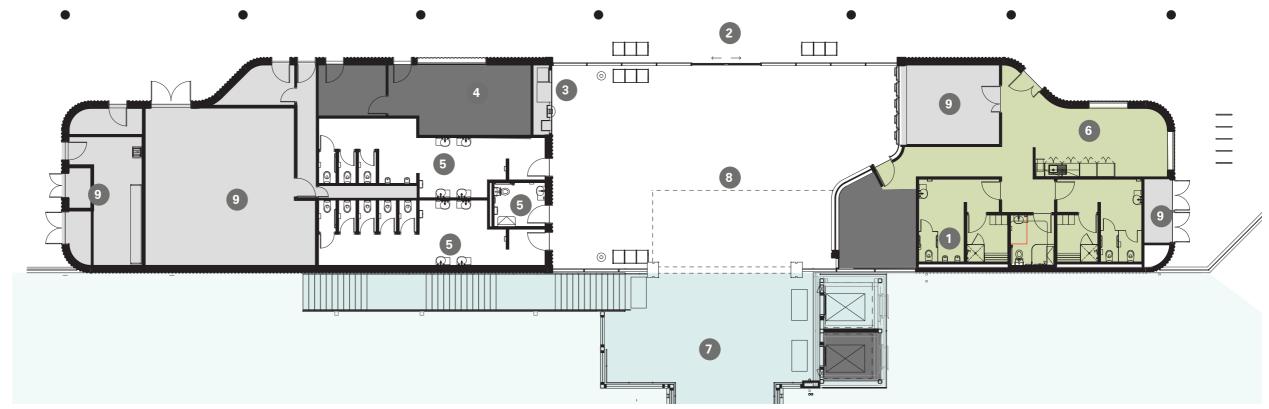
- 1. Anchored concrete columns and steel roof frame
- 2. Canopy can be extended for additional coverage
- 3. Pre-cast concrete portals
- 4. Pre-cast Concourse bridge
- 5. Rainfall protection for waiting areas
- 6. Bus Stops sheltered under roof
- 7. Vertical transport
- MINIMISING BUILDING OVER THE OPERATIONAL RAILWAY
- MINIMISING SHUTDOWNS TO OPERATIONS AND TRAIN SERVICES
- DESIGN FLEXIBILITY FOR WEATHER PROTECTION
- INDEPENDANT EXPRESSION OF STRUCTURES (CONCRETE AND STEEL)
- PREFABRICATION AND MODULARISATION
- MAINTAIN MATERIAL EXPRESSION OF PODS ABOVE GROUND LEVEL AND PRECAST RETAINING WALL PANELS AT PLATFORM

Cross Sectional Design Strategy

DESIGN PHILOSOPHY



- PRIMARY / SECONDARY ROOF STRUCTURES
- RATIONALISED RETAINING WALL AND BUSWAY DESIGN

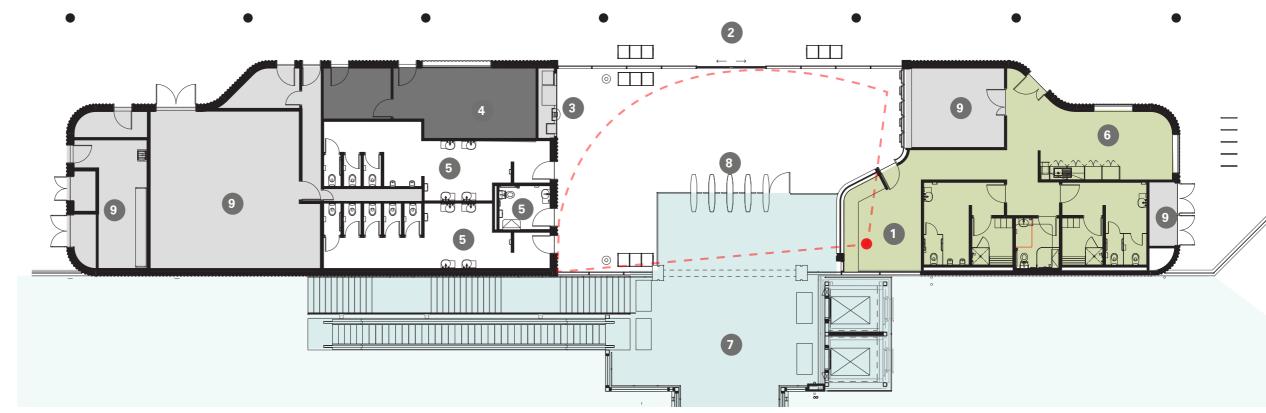


First Stage Station Building

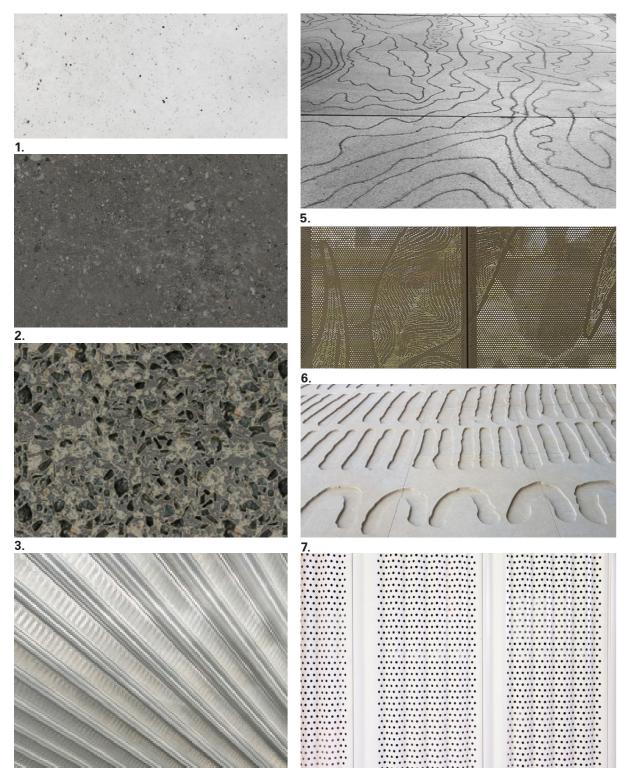


Station Building

- 1. Future Customer Service Office
- 2. Station Entry
- 3. Vending Machines, ATM, Phone, Water Fountain
- 4. Future publically accessible kiosk
- 5. Public amenities
- 6. PTA amenities
- 7. Concourse bridge and access to platform
- 8. Future PTA Pass Gate
- 9. Services



Future Stage Station Building











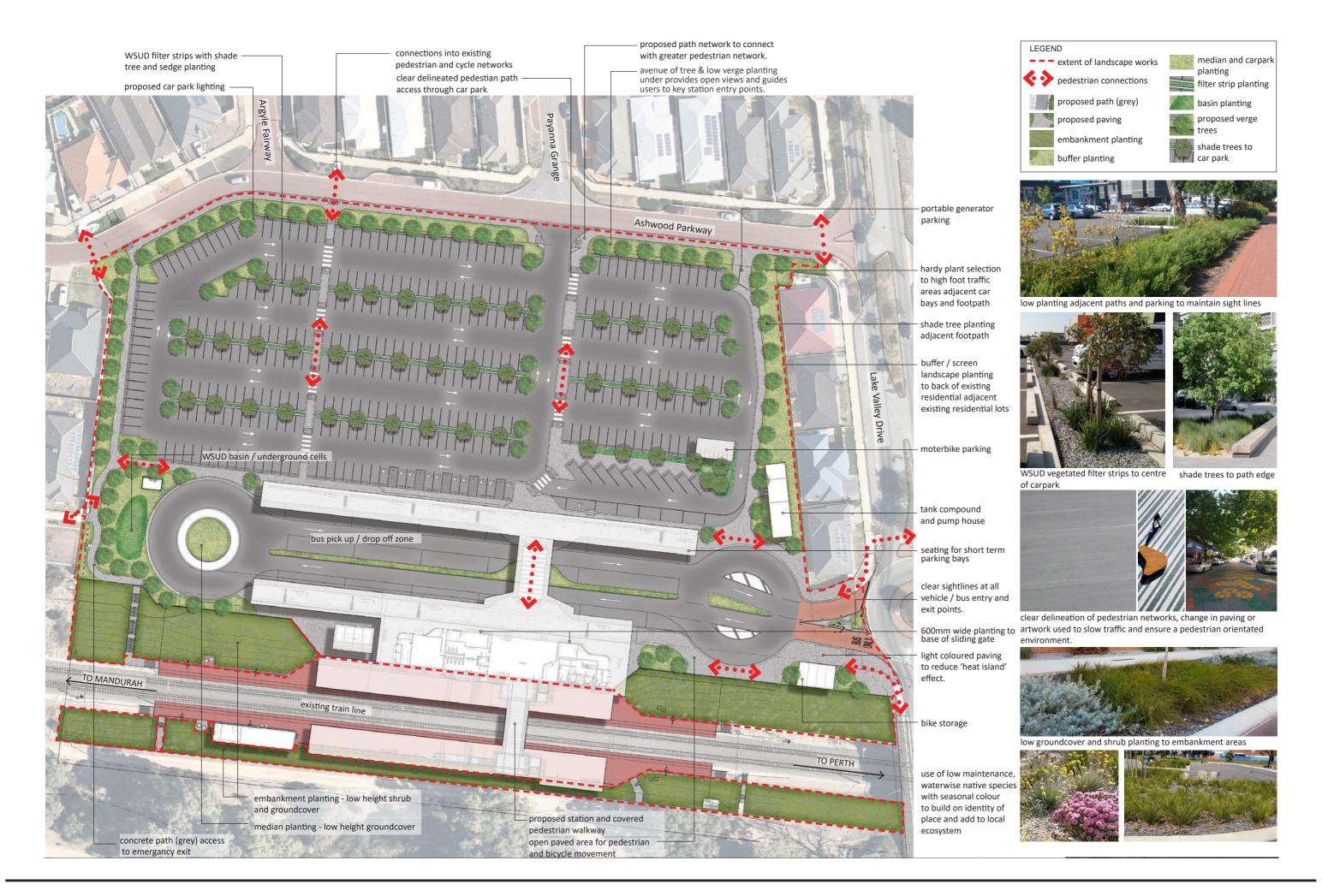
Materials Palette & Public Art Inspiration

- Off-White conrete
- Concrete forming with exposed aggregate.
- Metz Straday
- Holcim mix Exposed Aggregate Concrete paving
- Aramax Roof
- Artist Lena Nyadbi with Hassell The Westin Perth
- Artist Kylie Graham Perth Stadium
- Artist Lena Nyadbi with Hassell The Westin Perth Coruline Panelling
- Fluted precast concrete panels
- 10. Buffer Planting
- 11. Swale Planting

Site Photos

13.

- 12. Walking path around Black Swan Lake13. Black Swan Lake







corymbia ficifolia







eucalyptus victrix



lepidosperma calcicola



Final species list to be confirmed following detailed design and review with the City of Mandurah and PTA.

conostylis candicans

westringia "mundi"



leucophyta brownii



eremophila nivea







thryptomene baeckeacea lechenaultia biloba eremophila glabra



eucalyptus woodwordii melaleuca viridiflora

Leucophyta brownii Pimelea ferruginea Westringia 'Mundi' **Median Planting** Conostylis candicans Dianella breeze

Eremophila Glabra 'Kalbarri carpet' Hemiandra pungens

Lomandra lime tuff

Indicative species palette

Beaufortia 'Summer Flame' Conospernum cressinervium Conostylis candicans

Eremophila glabra "prostrate" Eremophila nivea

Grevillea preissii 'Mini marvel'

Myoporum insulare (prostrate) Orthrosanthus multiflorus Thyptomene baeckeacea

Chorizema cordatum Eremophila Glabra 'Kalbarri carpet'

Carpark Planting

Ficinia nodosa

Grevillea 'Sea Spray" Lepidosperma calcicola Lomandra longifolia

Embankment Planting

Hemiandra pungens

Kennedia prostrata Lechenaultia biloba Lomandra lime tuff Myoporum parvifolium

Swale Planting

Carex appressa Ficinia nodosa Lepidosperma calcicola Lomandra tanika

Buffer Planting

Banksia ashbyi Dwarf Lepidosperma gladiatum Hakea burrendong beauty leucophyta brownii Eremophila nivea Melaleuca Little Nessie Callistemon Hot Pink Melaleuca fulgens pink

Trees

Agonis flexuosa Corymbia ficifolia Eucalyptus leucoxylon rosea Eucalyptus torquata Eucalyptus woodwordii Eucalyptus vicxtrix Melaleuca viridiflora



eucalyptus torquata





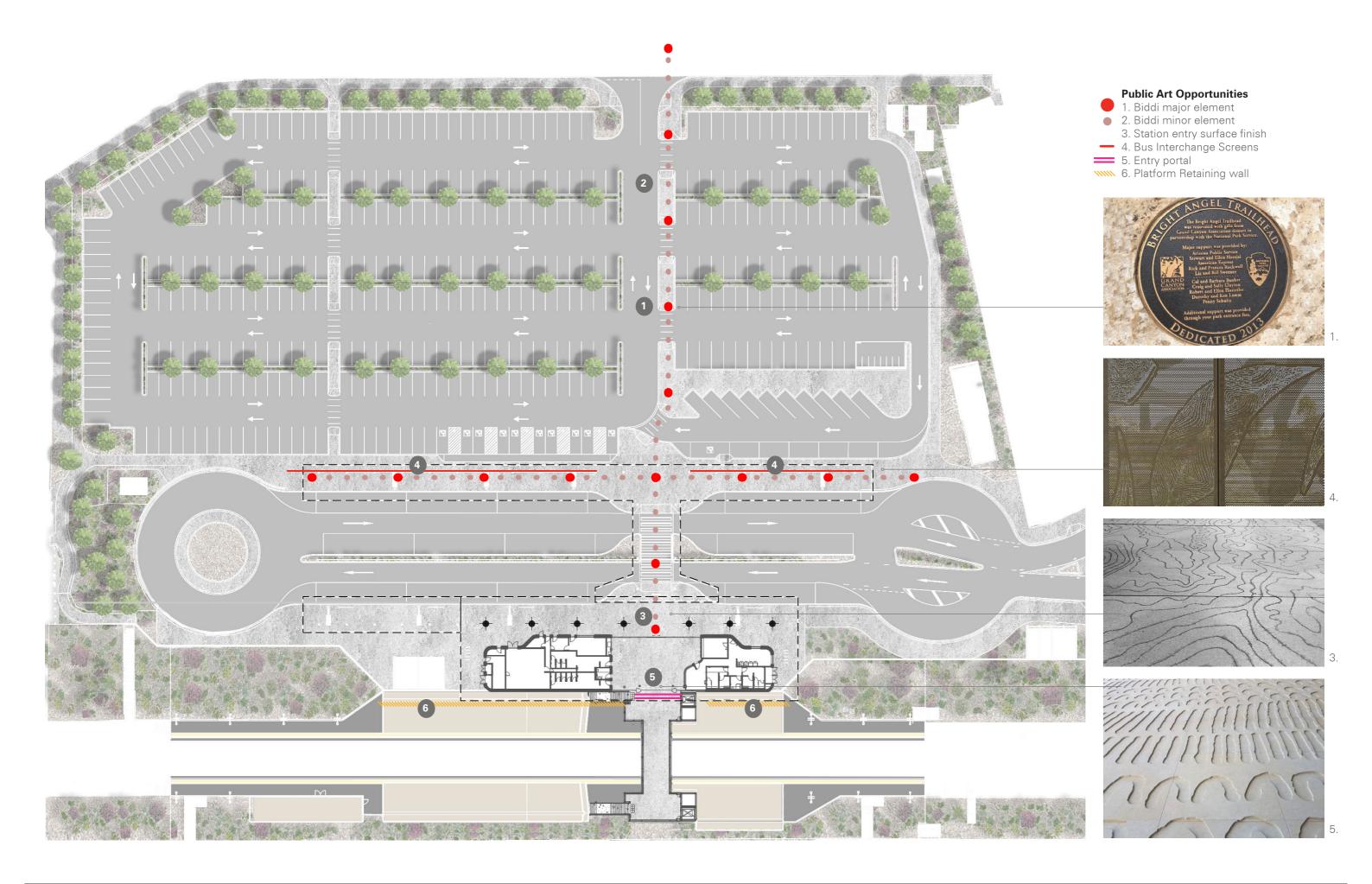
use of low maintenance, waterwise native species to build on identity of place and add to local ecosystem







vegetated filter strip to centre of carpark

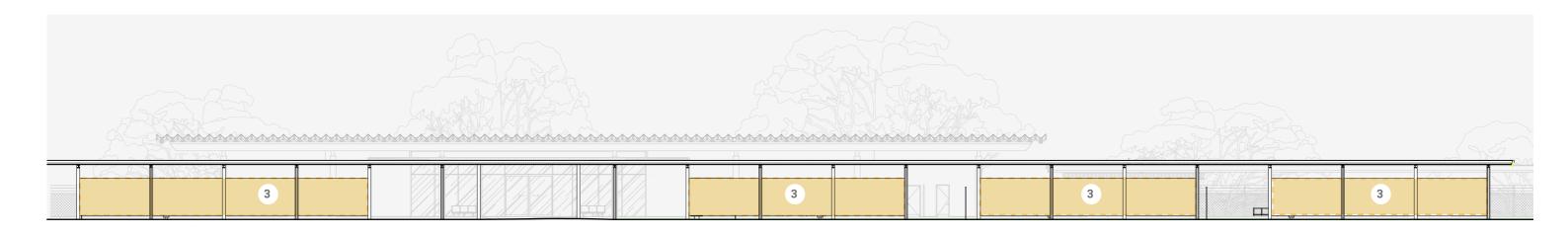


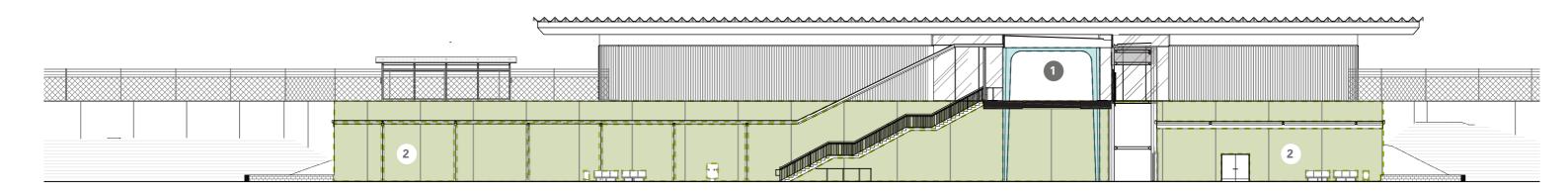
Public Art Opportunities













3. Built Form & Scale - Primary Pedestrian Arrival









3. Built Form & Scale - Platform

STATE PLANNING POLICY 7.0 - PRINCIPLES

PROGRAM

- Contract Awarded
- Project Launched
- Preliminary site works underway
- Construction Commencing 8 weeks
- Station Opening 2023

RECOMMENDATION

- Ongoing collaboration DPLH, METRONET, OGA and City of Mandurah
- Multiple review and refinement of Development Conditions
- Early engagement on clearance of Conditions to start Building Works (Construction + Traffic Management, Architecture, Landscape and Drainage)
- Ongoing collaboration on clearance of Conditions required prior to opening (Station Access, Parking)
- Full support for recommendation and associated approval conditions



Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

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Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Dean Rigby	
Company (if applicable)	Lendlease	
Please identify if you have	YES □ NO ⊠	
any special requirements:	If yes, please state any accessibility or special requirements:	
	Click or tap here to enter text.	

Meeting Details

J	
DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	7 September 2021
DAP Application Number	DAP/21/02004
Property Location	Lot 708 (No. 420) Joondalup Drive, Joondalup
Agenda Item Number	8.2

Presentation Details

Will the presentation require power-point facilities?	YES □ If yes, please a	NO ⊠
Is the presentation in support of or against the <u>proposed</u> <u>development?</u>	SUPPORT 🗵	AGAINST □
Is the presentation in support of or against the report recommendation)? (contained within the Agenda)	SUPPORT 🗵	AGAINST 🗆
I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	YES ⊠	



Presentation Content*

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Brief sentence summary for inclusion on the Agenda	The presentation will address: The development strategy and consistency with the broader vision for the Lakeside Joondalup site.
--	--

In accordance with Clause 3.5.2 of the <u>DAP Standing Orders</u>, your presentation request <u>must</u> also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

The presentation will provide an overview of:

- The consistency of the proposal with the longer term strategy for Lakeside Joondalup as a mixed use urban growth centre.
- The rationale for the proposed commercial development and its location within the Lakeside Joondalup site.
- The broader masterplan for this portion of the Lakeside Joondalup site.
- The rationale behind the staged delivery strategy and the opportunities this
 provides in terms of flexibility to meet market demand as the Joondalup office
 market continues to evolve over time.

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

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Presenter Details

Name	Dean Symington	
Company (if applicable)	Hames Sharley	
Please identify if you have	YES 🗆	NO ⊠
any special requirements:	If yes, please state any accessibility or special requirements:	
	Click or tap here to en	iter text.

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Brief sentence summary for inclusion on the Agenda	The presentation will address: The architect's site context analysis and design response for the delivery of a landmark development.
--	--

In accordance with Clause 3.5.2 of the <u>DAP Standing Orders</u>, your presentation request <u>must</u> also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

In accordance with the attached presentation document, the presentation will address:

- The site context analysis that has informed the proposed design response for the delivery of a landmark development.
- Key design principles adopted for the project and refined through engagement with the Joondalup Design Review Panel.
- Pedestrian connectivity and public realm improvements.

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

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Presenter Details

Name	George Ashton	
Company (if applicable)	Element	
Please identify if you have	YES □ I	NO ⊠
any special requirements:	If yes, please state any accessibility or special requirements:	
	Click or tap here to ente	er text.

Meeting Details

J	
DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	7 September 2021
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Property Location	Lot 708 (No. 420) Joondalup Drive, Joondalup
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Presentation Details

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Is the presentation in support of or against the <u>proposed</u> <u>development</u> ?	SUPPORT 🗵	AGAINST 🗆
Will the presentation require power-point facilities?	YES □ If yes, please a	NO ⊠ attach



Presentation Content*

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Brief sentence summary for inclusion on the Agenda	The presentation will address: Support for the officer recommendation and consistency with the Joondalup Activity Centre Plan.
--	--

In accordance with Clause 3.5.2 of the <u>DAP Standing Orders</u>, your presentation request <u>must</u> also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

The presentation will address:

- Support for the recommended conditions and a request for approval from the JDAP in accordance with the officer recommendation.
- Key benefits of the proposed development and consistency with the objectives of the Joondalup Activity Centre Plan (JACP), including:
 - Activating a vacant site at a key entry point to the Joondalup City Centre, via the provision of a high quality landmark development that is set apart from the general fabric of the City Centre, as envisaged under the JACP.
 - Delivering employment intensive land uses that will assist in increasing employment self-sufficiency and promoting Joondalup as the Central Business District for the north-west corridor of Perth, with plans for future growth in subsequent stages of the project.
 - Contributing to increased day time activation and a critical mass of people to support local businesses and stimulate broader economic growth in the Joondalup City Centre.
 - Improving pedestrian connectivity to existing public transport facilities, through the provision of a high amenity, grade separated pedestrian link that will enhance pedestrian safety in the locality.
 - Promoting sustainable development outcomes through the targeted 5star Green Star rating.

LAKESIDE JOONDALUP

OFFICE DEVELOPMENT





LOCATION PLAN

- DEVELOPMENT SITE
 JOONDALUP TRAIN STATION
 LAKESIDE JOONDALUP SHOPPING CENTRE
- 5. EARCHOLD SHOPT
 6. JOONDALUP PUBLIC LIBRARY
 7. ECU JOONDALUP CAMPUS
 8. WA POLICE ACADEMY

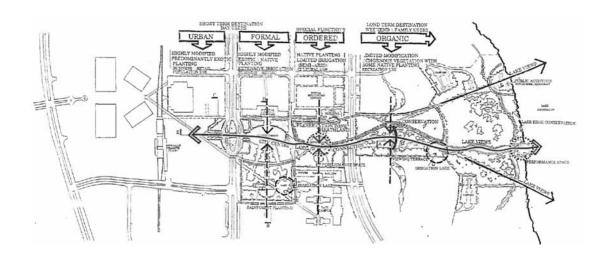


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ORIGINAL MASTER PLAN

THE ORIGINAL MASTER PLAN FOR JOONDALUP, PREPARED BY HAMES SHARLEY IN 1990, SHOWED A GREEN CORRIDOR THROUGH THE CENTRE OF THE CITY ALONG COLLIER PASS.

THE DEVELOPMENT IS LOCATED IN THE MIDDLE OF THIS CORRIDOR, AND HAS AN OPPORTUNITY TO RE-ESTABLISH THE LINK TO THE LAKE BY BRINGING LANDSCAPING BACK INTO THE SHOPPING CENTRE PRECINCT.





Status: DEVELOPMENT APPLICATION

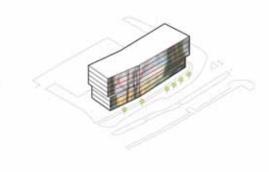
Scale: NTS

44316 Project Number: Drawing Number: DA-001 Revision 16/04/2021

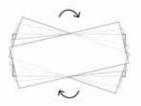














CONTEXT

THE ARCHITECTURAL LANGUAGE OF THE FACADE IS DERIVED FROM THE DYNAMIC NATURE OF THE NEARBY WATERS OF CENTRAL PARK. THE SURFACE OF THE LAKE RIPPLES AND FLOWS TO PROVIDE SUBTLE CHANGES IN REFLECTIONS.

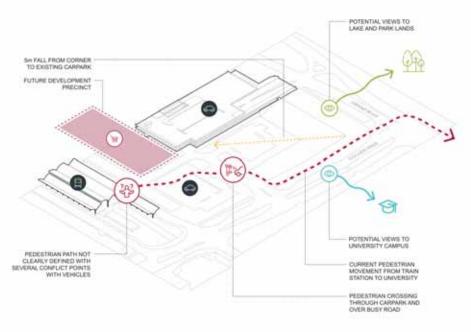
REFLECTIONS

THE EXTERNAL ENVELOPE ESTABLISHES A DIALOGUE BETWEEN THE DEVELOPMENT SITE AND CENTRAL PARK BY PROJECTING THESE REFLECTIONS ONTO THE FACADE.

SHIFTING

IN RESPONSE TO THE IMMEDIATE CONTEXT, GENTLE SHIFTING IN THE FLOOR PLATES PROVIDES THE GLAZED SOUTHERN FACADE WITH VARIABLE REFLECTIONS THROUGHOUT THE DAY.

Date:

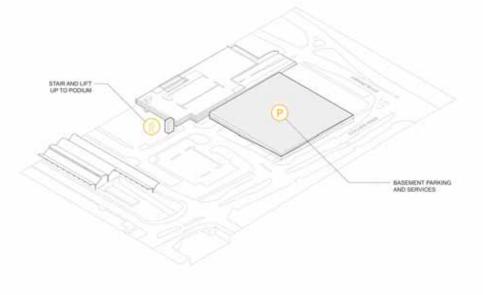


SITE CONSIDERATIONS

THE SITE IS SITUATED ON AN IMPORTANT CONNECTION PATHWAY FROM THE TRAIN STATION TO THE SOUTHERN HALF OF JOONDALUP - WITH THE UNIVERSITY CAMPUS THE MAIN DESTINATION.

VIEWS EAST ACROSS GRAND BOULEVARD TO CENTRAL PARK AND LAKE ARE POSSIBLE FROM STREET LEVEL, WITH VIEWS SOUTH TOWARD THE UNIVERSITY POSSIBLE FROM LEVEL 2 UPWARDS.

THIS LANDMARK CORNER SITE IMPLIES A CIVIC RESPONSIBILITY TO RESPOND TO THE IMMEDIATE CONTEXT, PROVIDE A LOGICAL GROUND PLANE AND CONSIDERED BUILDING FORM THAT SETS A NEW BENCHMARK FOR DEVELOPMENT IN THE AREA



PODIUM

THE FALL AWAY FROM THE STREET CORNER PROVIDES THE OPPORTUNITY TO SLEEVE THE PARKING AND SERVICE REQUIREMENTS BELOW GRADE. THESE NECESSITIES WILL NOT PROVIDE ANY VISUAL AND PHYSICAL DETERRENTS TO THE SCHEME.

THIS PODIUM ELEMENT PROVIDES A NEW ELEVATED GROUND PLANE AT THE SAME LEVEL AS THE STREET THAT IS ACCESSED BY A NEW LIFT AND STAIR FROM THE TRAIN STATION CONCOURSE LEVEL.



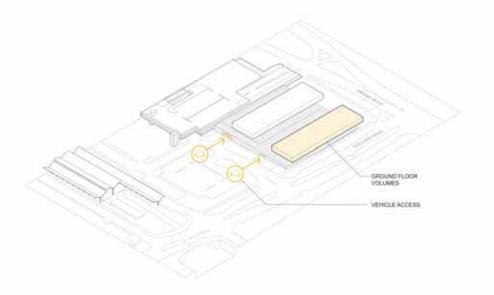
Status: DEVELOPMENT APPLICATION

Scale: NTS

Project Number: Drawing Number: Revision: Date:

: 44316 er: DA-003 B 16/04/2021





SAFER PEDESTRIAN JOURNEY THRICUGH SITE CLEAR WAYFINDING NOCES VISIBLE FROM THAIN STATION GROUPD PLAYE PERMEABILITY

BASEMENT PARKING

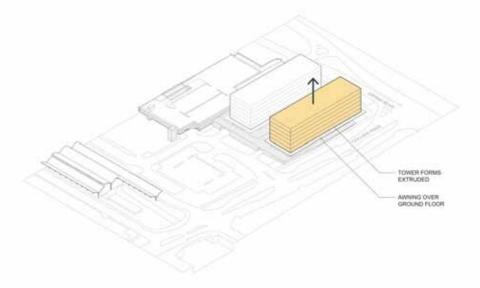
VEHICLE ACCESS POINTS ARE PROVIDED OFF INTERNAL ACCESS ROAD TO REDUCE TRAFFIC IMPACT TO COLLIER PASS AND GRAND BOULEVARD.

SIMPLE GROUND FLOOR VOLUMES THAT RESPOND TO PROGRAMME FOR STAGE 1 AND STAGE 2 SHOWN.

GROUND FLOOR PERMEABILITY

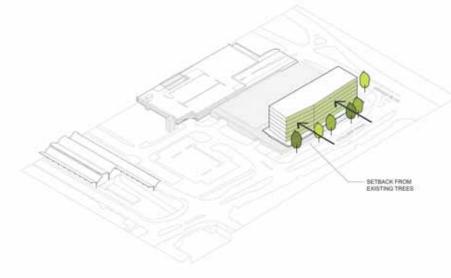
PENETRATIONS CARVED THROUGH THE GROUND PLANE CREATE SIGHTLINES THROUGH THE BUILDING FOR A CLEAR PATH FROM TRAIN STATION TO UNIVERSITY.





TOWER EXTRUSION

BUILDING FORM EXTRUDED TO MEET PROGRAMME REQUIREMENTS. AWNING EXTENDS OUT TO SHELTER AN ACTIVE GROUND PLANE BELOW.



SETBACK

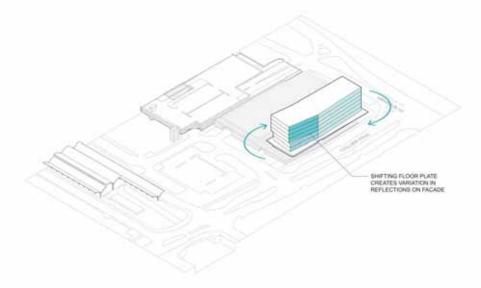
BUILDING FORM SETBACK FROM LOT BOUNDARY TO ALLOW EXISTING TREES SUFFICIENT SPACE TO REACH MATURITY WITH AN ORGANIC CANOPY.

SETBACK FROM GRAND BOULEVARD OPENS UP THE KEY PEDESTRIAN WAYFINDING DECISION POINT AS WELL AS MAINTAINING OPPORTUNITY FOR VIEWS TO THE LAKE AND UNIVERSITY FROM THE STAGE 2 FUTURE DEVELOPMENT.



Status: DEVELOPMENT APPLICATION





SHIFTING

SHIFT IN THE FLOOR PLATES TO CREATE VARIABLE REFLECTIONS IN THE SOUTHERN FACADE, ESTABLISHING A DIALOGUE WITH THE NEARBY LAKES WHILST PROVIDING A DISTINCT AND BOLD FORM TO COLLIER PASS.

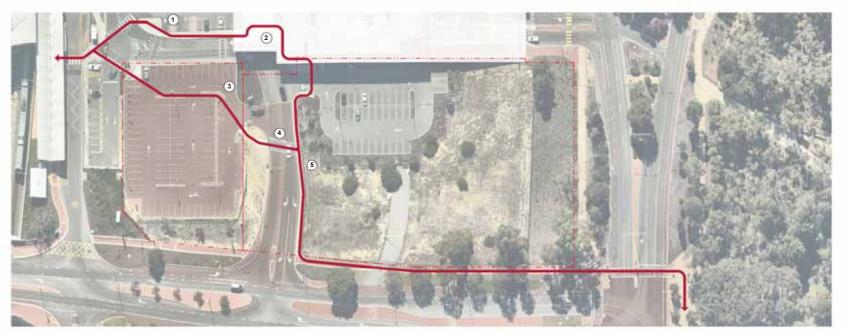


SHADING AND VIEWS

BALCONY PROVIDES CURATED VIEWS EAST TO CENTRAL PARK AND SOUTH TO THE UNIVERSITY CAMPUS. IT ALSO CREATES DEPTH TO THE FACADE AT THE MAIN CORNER SKYLINE.

SOLAR SHADING ELEMENTS PROVIDE PROTECTION FROM THE HARSH SUMMER SUN.





EXISTING JOURNEY FROM TRAIN STATION



IMPROVED JOURNEY FROM TRAIN STATION 1:500



1. INADEQUATE WIDTH OF FOOTPATH



2. MULTIPLE CROSSWALKS SLOW TRAFFIC



3. LACK OF SUITABLE FOOTPATH THROUGH CARPARK



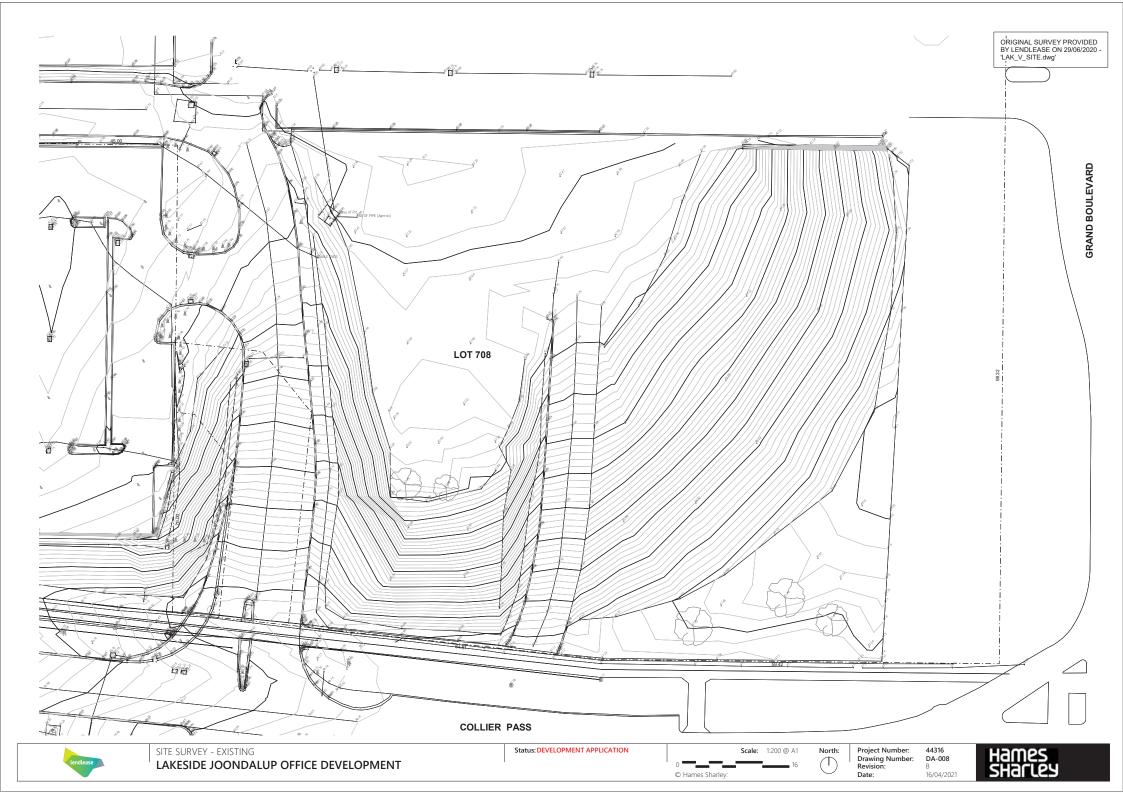
4. PEDESTRIAN CROSSING OVER BUSY ROAD

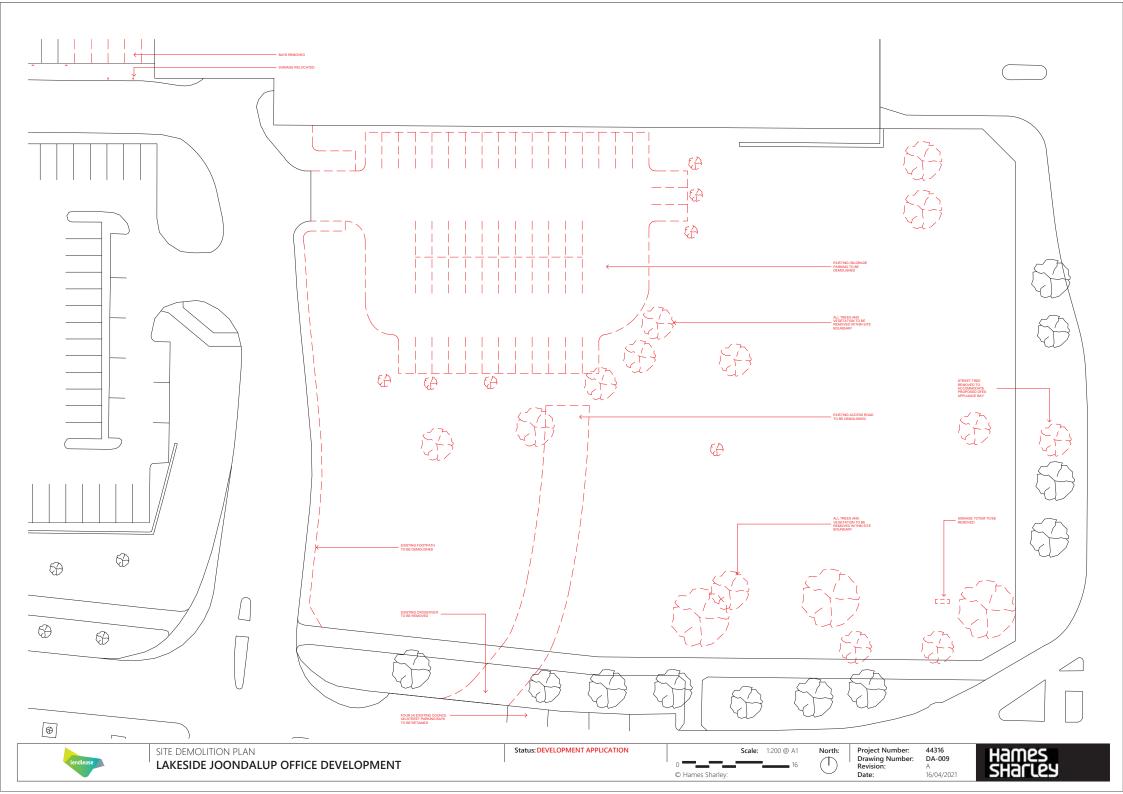


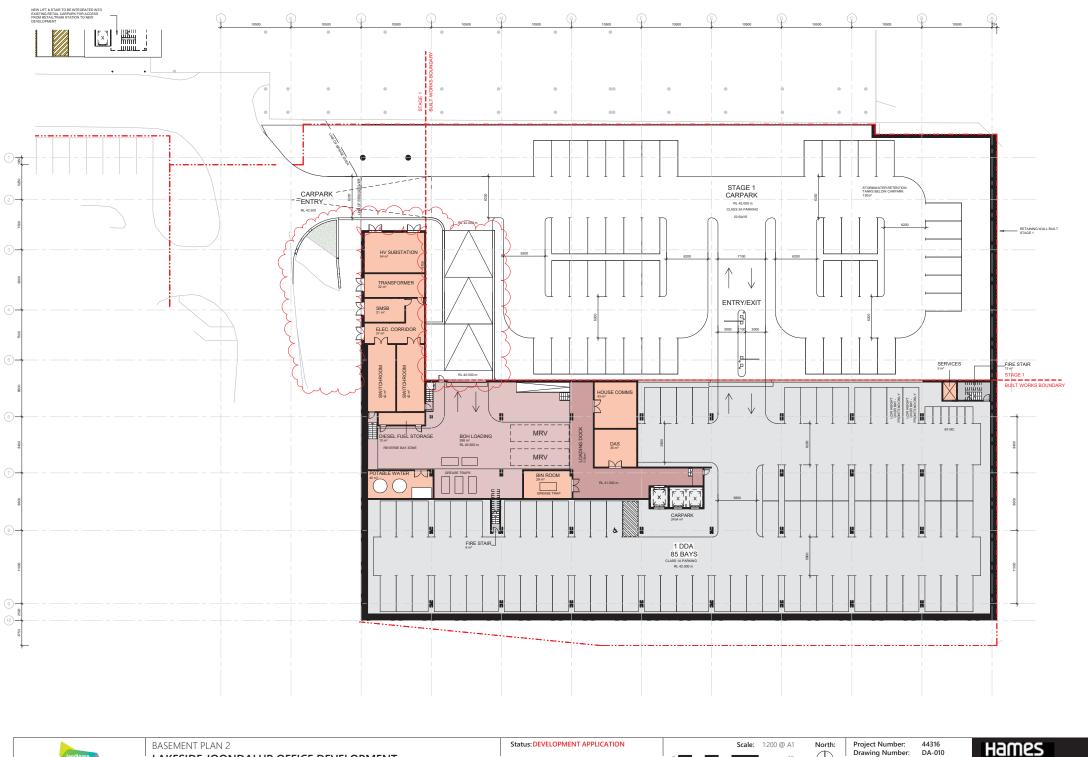
5. LACK OF CONNECTION THROUGH SITE FROM STATION



© Hames Sharley:









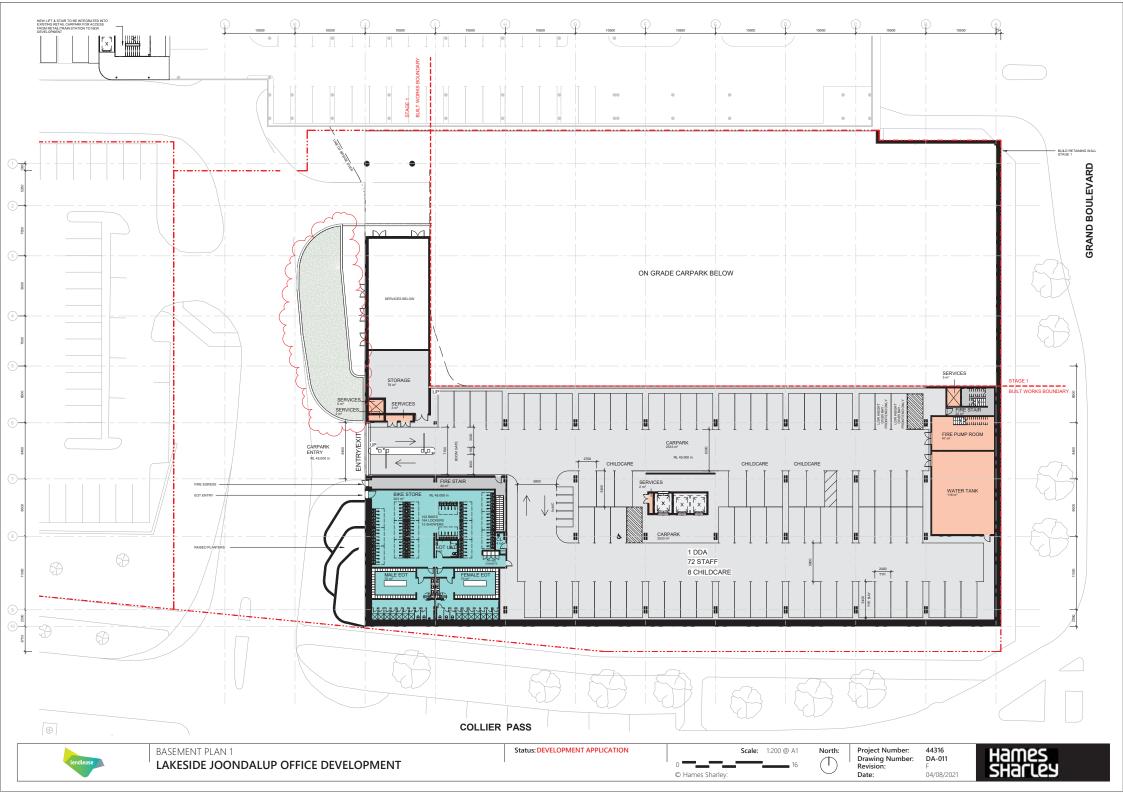
LAKESIDE JOONDALUP OFFICE DEVELOPMENT

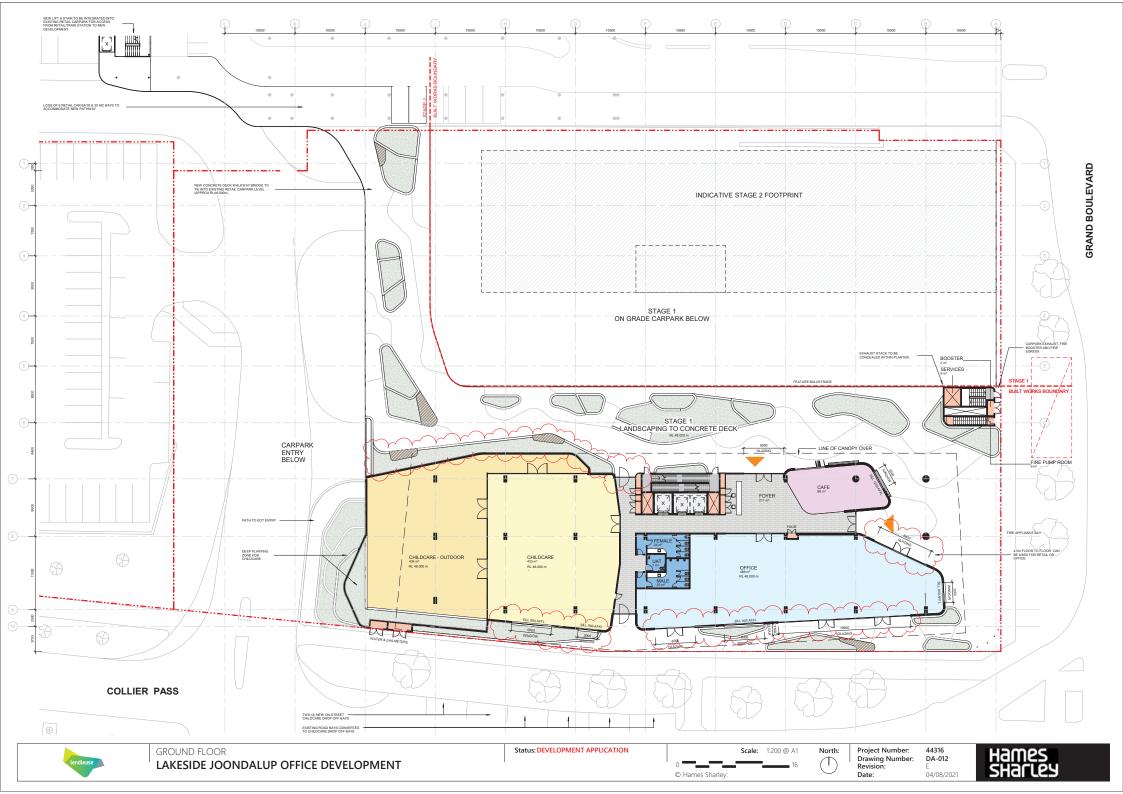


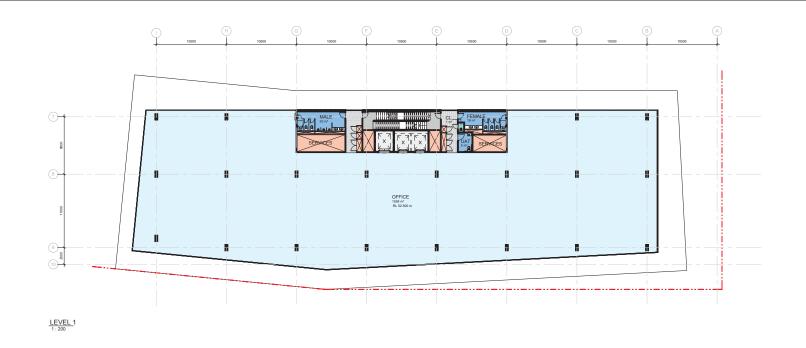
Revision:

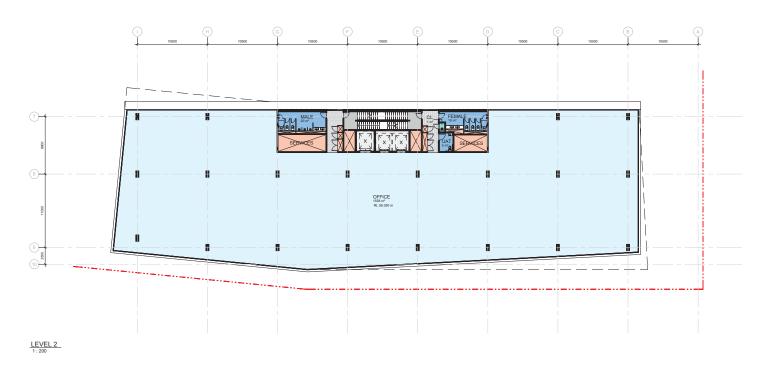
44316 DA-010 04/08/2021





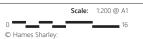








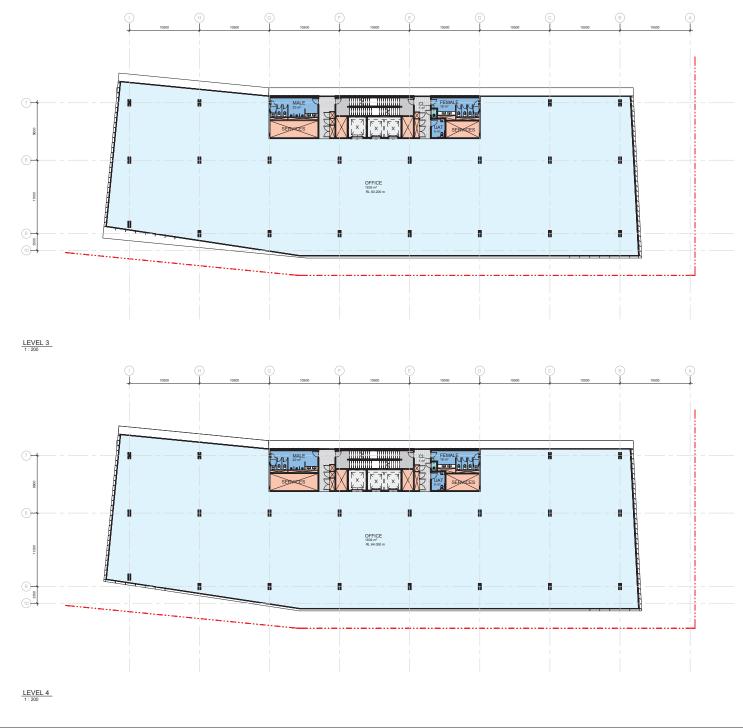
Status: DEVELOPMENT APPLICATION



North: Project Drawing Revision Date:

Project Number: 44316
Drawing Number: DA-013
Revision: D
Date: 16/04/2021







LEVEL 3 & 4

LAKESIDE JOONDALUP OFFICE DEVELOPMENT

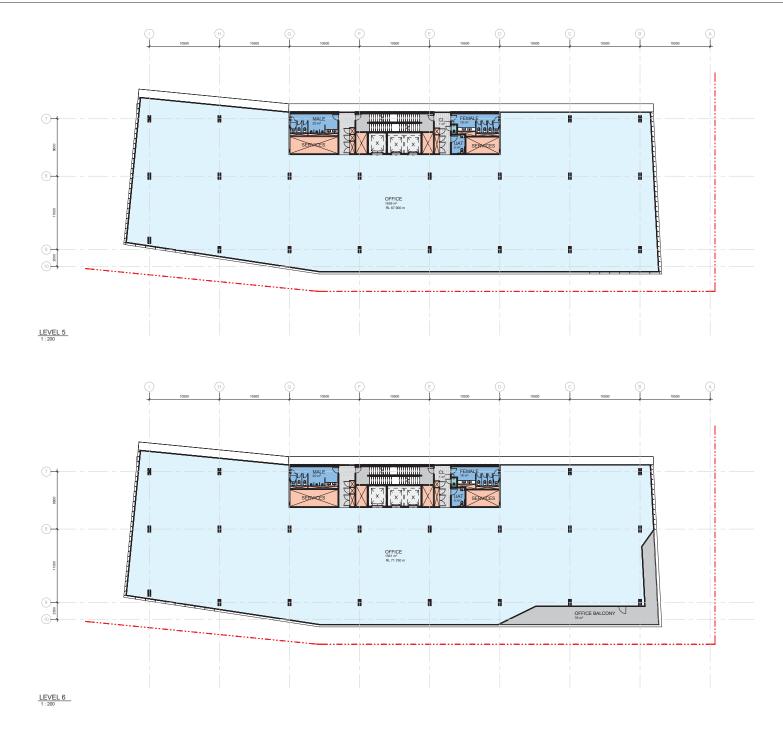
Status: DEVELOPMENT APPLICATION



North:

Project Number: 44316
Drawing Number: DA-014
Revision: E
Date: 16/04/2021







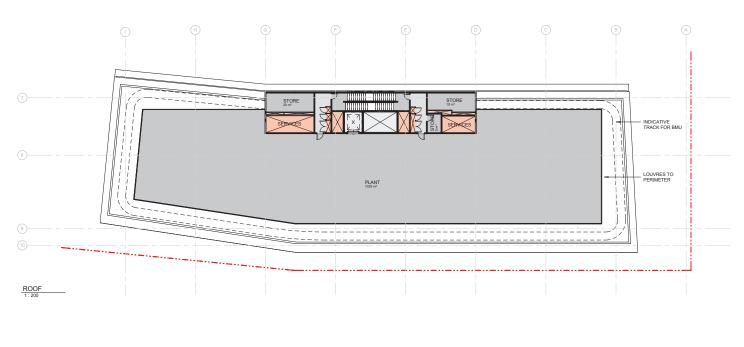
Status: DEVELOPMENT APPLICATION

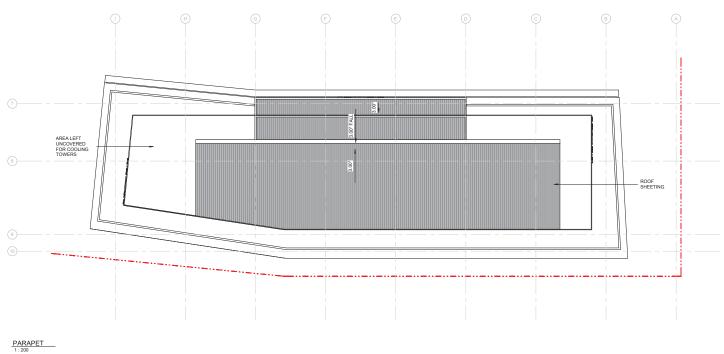




Project Number: 44316
Drawing Number: DA-015
Revision: D
Date: 16/04/2021

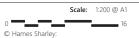






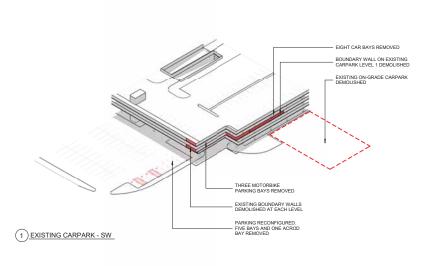


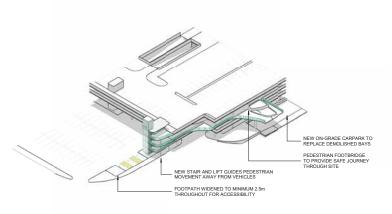
Status: DEVELOPMENT APPLICATION



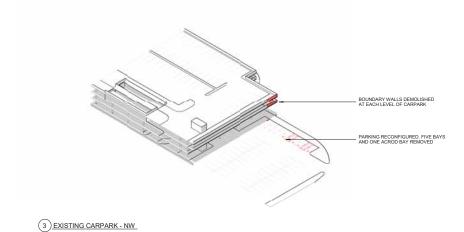
Project Number: Drawing Number: Revision: 44316 DA-016 16/04/2021







2 PROPOSED STAIR/LIFT - SW



PEDESTRIAN FOOTBRIDGE
TO PROVIDE SAFE JOURNEY
THROUGH SITE

NEW STAIR AND LIFT GUIDES
PEDESTRIAN MOVEMENT
AWAY FROM VEHICLES

GLASS LIFT TO ACT AS
BEACON FROM TRAIN
STATION

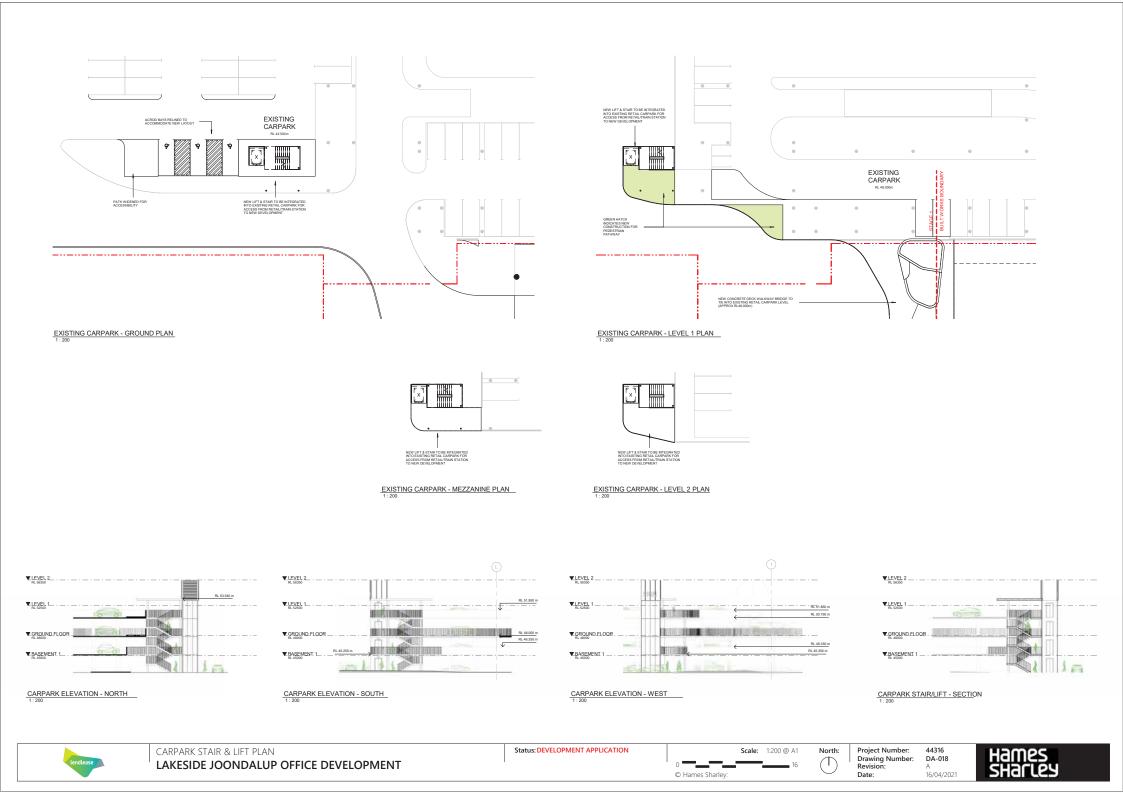
FOOTPATH WIDENED TO
MINIMAY 25th THROUGHOUT
FOR ACCESSIBILITY

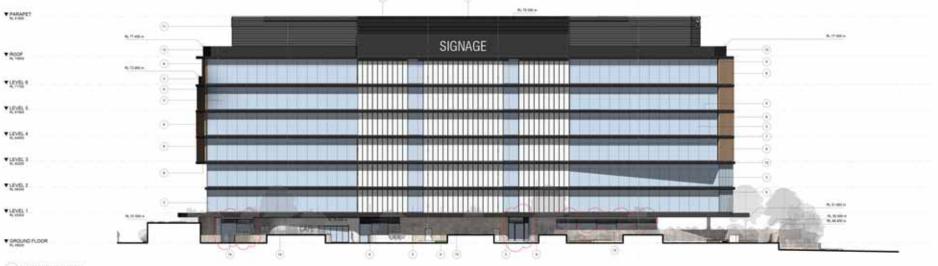
4 PROPOSED STAIR/LIFT - NW

Status: DEVELOPMENT APPLICATION

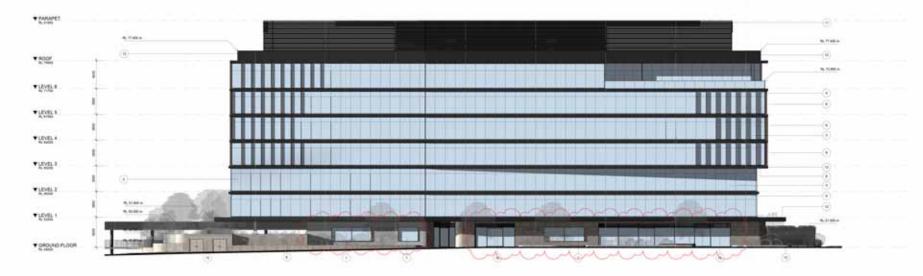












NUMBER	MATERIAL
Ť.	LARGE FORMAT WINDOWS
2	CHILDCARE SLAZING - TRC
3	OFFICE GLAZING - 1500HH MODULE
4	STANLESS STEEL CLADONG - 750mm PWHEL
	SHADON BOX SPANDAEL PANEL
	SHADING FINS - POWDERCOATED ALUMNIUM
,	HORIZONTAL SHADING DEVICES
	BRONZE ANCOISED ALLMINUM SOFFIT
	CONCRETE PLANTERS WI TIMBER ACCENTS
10	PRATURE BALUSTRADE
11	ACQUETIC PLANT LOUVREE - 2 STAGE WEATHERPROO
til	TEXTURE COAT PAINT TO CONCRETE
18	LIMESTONE PANELLING
14	FRATURE CLADONG.

2 SOUTH ELEVATION



1 EAST ELEVATION





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SECTIONS

LAKESIDE JOONDALUP OFFICE DEVELOPMENT

Status: DEVELOPMENT APPLICATION



Project Number: Drawing Number: Revision:

44316 DA-021 16/04/2021

MATERIAL PALETTE





Status: DEVELOPMENT APPLICATION

Scale: NTS

Project Number:
Drawing Number:
Revision:
Date:

44316 DA-022 B 16/04/2021 Hames SHarle!

MATERIAL PALETTE





Status: DEVELOPMENT APPLICATION

Scale: NTS

Project Number: Drawing Number: Revision: Date:

44316 DA-023 16/04/2021

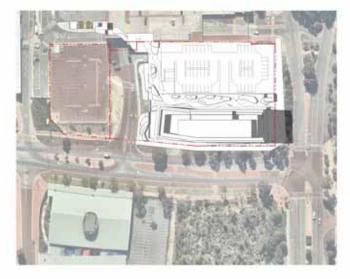




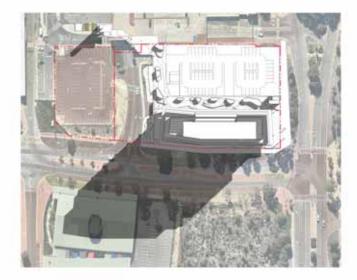




SHADOW - SUMMER 1200



SHADOW - SUMMER 1500



SHADOW - WINTER 0900



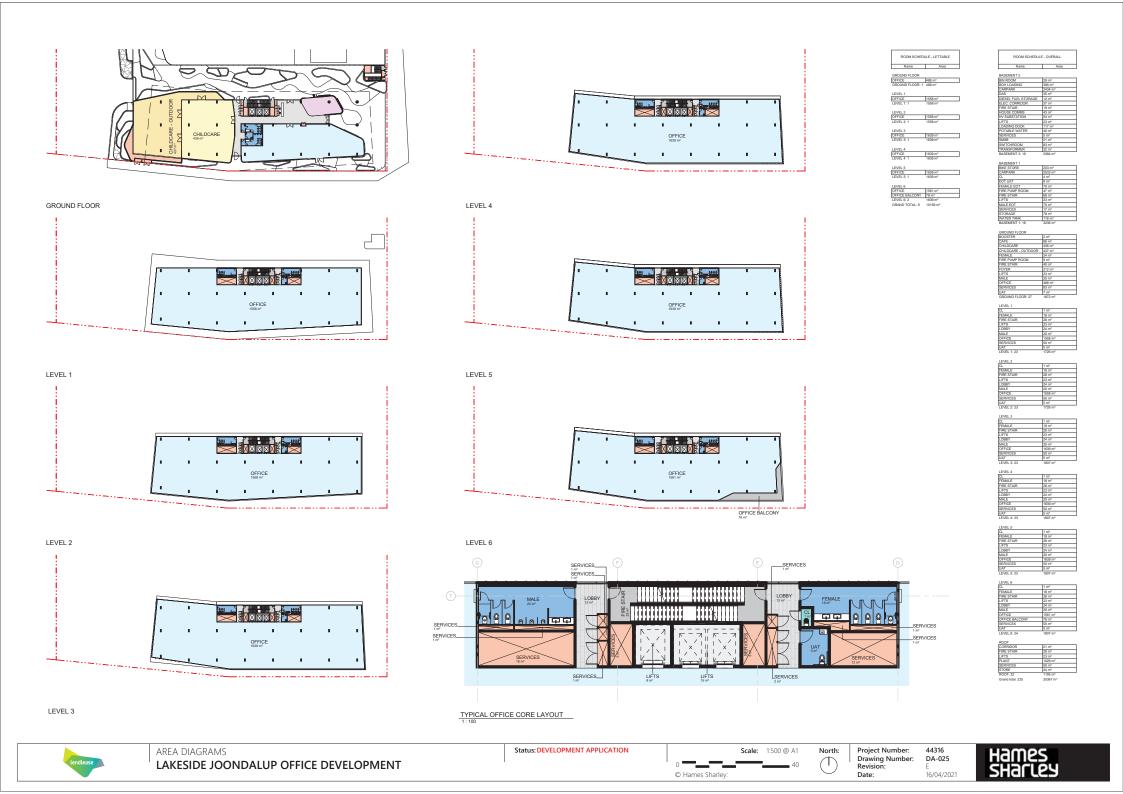
SHADOW - WINTER 1200



SHADOW - WINTER 1500



© Hames Sharley:















Status: DEVELOPMENT APPLICATION













SPP 7.0

State Planning Policy 7.0 (SPP 7.0) sets out 10 design principles to promote the importance of design quality throughout the built environment in Western Australia.

The Policy applies to all forms of development which include higher order planning such as ACP to Subdivision and Development Applications. The policy sets out design principles which pertain to: context and character, landscaping quality, built form and scale, functionality and build quality, sustainability, amenity, legibility, safety, community and aesthetics.

These principles have underpinned the design response to the development and broader context.



CONTEXT & CHARACTER

Objective: Good design responds to and enhances the distinctive characteristics of a local area, contributing to a

- . The architectural language of the facade is derived from the dynamic nature of the water surfaces of the lake in Central Park and Lake Joondalup
- The design incorporates to the natural features & materials of Joondalup - the lake reflections in the glass, limestone, and natural tones from the green link bushland.
- · Cognizant that this development plays important in creating a safe pedestrian linkage from the train station to TAFE &
- . Enhance and reinforce the 'Green Link' as outlined in the Activity
- · Bold & distinctive form acknowledges the City's desire for a landmark building.



LANDSCAPE QUALITY

Objective: Good design recognises that together landscape and buildings operate as an integrated and sustainable system, with a broader ecological context.

- . The landscape has been designed to be an integral part of the overall campus design.
- . Retain mature street trees where practical to maintain an attractive pedestrian connection.
- . Provide a public alfresco seating area within the campus precinct area with extensive hard and soft landscaping element to optimise areas of recreation and reprieve for users.
- . Enhance the desired 'Green link' connection from Lake Joondalup, thorough Central Park and along Collier Pass.
- · Planting proposed is native, enhancing identity of place and sustainability.
- . Weather protection has been provided in the form of awning and tree canopies.



BUILT FORM & SCALE

Objective: Good design ensures the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.

- . Built form set back form street boundary to give space for mature street tree roots to grow
- Building orientated to maximise natural daylight with the long. facades facing north & south
- · Tactile and human-scale elements & materials incorporated to ground floor to further enhance the campus feel
- . Dramatic floor shift in the building provides a strong and bold aesthetic appropriate of a landmark building.
- . The form of the building has been carefully considered to provide a landmark building that responds to the current context of Joondalup but also to its future.

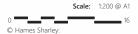


FUNCTIONALITY & BUILD QUALITY

Objective: Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full-life cycle.

- · Ground floor height is adaptable for future retail or showroom
- · Proposed design enhances the connection from the train station by providing new pedestrian linkages that minimises vehicle crossover points.
- · Finishes proposed are resilient and of commercial quality.
- . Shading devices have been implemented into the design to reduce the heat gain on the glass and reduce glare.
- . Design is targeting 5 Star Green Star accreditation.









SPP 7.0 | APPLICANT RESPONSE



SUSTAINABILITY

Objective: Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.

- Shading devices have been integrated into the design to reduce the heat gain on the glass and reduce glare
- · Rain water retained on site for reuse
- . Electric charging points provided for EV cars
- . Targeting 5 Star Green Star accreditation.
- Long facades places north/south, with the short sides east/west to maximise natural daylighting and minimise heat load.
- · Planting proposed is of native species.



AMENITY

Objective: Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.

- End of trip facility provided to reduce reliance on motor vehicles and encourage alternate means of transport.
- · Public ground floor café
- The development will link the development with Central Park, Tafe and University, solidifying the green link as outlined in the Activity Center plan.
- · Childcare proposed on ground floor.
- Design encourages views out over the Lake and Central Park, whilst also providing solar protection.



LEGIBILITY

Objective: Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.

- Clear, legible connection shave been proposed throughout the development. A high level of analysis has considered where the existing pedestrian linkages are and how they can be better integrated with the centre.
- Way finding techniques have been proposed through the public realm, in the form of paving, landscaping, and signage.
- Ground floor plan has been arranged to encourage both tenants and the public to engage with the development.
- Pedestrian canopy has been proposed to provide shade and weather protection year-round. The trees proposed in the landscape will provide seasonal protection.



SAFETY

Objective: Good design optimises safety and security, minimising the risk of personal harm and supporting safe behavior and use.

- The proposed design will contribute to passive surveillance both of the existing centre, train station linkage, and Collier Pass.
- CCTV & 24 hour lighting has been proposed through the landscape and development.
- The improvements to the train station connection provide a safer route for pedestrians, reducing the amount of crossovers they need to navigate.
- Planters have been set a sufficient distance from balustrades to minimise the risk of climbing.
- . BMU has been proposed for cleaning of facades



COMMUNITY

Objective: Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.

- A large emphasis has been placed on creating a campus that supports the community needs and provides spaces for relaxation & entertainment.
- . Child care has been proposed for ground floor.
- CCTV & 24 hour lighting has been proposed through the landscape and development.
- Mix of elements proposed in the landscape design provides additional amenity to users



AESTHETICS

Objective: Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.

- The form of the building has been carefully considered to provide a landmark building that responds to the current context of Joondalup but also to its future.
- Distinct differences in material and form between ground floor and office above provide visual separation and a clear identity for the public and office portions of the building.
- Ground floor materials are of a smaller, tactile, human scale to create a more intimate, inviting environment for users.
- Large glazed façade to the south has been designed to reference the ever-shifting nature of the water surface on the lake, reflecting the street trees along the facade and emphasising the dramatic floor plate shift of the office.
- The implementation of vertical fins provides a dynamic facade experience as you move around the building, providing visual interest not only to pedestrians but also those in vehicles moving past at speed.
- Angular elements respond to the existing Lakeside Joondalup Shopping Centre aesthetic, creating a common language between the two developments.







Project Number: 44316

Drawing Number: DA-033

Revision: A

Date: 16/04/2021

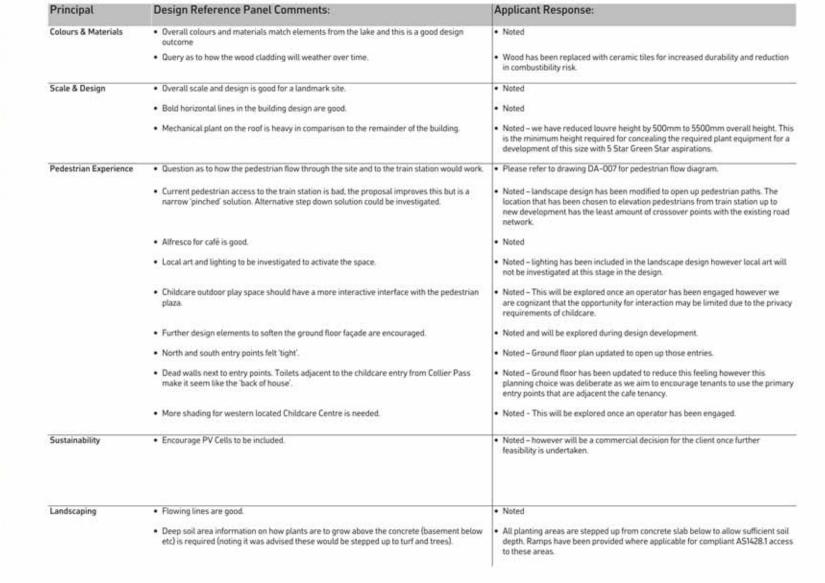


DESIGN REFERENCE PANEL | APPLICANT RESPONSE















Revision

Date:

DRP APPLICANT FFFDBACK

NO. 5 (LOTS 800 & 3002) ASHWOOD PARKWAY, LAKELANDS LAKELANDS METRONET TRAIN STATION

Form 1 – Responsible Authority Report

(Regulation 12)

DAP Name:	Metro Outer JDAP	
Local Government Area:	City of Mandurah	
Applicant:	Hatch RobertsDay on behalf of ADCO	
	Constructions	
Owner:	Public Transport Authority of WA (PTA)	
Value of Development:	\$34 million	
	□ Opt In (Regulation 6)	
Responsible Authority:	Western Australian Planning Commission (WAPC)	
Authorising Officer:	Planning Director, Metropolitan South & Peel,	
	Land Use Planning	
DPLH Reference:	613-149-1	
DAP File No:	DAP/21/02011	
Application Received Date:	10 June 2021	
Report Due Date:	26 August 2021	
Application Statutory	90 Days	
Process Timeframe:	-	
Attachment(s):	Development Plans	
	2. Artist Impressions	
	3. Peel Region Scheme	
	4. Aerial & Context Plan	
	5. Lakelands West Structure Plan	
	6. Path Issues Plan	
	7. BAL Contour Plan	

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel resolves to **Approve** DAP Application reference DAP/21/02011 and accompanying plans:

- PTA Drawing No: 08-A-93-AR0003 REV A
- PTA Drawing No: 08-A-93-AR0005 REV A
- PTA Drawing No: 08-A-93-AR0007-8
- PTA Drawing No: 08-A-93-AR0010-13 REV A
- PTA Drawing No: 08-A-93-AR0015-19 REV A
- PTA Drawing No: 08-A-93-AR0021-24 REV A
- PTA Drawing No: 08-A-93-AR0052 REV A
- PTA Drawing No: 08-A-93-AR0056 REV A
- PTA Drawing No: 08-A-93-AR0059-61 REV A
- LAKD-ADCO-AR-SCH-00006 Part 1, Pages 1-15
- LAKD-ADCO-AR-SCH-00006 Part 2, Pages 1-11

pursuant to Clause 32 of the Peel Region Scheme, subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of four (4) years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

Prior to the commencement of site works

- 2. A Construction Management Plan shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah, prior to the commencement of site works. Once approved, the Construction Management Plan is to be implemented in its entirety.
- A Construction Traffic Management Plan shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah, prior to the commencement of site works. Once approved, the Traffic Management Plan is to be implemented in its entirety.
- 4. An Earthworks Plan (including engineering drawings and specifications) showing existing ground levels, extent of fill, drainage, finished ground levels and any other relevant information shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah. Once approved, the plan is to be implemented in its entirety.

Prior to the commencement of relevant works

- 5. Architectural design plans and a schedule of materials and finishes showing the architectural features and design treatments being applied to the station shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah and the Office of the Government Architect, prior to the commencement of relevant building works. Once approved, the plans and schedule are to be implemented in their entirety.
- 6. A Landscape Plan shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah and the Office of the Government Architect, prior to the commencement of relevant building works. Once approved, the Landscape Plan is to be implemented in its entirety.
- 7. A Drainage Management Plan is to be prepared to the satisfaction of the Western Australian Planning Commission, on advice of the Department of Water and Environmental Regulation and the City of Mandurah, prior to the commencement of relevant building works. Once approved, the plan is to be implemented in its entirety.
- 8. A Public Art Plan shall be submitted and approved to the satisfaction of the Western Australian Planning Commission, on the advice of the METRONET office and the Office of the Government Architect, prior to the installation of the relevant works. Once approved, the plan shall be implemented in its entirety.

Prior to the commencement of station operations

9. A Signage and Wayfinding Plan shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah, prior to the commencement of station operations. Once approved, the plan is to be implemented in its entirety, and maintained thereafter by the site owners.

- 10. An External Pedestrian & Cyclist Access Plan, specifying improvements to the local road network, shall be submitted and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah and the Department of Transport, prior to the commencement of station operations. Once approved, the plan is to be implemented in its entirety.
- 11. A Traffic and Parking Management Plan for the ongoing management of traffic and parking shall be submitted and approved by the Western Australian Planning Commission, on the advice of the City of Mandurah and the Department of Transport, prior to the commencement of station operations. Once approved, the Traffic and Parking Management Plan is to be implemented in its entirety.

General

- 12. The development plans shall be amended to include a pedestrian path from Arramall Trail to the station building, on the eastern side of the bus interchange, to the satisfaction of the Western Australian Planning Commission.
- 13. The development plans shall to be amended to relocate the northern bike shelter to the south adjacent to the station building, to the satisfaction of the Western Australian Planning Commission.
- 14. The Lakelands Station Bushfire Management Plan (Emerge Associates, Version B, May 2021, EP21-005(14)—25 DAE) shall be implemented in its entirety to the satisfaction of the Western Australian Planning Commission, on the advice of the City of Mandurah.
- 15. The Lakelands Station Operational Noise & Vibration Design Report (Marshall Day Acoustics, 5 May 2021, Rp 002 20200542) shall be implemented in its entirety to the satisfaction of the Western Australian Planning Commission, on the advice of the Department of Water and Environmental Regulation and the City of Mandurah.
- 16. All new or modified road connections, access points and car parking areas shall be designed, constructed, drained and marked in accordance with relevant Australian Standards, Main Roads Western Australia standards and to the satisfaction of the Western Australian Planning Commission, on the advice of the City of Mandurah.
- 17. Road Safety Audits shall be submitted to and approved by the Western Australian Planning Commission, on the advice of the Department of Transport and the City of Mandurah, for all permanent road connections (including all new or modified road connections and intersections) at the detailed design stage and at the pre-opening stage.
- 18. All structures which are the subject of this application are to be applied with an antigraffiti coating immediately upon completion to the satisfaction of the Western Australian Planning Commission, on the advice of and to the specifications of the City of Mandurah.

Advice Notes

1. This approval constitutes agreement to the design configuration and access arrangements as documented on the development plans. Modifications stemming from the fulfillment of the requirements of the conditions of the approval are generally to be limited to matters of detailed design, unless otherwise agreed to by the Western Australian Planning Commission where it considers such changes to be necessary and reasonable.

- 2. All development should comply with the provisions of the Building Code of Australia, Health Regulations, Public Building Regulations and all other relevant Acts, Regulations and Local Laws, including obtaining any relevant permits and licences. Additional approvals/licences may be required to ensure compliance with State and/or Commonwealth Government environmental legislation.
- 3. ATCO Gas advises that:
 - High pressure gas mains and gas infrastructure are situated within Ashwood Parkway and Arramall Trail near the proposed development;
 - ATCO Gas must be notified of any works within 15m of high pressure gas infrastructure in the preliminary design phase before those works begin;
 - Construction, excavation and other activities may be restricted in this zone;
 - No pavements (including crossovers) are to be constructed over the pipeline without consent from ATCO Gas Australia;
 - Various pipeline safety tests may apply; and
 - Anyone proposing to carry out construction or excavation works must contact 'Dial Before You Dig' (Ph 1100) to determine the location of buried gas infrastructure.
- 4. Regarding Condition 2, the Construction Management Plan (CMP) is to include the site-specific management, mitigation and monitoring measures to manage the issues of surface water, groundwater, wetlands, vegetation and flora, geotechnical conditions, acid sulfate soils, aboriginal heritage, noise, vibration, dust and lighting or varied as agreed by the environmental authorities and/or in consultation with the City of Mandurah and the Western Australian Planning Commission.

In addition, the CMP is to address, but not be limited to, the following site-specific matters:

- a. A staging plan;
- b. Storage of materials and equipment;
- c. Delivery of materials or equipment to the site;
- d. Parking arrangements for contractors and subcontractors;
- e. Waste management;
- f. Hours of operation, time frames and responsibility for tasks identified;
- g. Consultation and communication strategy; and
- h. Any other matters likely to impact on surrounding properties and public areas

CMPs may be provided for separate works packages (i.e. forward works) prior to their commencement, provided each management plan contains an overview of staging and the relationship between works packages.

- 5. Regarding Condition 3, the Construction Traffic Management Plan is to address:
 - a. Traffic volumes from proposed work/activities;
 - b. Construction activities:
 - c. Maintenance of access to adjacent private properties:
 - d. Arrangements for general traffic detours;
 - e. Process for modifying haulage routes or agreed management arrangements, including any departure outside of approved haulage operations timeframes; and
 - f. Communications with landowners and general community.

- 6. Regarding Condition 4, the Earthworks Plan showing existing and proposed ground levels is to include:
 - a. Detailed cross sections of the entire Lakelands Station precinct;
 - b. Details of retaining walls, steps and ramps; and
 - c. Existing and proposed ground levels.

The Earthworks Plan may be provided for separate works packages (i.e. forward works) prior to their commencement, provided each Earthworks Plan contains an overview of staging and the relationship between works packages.

- 7. Regarding Conditions 5, 6 and 7, it is the expectation of the Western Australian Planning Commission that the relevant content of the required plans will align and be agreed upon by the relevant parties prior to the commencement of the relevant works.
- 8. Regarding Condition 5, the detailed plan showing the architectural features and design treatments is to address:
 - a. Station buildings and façade (including glazing);
 - b. Station entrances;
 - c. All service areas, which are to be designed as an integral component of the development or screened from public view to minimise impacts on the architectural quality of the station buildings and public realm;
 - d. Materials and finishes used, with clear annotation, to allow cross reference with the schedule of material and finishes: and
 - e. Sustainability initiatives and design features included in the station design.
- 9. Regarding Condition 6, the Landscape Plan is to include detailed information regarding the station plaza, bus interchange, station entrances and curtilage and any other areas the subject of the application requiring landscaping treatment. Specifically, information is to be provided regarding the following matters:
 - a. Responses to grade differences and transitions;
 - b. Extent of landscaping works and impact on existing public realm and/or vegetation;
 - c. Tree retention and protection;
 - d. Planting specifications for trees and all other vegetation;
 - e. Shading and pedestrian amenity:
 - f. Lighting specification and locations;
 - g. Furniture specification and locations;
 - h. Fencing specification and location;
 - i. Maintenance of landscape areas; and
 - j. Reticulation systems.

It is also the expectation of the Western Australian Planning Commission that the Landscape Plan will:

- Make allowance for the possible future expansion northwards of the kiss-and-ride area;
- Provide for the planting of trees on the western side of the proposed kiss-and-ride area: and
- Provide for the planting of trees in close proximity to the primary and secondary pedestrian axes through the carpark to provide shade and improve the pedestrian environment, where practical.

- 10. Regarding Condition 7, the Drainage Management Plan is to address:
 - a. Water Sensitive urban design initiatives;
 - b. Management of groundwater levels and any proposed dewatering;
 - c. Final surface and groundwater levels;
 - d. Detailed stormwater management design including modifications to existing infrastructure and construction of new drainage systems to deal with 1 in 1; 1 in 5 and 1 in 100 year ARI events;
 - e. Stormwater being contained on-site (to the maximum extent possible) or appropriately treated and connected to the local drainage system;
 - f. Water quality management approaches;
 - g. Detailed engineering drawings and specifications; and
 - h. Management, maintenance and funding arrangements.
- 11. Regarding Condition 9, the Signage and Wayfinding Plan is to encompass:
 - a. Lakelands station and its immediate environs:
 - b. Pedestrian legibility through the car park and to external connections; and
 - c. Signage required for the wider precinct to inform route choice in accessing the station and associated infrastructure.
- 12. Regarding Condition 10, it is the expectation of the Western Australian Planning Commission that due regard will be given to the *Lakelands Station Access Strategy* (Flyt, 81113-545-FLYT-REP-0008 Rev1, 5/08/2020) in the preparation of the External Pedestrian & Cyclist Access Plan and that the Plan will outline, at a minimum, the following improvements:
 - a. Provision of a north-south crossing on the eastern side of the Lake Valley Drive and Warburton Trail of intersection;
 - b. Provision of a north-south crossing across Lake Valley Drive, between Warburton Trail and Yindana Boulevard:
 - c. Provision of an east-west footpath on Lake Valley Drive, between Judd Way and McKail Lane;
 - d. Provision of an east-west crossing across Ashwood Parkway, at the intersection of Payanna Grange and the station carpark entry/exit;
 - e. Provision of two east-west crossings across Ashwood Parkway, south of Payanna Grange:
 - f. Provision of an east-west footpath on Payanna Grange, between Yindana Boulevard and Ashwood Parkway;
 - g. Provision of a north-south footpath, from Winslow Crescent to Lake Valley Drive, on a minimum of one of Kerkeri Heights, Chalice Rise and/or Myalla Pass; and
 - h. Provision of a footpath providing a north-south connection generally from the vicinity of the intersection of Yindana Boulevard and Nullewa Parkway (south) to the station, via Nullewa Parkway, Brazier Way and/or Campion Way.

It is also the expectation of the Western Australian Planning Commission that the External Pedestrian & Cyclist Access Plan will outline implementation requirements, responsibilities and timeframes.

- 13. Regarding Condition 11, the Traffic and Parking Management Plan is to address:
 - a. Traffic volumes and modes to and from the Lakelands station;
 - b. Maintenance of access to adjacent private properties;
 - c. Ongoing traffic and parking measures in the Lakelands station precinct; and
 - d. Communications with landowners and the general community.

- 14. Regarding Condition 14, it is the expectation of the Western Australian Planning Commission that the Bushfire Management Plan is updated to:
 - a. Reclassify Vegetation Plot 3 as Class A Forest; and
 - b. Specify that vegetation within the railway corridor will be managed to low threat in perpetuity in accordance with AS 3959.
- 15. Regarding Condition 15, it is the expectation of the Western Australian Planning Commission, at a minimum, that:
 - a. a solid masonry wall will be constructed along the boundaries of No.144 (Lot 1698) Lake Valley Drive where it abuts the proposed development; and
 - b. gaps in existing fences abutting the proposed development will be sealed by the applicant/proponent.

Details: Outline of Development Application

Region Scheme	Peel Region Scheme
Region Scheme – Zone/Reserve	Railways
Local Planning Scheme	City of Mandurah Local Planning
	Scheme No. 3
Local Planning Scheme – Zone/Reserve	No Zone (PRS Railways Reservation)
Structure Plan	Lakelands West Structure Plan
Structure Plan – Land Use Designation	Railway Station & Parking
Use Class and permissibility:	Transport Infrastructure
Lot Size:	7.3ha
Existing Land Use:	Vacant Land, Railway
State Heritage Register	No
Local Heritage	⊠ N/A
	□ Heritage List
	☐ Heritage Area
Design Review	□ N/A
	□ Local Design Review Panel
	□ State Design Review Panel
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

Works

The application for development approval seeks to facilitate the construction of the Lakelands METRONET train station, along with supporting infrastructure, on Lots 3002 and 800 Ashwood Parkway, Lakelands (refer **Attachment 1 – Development Plans** and **Attachment 2 – Artist Impressions**). Specifically, the following is proposed:

 Station entry building with pedestrian overpass connecting two marginal platforms set in an existing cutting with associated amenities including ticketing machine facilities, bicycle storage and toilets;

- A mode-separated bus interchange facility with eight (8) bus stands, four (4) layover bays and bus circulation space;
- Car parking comprising 405 at-grade car bays (including 10 universally accessible bays), 16 kiss-and-ride drop off bays and eight (8) motorcycle bays;
- Parking for 96 bicycles in two detached parking shelters;
- Road works to provide a single car park access off Ashwood Parkway and bus access from Lake Valley Drive, including modification to the existing Lake Valley Drive/Warburton Trail roundabout and Ashwood Parkway/Lake Valley Drive intersection;
- Minor changes to the pedestrian and cyclist network in the immediate vicinity of the station;
- Security and lighting facilities; and
- New public realm spaces associated with the station building and landscaping of car parking areas.

The station building has been designed to incorporate a customer service office and commercial kiosk in the future once patronage growth and/or other organisational triggers permit.

The clearing of existing vegetation onsite and earthworks were also outlined in the development application to enable the construction of the station and supporting infrastructure. Subsequent to the lodgement of the application, clearing of the existing vegetation has occurred and preliminary site works have commenced.

Operations

Details regarding the proposed patronage numbers and mode split for the proposed station upon opening in 2023 and forecast at 2031 are outlined in the table below. Information regarding existing ABS journey to work data for the local area (San Remo, Silver Sands, Meadow Springs, Lakelands and Madora Bay) is also included, as provided by the City of Mandurah (the City).

	2023 Openin	g Year	2031		2016 ABS
	Passengers	Mode	Passengers	Mode	Journey to
		Split		Split	Work
Bus/Bus Feeder	575	25.0%	875	25.0%	4%
Walked/Ran/Jogged	413	18.0%	413	11.8%	2%
Drove (Park & Ride)	405	17.6%	405	11.6%	74%
Drove (not Park & Ride)	65	2.8%	99	2.8%	
Dropped Off/Picked Up	583	25.0%	1,364	39.0%	6%
(Kiss & Ride)					
Passenger (Park & Ride)	65	2.8%	99	2.8%	
On Demand (Ride Share)	65	2.8%	99	2.8%	
Cycled	96	4.0%	96	2.7%	0%
Other	33	1.4%	50	1.4%	4%
TOTAL	2,300		3,500		

The applicant has not provided detailed information regarding the likely bus routes that will service the proposed station, which is understood will be progressed and finalised prior to the commencement of station operations. Matters relating to access to and from the proposed station and travel mode shift are discussed in the planning assessment section below.

Background:

The development of a station in Lakelands was identified by the PTA in the original planning for the construction of the Mandurah railway line, which opened in 2007. Land for the station was set aside and is reserved Railways under the Peel Region Scheme (PRS) (refer to **Attachment 3 – Peel Region Scheme**).

Black Swan Lake is situated immediately to the east of the railway line and the Lakelands Town Centre is located approximately 800m to the west of the proposed station, along Lake Valley Drive (refer to **Attachment 4 – Aerial & Context Plan**).

Residential subdivision and development in the Lakelands area has progressed, generally according to the WAPC-endorsed structure plan (refer **Attachment 5 – Lakelands West Structure Plan**).

The site of the proposed Lakelands station is situated between Mandurah station (6km to the south) and Warnbro station (16km to the north). Construction of the proposed station is jointly funded by the State and Commonwealth governments and forms part of Stage 1 of the METRONET project.

The application requires approval pursuant to Clause 18 of the PRS, as the proposed development does not fall within the definition of permitted development provided under Clause 19(e)(iii). Specifically, approval is required to construct a railway station, related car parking, public transport interchange facilities and pedestrian and vehicular access.

WAPC Instrument of Delegation DEL 2008/12 does not extend to applications for public works on reserved land and, as such, the responsible authority is the WAPC. The proposed development does not require approval under the City of Mandurah Local Planning Scheme No. 3 (LPS 3), as public works are exempt from approval pursuant to Part 6 of the *Planning and Development Act 2005*.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Planning and Development (Development Assessment Panels) Regulations 2011
- Peel Region Scheme

State Government Policies

- State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP 3.7)
- State Planning Policy 5.4 Road and Rail Noise (SPP 5.4)
- State Planning Policy 7.0 Design of the Built Environment (SPP 7.0)
- Development Control Policy 1.6 Planning to Support Transit Use and Transit Oriented Development (DC 1.6)
- Development Control Policy 1.2 Development Control: General Principles (DC 1.2)

Structure Plans

• Lakelands West Structure Plan

Consultation:

Public Consultation

The WAPC, pursuant to Clause 31 of the PRS, elected to advertise the application for public comment. The application was advertised for 14 days, from 24 June to 8 July, and included letters to landowners near the proposed station, an advertisement in a local newspaper (Mandurah Coastal District Times) and information being made available online via the Department of Planning, Lands and Heritage (DPLH) website and Consultation Hub.

A total of 13 submissions were received regarding the proposed application as follows:

- 3 in support;
- 7 providing comments; and
- 3 objecting to specific components of the proposed development.

Key themes raised in submissions are as follows:

- Increased traffic on surrounding streets;
- Parking in areas surrounding the station (i.e. concerns regarding use of existing visitor parking by commuters, commuters parking on roads and verges, need for implementation of parking restrictions/permit system etc.);
- Pedestrian access to the station and safety (i.e. removal of access from Arramall Trail requested);
- Provision of secure bicycle parking facilities;
- Impacts associated with construction works (i.e. hours of operation, noise, building damage); and
- Operational matters (i.e. train schedules, security staffing).

These matters are discussed in the planning assessment section below. Imposition of planning conditions is recommended to address the matters raised, where appropriate.

Referrals/consultation with Government/Service Agencies

The City provided a detailed response regarding the proposed development, pursuant to Clause 30 (3) of the PRS. The key items raised by the City in its referral response include the following (and which are discussed in further detail in the planning assessment section below):

- Suggested modifications to the layout of the car parking area to retain existing trees, include an additional east-west path link and provide additional kiss-and-ride capability;
- Relocation of the northern bicycle storage shelter closer to the station building and/or inclusion as part of the main station building;
- Improvements to the path network from Arramall Trail to the south;
- Changes to the landscape plan in relation to tree planting species and root soil volume requirements;
- Further consideration of noise impacts and mitigation requirements; and
- Need for the PTA to fund the preparation and implementation of plans that specifically address signage, external pedestrian and cyclist connections and parking.

The application was also referred to State government agencies and servicing authorities. Relevant comments are summarised below.

The Department of Transport (DoT) recommended that:

- A Parking Management Plan be developed and implemented to manage parking demand and the kiss-and-ride facility;
- A Road Safety Audit be undertaken for the intersection of Lake Valley Drive and Yindana Boulevard: and
- The northern bike shelter be relocated closer to the station building.

The DoT also noted that walking and cycling connections are critical in encouraging more active transport trips to train stations. The DoT highly recommends that high quality connections to the station are provided from the surrounding catchment and the proponent identifies infrastructure improvements to support increased walking and cycling trips to the station. The matters raised by the DoT are discussed below, and it is recommended that they are generally addressed via the imposition of conditions of approval.

Main Roads WA (MRWA) advised that it has no objection to the proposed development and has not requested the imposition of conditions. MRWA also provided additional comments regarding local traffic matters, vehicle access arrangements, internal car park circulation matters and safety consideration on local roads and nearby intersections. Several of the matters raised are proposed to be addressed via the imposition of recommended conditions, as discussed in the planning assessment section below.

The Department of Fire and Emergency Services (DFES) reviewed and commented on the submitted Bushfire Management Plan (BMP). Bushfire matters are discussed in further detail below. Minor edits to the BMP are recommended as a condition of approval.

The Department of Water and Environmental Regulation (DWER) provided comments regarding vegetation clearing, contamination, groundwater licensing, water management and noise. The comments provided by DWER regarding water management are proposed to be addressed via a condition of approval. The comments provided by DWER in relation to noise are discussed below in the planning assessment section.

DWER also noted that, based on the information provided, the proposed development is likely to be exempt from the requirement for a clearing permit by virtue of its inclusion in Ministerial Statement 637 (associated with the original construction of the Mandurah passenger railway line).

The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the clearing of native vegetation associated with the development is to be undertaken in accordance with the *Environmental Protection Act 1986* and Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

ATCO Gas noted the presence of infrastructure in the vicinity of the subject land and recommended that the applicant/proponent be advised of its requirements for any works proposed in proximity to its assets. An advice note is recommended in this regard.

Design Review Panel Advice

The proposed station development was subject to a design review process by the Office of the Government Architect (OGA) in March 2021, in accordance with the OGA's criteria for the assessment of major projects. The applicant modified certain aspects of the proposed station development in response to the design review comments provided by the OGA in mid-April 2021. The submitted application was referred to the OGA for further consideration and additional design review comments have been provided, which are discussed below.

Planning Assessment:

Clause 34 of the PRS outlines the matters provided within sub-clauses (a) to (zc), for which the WAPC is to have regard when considering an application for development approval. The following addresses the matters outlined in Clause 34 which the WAPC considers to be relevant to the proposed development, with specific references to the relevant sub-clauses included throughout and shaded grey.

Aims of the PRS & Purpose of the Railways reservation

PRS CI.34 (a) – the aims and provisions of the Scheme and any other local planning schemes in effect within the region

PRS Cl.34 (h) – in the case of land reserved under the Scheme, the purpose for which the land is reserved

Clause 6 of the PRS outlines that the aims of the scheme, amongst other things, are to:

- (a) promote the sustainable development of land taking into account relevant environmental, social and economic factors;
- (b) provide for regional transportation, community services and infrastructure in a way that is efficient, equitable and timely;

The proposed development seeks to enable additional public transport infrastructure servicing the local community and providing improved connections to destinations across the Perth and Peel regions. The provision of improved public transport facilities is also likely to reduce reliance on private vehicle usage and lead to improved environmental outcomes.

The subject land is reserved for Railways in the PRS and Clause 10 (d) outlines that the purpose of the reserve is as follows:

Railways – provide for the passage of trains, the marshalling, maintenance and storage of rolling stock and the conveying of the public and freight by rail.

The use of the land for a railway station and associated bus interchange and car parking is considered incidental and complimentary to the Railways reservation.

Therefore, the proposed development is considered to be consistent with the aims of the PRS and the purpose of the Railways reservation.

Relevant State Policies

PRS CI.34 (c) – any State planning policy

PRS CI.34 (h) – any policy or strategy of the Commission and any policy adopted by the Government of the State

DC 1.6 provides policy guidance regarding the planning for development in the vicinity of mass transit infrastructure, such as railway stations. In this instance, the majority of the land surrounding the station site has already been developed for residential purposes per the approved Lakelands West SP.

DC 1.6 states that the WAPC will apply it in determining applications for development approval (or in making a recommendation as the responsible authority in this case). Relevant objectives of DC 1.6 are as follows:

- To ensure that opportunities for transit supportive development are realised, both on public and privately owned land, and that transit infrastructure is effectively integrated with other development, to maximise safety, security and convenience for transit users.
- To promote and facilitate walking and cycling within transit oriented precincts by establishing and maintaining high levels of amenity, safety and permeability in the urban form, and to promote and facilitate opportunities for integrating transport modes by creating opportunities for convenient, safe and secure mode interchange.

Assessment of the proposed development against the relevant specific policy measures of DC 1.6 is included below.

DC 1.2 outlines the objectives of the WAPC in its consideration of applications for development approval for which it is the decision-maker or responsible authority. Of relevance to this application, Clause 2 of DC 1.2 includes the following objectives:

- To ensure development is in accordance with sound planning principles.
- To promote development that is sustainable and achieves appropriate community standards of health, safety and amenity.
- To ensure development is site-responsive, enhances local identity and character and is well-connected to the adjacent neighbourhood.

Furthermore, Clause 3 of DC 1.2 outlines the relevant planning considerations for which the WAPC will have regard in determining applications for development approval, which includes the following:

- integration of development into the site and its surroundings
- transport and traffic impacts
- vehicular and non-vehicular access, circulation and car parking
- relevant environmental, economic and social factors
- relevant factors of amenity and sustainability

These objectives and considerations are particularly relevant to the proposed development and how it will integrate with its surroundings. These matters are discussed in further detail below.

Consideration of the relevant requirements of SPP 3.7 (Bushfire), SPP 5.4 (Road & Rail Noise) and SPP 7.0 (Design of the Built Environment) is included below.

Vehicle Traffic, Access, Egress & Parking

PRS CI.34 (q) – whether the proposed means of access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles

PRS CI.34 (r) – the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety

Site Layout

The development proposes the construction of 405 parking bays (including 10 universally accessible bays), 16 kiss-and-ride drop off bays and eight (8) motorcycle bays, with a single vehicle access/egress point provided from via Ashwood Parkway to the west and opposite Payanna Grange.

Access to the bus interchange, with eight (8) bus stands, four (4) layover bays and bus circulation space, is proposed via the existing roundabout at the intersection of Warburton Trail and Lake Valley Drive to the north.

The general arrangement of the vehicle parking, bus interchange and vehicle access/egress points is supported, with consideration given to the constraints associated with the size of the site and the existing boundary interfaces. An advice note is recommended that clarifies that the general layout is supported and that any changes associated with the fulfilment of approval conditions should generally be limited to detailed design matters, unless otherwise deemed necessary and reasonable by the WAPC.

Kiss-and-Ride

The Traffic Impact Assessment (TIA) submitted with the application indicates that the 16 proposed kiss-and-ride bays will be sufficient to accommodate the expected demand upon station opening in 2023. However, the TIA does note that the kiss-and-ride facility will not function under the ultimate 2031 scenario, with demand being too high for the service rate leading to queues extending out of the car park and onto the street network.

The TIA indicates that the kiss-and-ride facility will need to be expanded to accommodate an additional 10 bays (26 in total) to function effectively under the 2031 scenario. The applicant has indicated that the PTA will monitor demand following commencement of station operations, with additional parallel kiss-and-ride parking to potentially be provided at the northern end of the car park and result in the removal of 4 permanent car bays. It is recommended that an advice note be included that indicates that landscaping in this area be designed in such a way so as to allow for the future provision of additional kiss-and-ride bays in a manner that minimises impacts on the pedestrian environment in this location.

Traffic Volumes and Intersections

The TIA includes an assessment of existing and proposed traffic volumes on the road network near the station and SIDRA analysis of the performance of nearby intersections.

The TIA forecasts that vehicle numbers will increase on local roads and that, in some instances, the forecast traffic volumes will exceed the theoretical maximum volumes of the applicable roads (i.e. Yindana Boulevard south of Lake Valley Drive, Ashwood Parkway north of Payanna Grange). The TIA expresses the view that the exceedances are not significant and can be reasonably considered to fall within acceptable limits. The TIA also indicates that the main impact of the forecast traffic volumes will be evident in the manner in which the increased traffic interacts at intersections.

It is noted that the existing roads and road reserves in the vicinity of the station have already been created as development has progressed in the area and there is limited practical ability to widen existing road reserves to accommodate increased traffic volumes. Furthermore, the SIDRA analysis in the TIA suggests that the intersections within the vicinity of the station will continue to operate with an acceptable level of service during peak periods.

Modifications to existing intersections (i.e. Lake Valley Drive/Ashwood Parkway, Lake Valley Drive/Warburton Trail, Payanna Grange/Ashwood Parkway) are proposed to support the development of the station and to accommodate the expected increases in vehicle traffic.

In light of the relevant considerations and applicable constraints that arise from the existing road network in the area, it is recommended that conditions be imposed to ensure that the modifications to the surrounding local road network are designed in accordance with the relevant design standards and to require the preparation of Road Safety Audits for the various intersections to ensure that all relevant safety matters are suitably addressed. Other relevant traffic matters are also proposed to be considered and addressed in the preparation of a Traffic and Parking Management Plan, which is discussed in further detail below.

Car Parking in Surrounding Areas

The provision of sufficient parking to cater for forecast commuter demand will be essential to support the effective operation of the station. A total of 405 commuter bays are proposed to support the anticipated 2,300 daily boardings in 2023. As noted above, there will likely be a small reduction in the number of permanent bays provided to accommodate additional kissand-ride facilities as patronage increases to 3,500 daily boardings in 2031.

The relative discrepancy between the number of car bays provided (which it is acknowledged have been maximised in response to the constrained size of the site) and the forecast boardings is likely to result in impacts beyond the area the subject of the development application.

Both the City and several submitters expressed concern regarding the potential traffic and parking impacts in the surrounding area. The City has noted that, based on its experience at Mandurah station, vacant land and verges in the precinct surrounding the station are likely to be used by commuters for all-day parking. Similarly, residents in the areas have expressed concern that current visitor parking (generally on-street embayment parking provided in association with laneway lots) will be used by commuters. In the absence of an appropriate management regime, the likelihood for congestion of surrounding roads, obstruction of driveways and frustration of existing residents is considered high, with the associated safety and amenity impacts. It is also noted that these issues do not currently exist and will materialise as a direct result of the commencement of the operations of the proposed station.

Limited information has been provided regarding parking arrangements beyond the station car park itself. The TIA refers to the potential imposition of time limits for bays situated within 400m of the station to discourage commuter parking.

The City has indicated that the most appropriate option may be to install 'no parking' signs and implement a visitor permit system within 800m of the station, along with the imposition of time limits for some nearby bays (such as those at Black Swan Lake reserve). The City has also advised that there are likely to be significant labour resource implications for the administration of parking permits, installation of line marking, signage and enforcement by rangers and parking officers.

As noted above, DoT has recommended that a condition be imposed requiring the preparation of Parking Management Plan to manage parking bay demand and the kiss-and-ride facility.

The appropriate management of parking matters associated with the proposed station is of fundamental importance to the effective operation of the facility and the consequential impacts on the amenity of the local area. Matters relating to parking impacts and the associated management regime require further consideration and discussion, and it is recommended that a condition be imposed requiring the preparation and implementation of a Traffic and Parking

Management Plan in consultation with the City and DoT. The condition has been deliberatively worded to enable the applicant/proponent and the City to work together to resolve these issues prior to the commencement of station operations and avoid potential delays to the project construction timeline.

It is also noted that a similar approach was adopted, and condition wording was imposed, by the WAPC in its consideration and determination of the METRONET Nicholson Road station earlier this year in response to issues of a similar nature.

Pedestrian & Cyclist Access

PRS CI.34 (u) – whether adequate provision has been made for access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities)

Onsite

Several east-west pedestrian and cyclist paths are proposed through and around the perimeter of the proposed car park, providing access to the station building. Pedestrian and cyclist connections are also provided from Lake Valley Drive to the north and Arramall Trail to the south. The proposed pedestrian and cyclist regime onsite is generally supported.

The City has requested that an additional east-west pedestrian connection be provided through the car park. This is not supported, as it would reduce the number of car parking bays provided onsite. Furthermore, four east-west connections are proposed, which is sufficient to cater to onsite pedestrian and cyclist movement.

Some submitters expressed concern regarding pedestrian access being provided from Arramall Trail, citing potential safety and amenity issues. The Lakelands Station Access Strategy (SAS), prepared for the PTA in mid-2020, notes the importance of connecting the existing path along Arramall Trail to increase the walking and cycling catchments of the proposed station.

This connection is supported, and a condition is proposed requiring a minor amendment to the development plans to improve the alignment of the connection from Arramall Trail to the station building so that it is located on the eastern side of the bus interchange. The applicant/proponent has advised that they are agreeable to this minor change.

A condition is also proposed to require the relocation of the northern bicycle shelter closer to the station building in response to comments provided by the City, OGA and DoT. The applicant/proponent has advised that they are also agreeable to this minor change.

Surrounding Area

The Lakelands SAS, commissioned by PTA, includes an assessment of the existing path infrastructure in the pedestrian and cyclist catchments surrounding the proposed station. The SAS notes that the pedestrian network in the area is poor by contemporary standards and that the lack of infrastructure creates a poor environment that is not conducive to supporting pedestrian trips to and from the station. The scale and extent of the path network issues are graphically depicted in **Attachment 6 – Path Issues Plan**.

The SAS notes that the majority of dwellings within the 10-minute walkable catchment of the proposed station do not have access to any pedestrian footpaths and people accessing the station will consequentially need to walk on the street surface yielding to vehicles when they pass. The SAS notes that this causes serious safety concerns for the elderly, people with

mobility issues, mobility assist devices, and young children, which significantly reduces the likelihood that people will walk to access the station, especially within the 400m catchment.

The submitted TIA also identifies the existing pedestrian and cyclist path network issues in the area surrounding the station. The TIA goes on to outline that proposed changes in the pedestrian network are limited to the station's immediate proximity and that these changes do not address the identified broader network deficiencies.

Providing a safe and attractive pedestrian environment is a fundamental planning consideration in supporting mass transit use. In this regard, Clause 4.3 of DC 1.6 states as follows:

The amenity, quality and safety of the public domain within transit precincts are ... important factors in establishing and maintaining an environment that will encourage people to access transit facilities on foot, as well as promoting walking generally within these neighbourhoods.

Clause 4.3.2 of DC 1.6 goes on to state that:

Continuity of footpaths should be ensured along both sides of the street within transit precincts. Neighbourhood layouts should be planned to avoid pedestrians having to cross major roads, or to traverse or be forced out of their direct way to by-pass other obstacles to access transit facilities.

As noted above, DoT has advised that, in its view, walking and cycling connections are critical in encouraging more active transport trips to train stations. DoT has also advised that it highly recommends that high quality connections to the station be provided from the surrounding catchment and that the proponent identify infrastructure improvements to support increased walking and cycling trips to the station.

The City has acknowledged the issues associated with the pedestrian environment in the walkable catchment of the proposed station and highlighted the need for improvements to ensure that the station is accessible on foot and by bike. The City has noted that the submitted application documentation does not indicate that any such improvements will be undertaken, except for the construction of a footpath along the eastern verge of Ashwood Parkway abutting the proposed car park and the provision of pedestrian and cyclist crossing on the eastern side of the Lake Valley Drive/Warburton Trail roundabout.

The SAS includes a series of recommended improvements to address the identified pedestrian and cyclist network issues. All recommendations external to the station are proposed to be the responsibility of the City. The City has advised that, whilst it agrees with the issues identified in the SAS and was consulted in its preparation, it has not adopted the SAS, nor has it made any commitment to implement the actions for which it has been identified as being responsible. The City has also stated that the cost to prepare and implement the required pedestrian and cyclist network improvements should be borne by the PTA. The City has expressed a willingness to work with the PTA to resolve the identified issues.

It is the WAPC's view that some improvements to the local pedestrian and cyclist network are required to support the operation of the proposed station. The need for improvements is considered necessary and appropriate, in accordance with the policy objectives and requirements of DC 1.6 and to address the safety issues identified in the SAS. Furthermore, given the constraints associated with the amount of parking available onsite and the anticipated number of daily boardings, there is a clear and demonstrable need to provide pedestrian and cyclist network improvements to support travel mode shift that in turn supports effective and efficient station operations and sustainable patronage.

Whilst it is acknowledged that deficiencies in the path network currently exist, the impacts of these deficiencies will likely be exacerbated with the commencement of station operations. It is also acknowledged that the extent of the existing path issues is substantial. It is unreasonable to require all existing deficiencies, such as the provision of footpaths on all streets identified in Attachment 6, to be resolved at this time. Whilst some work has been undertaken to identify the relevant issues and identify some potential improvements, further discussions are needed to confirm the specific requirements and agree on funding and implementation arrangements and responsibilities.

To facilitate this outcome, it is recommended that a condition be imposed that requires the preparation and implementation of an External Pedestrian and Cyclist Access Plan, prior to the commencement of station operations. A supporting advice note is also proposed, which outlines the WAPC's minimum expectations regarding the improvements to be provided to coincide with the station's opening. The requirements listed include several minor improvements close to the station, which are identified on the development plans, along with the requirement to provide footpaths that improve access to the station from the north, west and south.

A similar condition wording was imposed by the WAPC in its consideration and determination of the METRONET Nicholson Road station earlier this year as a way of resolving similar external path issues.

As the entity ultimately responsible for the clearance of the condition, it is anticipated that the WAPC, represented by DPLH, will be involved in the discussions regarding the development of the required plan and its implementation and will arbitrate any disputes between the parties. It is the WAPC's expectation that the City and PTA will work collaboratively to agree on the necessary improvements and their mutual funding.

It is understood that the commencement of station operations is scheduled for early 2023. On this basis, the PTA and the City will have in the vicinity of 18 months to reach an agreement on the necessary works, funding requirements and delivery timeframes. This approach is considered reasonable and pragmatic in the circumstances, as it will enable construction works to commence in the short-term whilst ensuring that this fundamentally important planning issue is suitably addressed prior to the station's opening.

Compatibility of Development with its setting

PRS Cl.34 (j) – the compatibility of a development with its setting

The existing area surrounding the proposed station has progressively been developed for suburban residential development over the past 10-20 years. The construction of the proposed station will see the introduction of major mass transit infrastructure into this existing suburban environment.

The station's development in this location has been identified as part of strategic and statutory planning processes that have enabled the surrounding development to occur. Subject to relevant parking, traffic and path issues identified above being addressed, the proposed station is considered to be compatible with its setting.

Preservation of Amenities

PRS Cl.34 (o) – the preservation of the amenity of the location

Noise

In addition to the amenity considerations referenced above concerning traffic and parking matters, the application has been assessed against the objectives and requirements of SPP 5.4. Pursuant to Clause 4.1.5 of SPP 5.4, the proposed development is considered to be a major upgrade of a railway.

An Operational Noise & Vibration Design (ONVD) report was submitted with the application, which assesses potential noise impacts associated with the proposed development. The ONVD report also includes a series of design and construction recommendations relating to a range of aspects associated with the proposed development (e.g. insultation, car park seal, physical noise barriers, mechanical layout, PA system configuration etc.) to mitigate potential noise impacts.

The submitted application materials note that the construction and operation of the proposed station will not result in significant changes to noise levels in the area, given the passenger rail service is already in operation. Furthermore, the applicant has advised that potential noise associated with the braking and accelerating of trains is likely to be shielded to a degree by the station building itself. It is also noted that the existing railway in this area is situated in a cutting, below the level of the existing sensitive residential receptors to the west.

The ONVD report assesses noise impacts associated with the proposed bus loop and concludes that the noise levels at all bar one of the sensitive receptors comply with the requirements of the Environmental Protection (Noise) Regulations 1997 (Noise Regulations). The noise levels at No. 144 (Lot 1698) Lake Valley Drive, which is situated directly to the west of the proposed bus interchange access point, are modelled to exceed the applicable noise criteria by 1dB. The ONVD report estimates that there will be 476 daily bus movements adjacent to Lot 1698.

The ONVD report was the subject of a desktop review by DWER's Environmental Noise Branch (ENB), which generally confirmed the suitability of the methodology and results. The DWER ENB review suggests that consideration be given to the construction of a masonry wall on the boundary of Lot 1698 to reduce the noise exceedance to within the assigned levels.

The City also raised noise considerations and requested that further work be undertaken regarding noise management and its impacts on surrounding properties. The City also requested that, at a minimum, a masonry wall be provided at the rear of Lots 1695-1698 Lake Valley Drive.

It is recommended that a condition be imposed to require that the noise mitigation measures contained within the ONVD report be implemented in the station's development. An advice note is also recommended to outline the WAPC's expectation that a masonry wall will be constructed along the boundaries of Lot 1698 Lake Valley Drive.

Construction Activities

Some public submissions noted that works onsite had already commenced and raised concerns regarding the impacts of the proposed works. Issues raised included noise, vibration and operational hours. It is recommended that conditions be imposed to prepare and implement a series of management plans to ensure that these matters are appropriately addressed and managed during construction.

In relation to vibration and the potential impact of construction works, the proponent has advised that the construction earthworks are similar to those associated with a typical subdivision and that there is no proposed dewatering, major rock removal or piling. Furthermore, the proponent has indicated that building construction works are generally separated from existing residential properties and has advised that dilapidation surveys have been undertaken for all dwellings situated within 50m of the proposed station and carpark boundary. No specific planning conditions or advice notes are recommended in this regard.

Station Design

PRS Cl.34 (p) – the relationship of the proposal to development on adjoining land or on other land in the locality, including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal

As noted above, the proposed development was subject to a desktop design review process by the OGA, in accordance with the 10 principles of good design outlined in SPP 7.0. The updated design advice notes that several previously identified matters remain unresolved in the view of the OGA.

The key matters identified by the OGA relate generally to the public realm design and pedestrian amenity. It is recommended that the applicant/proponent continue to engage with the OGA to address these relevant matters in the preparation of further detailed plans associated with the development of the station building and carpark area. Accordingly, the OGA is recommended to be referenced and involved in the recommended conditions associated with the architectural design plans and schedule of materials and finishes, public art and landscaping.

Landscaping

PRS Cl.34 (w) – whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved

A Landscape Masterplan was submitted with the development application, outlining proposed planting areas, species types and irrigation infrastructure. Comments regarding the proposed approach to landscaping were received from the City, OGA and DWER in relation to species selection, planting spacing and location, root soil volume and the proposed filter strips.

It is recommended that a condition of approval be imposed requiring the preparation and implementation of a Landscape Plan, in consultation with both the City and OGA. This approach provides the opportunity for the applicant/proponent to further engage with these parties to address the technical comments provided where practical and in a manner that is generally consistent with the submitted and approved plans.

Bushfire

PRS CI.34 (n) – whether the land to which the application relates is unsuitable for the proposal by reason of it being, or being likely to be, subject to flooding, tidal inundation, subsidence, landslip, bush fire or other risk

The site of the proposed station is identified as being bushfire prone and a BMP has been prepared and submitted in accordance with SPP 3.7 to support the proposed development. The BMP identifies that the eastern portion of the station will be subject to a post-development

rating of BAL-Flame Zone (FZ) and BAL-40 associated with the Black Swan Lake reserve to the east (refer **Attachment 6 – BAL Contour Map**).

Clause 6.7.2 of SPP 3.7 provides the basis for decision-makers to approve planning proposals subject to BAL-FZ or BAL-40 where they are considered to meet the definition of unavoidable development. Both DFES and the DPLH Bushfire policy team have acknowledged that the application meets the definition of unavoidable development.

Clause 6.7.2 outlines the following criteria for proposals considered to be unavoidable development:

- a) the landowner/proponent has provided sufficient reason for why the proposal is considered to represent exceptional circumstances which adequately justifies a deviation from the policy measures;
- it greatly improves the bushfire management of the site and surrounding area through the provision of a demonstrably significant reduction in the bushfirerelated risk level to the community and property;
- c) the benefits of the proposal going ahead in the area outweigh the costs to adjacent landowners, government and the general community; and
- d) it is accompanied by a Bushfire Management Plan, jointly endorsed by the relevant local government and the State authority responsible for emergency services. The Bushfire Management Plan should demonstrate ongoing management measures that will improve the bushfire management of the site and/or surrounding area by minimising the level of bushfire impact.

It is the DPLH's position that the submitted BMP meets the requirements of SPP 3.7. DFES does not support the submitted BMP and has recommended that modifications be made to reduce the vulnerability of the development to bushfire. The primary issue raised by DFES relates to the provision of emergency services access via the adjacent Black Swan Lake reserve. The BMP proposes to use an existing limestone track, with access from Mandjoogoordap Drive from the south. DFES has requested that a 6m wide sealed access route be provided from Lake Valley Drive with a 21m turnaround and hardstand area.

The items requested by DFES exceed those specified in the *Guidelines for Planning in Bushfire Prone Areas* that accompany SPP 3.7 and are considered to be unreasonable in the circumstances of the proposed application. The applicant has also advised that there are potential limitations to the ability to clear vegetation in the Black Swan Lake reserve to implement DFES' request as a result of commitments made under Commonwealth environmental approvals associated with residential development in the Lakelands area.

DFES has provided minor technical comments regarding other elements of the BMP and minor modifications to address these matters are considered appropriate, via a condition of approval and advice note.

The proposed development is also considered to be a vulnerable land use under SPP 3.7 and a Bushfire Emergency Evacuation Plan (BEEP) was submitted with the application. The vast majority of the requirements outlined in the BEEP are already outlined in the PTA's comprehensive Emergency Management Manual. As such, it is not considered necessary or appropriate to duplicate these requirements via the imposition of a condition to implement the BEEP.

The proposed development is consistent with the relevant objectives and requirements of SPP 3.7. A condition and associated advice note is recommended to be imposed to ensure that the bushfire risk mitigation measures outlined in the BMP are implemented by the proponent and

that minor modifications to the BMP, identified as part of the technical assessment, are undertaken.

Natural Environment

PRS CI.34 (m) – the likely effect of the proposal on the natural environment and any means that are proposed to protect or to mitigate impacts on the natural environment

At the time of lodgement of the application, 31 mature tuart and jarrah trees were scattered across the site of the proposed carpark. On submission of its referral response in mid-July, the City advised that the existing trees on site had been removed and site works had commenced.

The submitted development application also included information regarding environmental approval requirements for the proposed station under Commonwealth legislation.

It is the responsibility of the applicant/proponent to ensure that all necessary environmental and vegetation clearing approvals are in place. An advice note is recommended that alerts the proponent/applicant to the need to ensure that all relevant approvals required under other legislation are obtained.

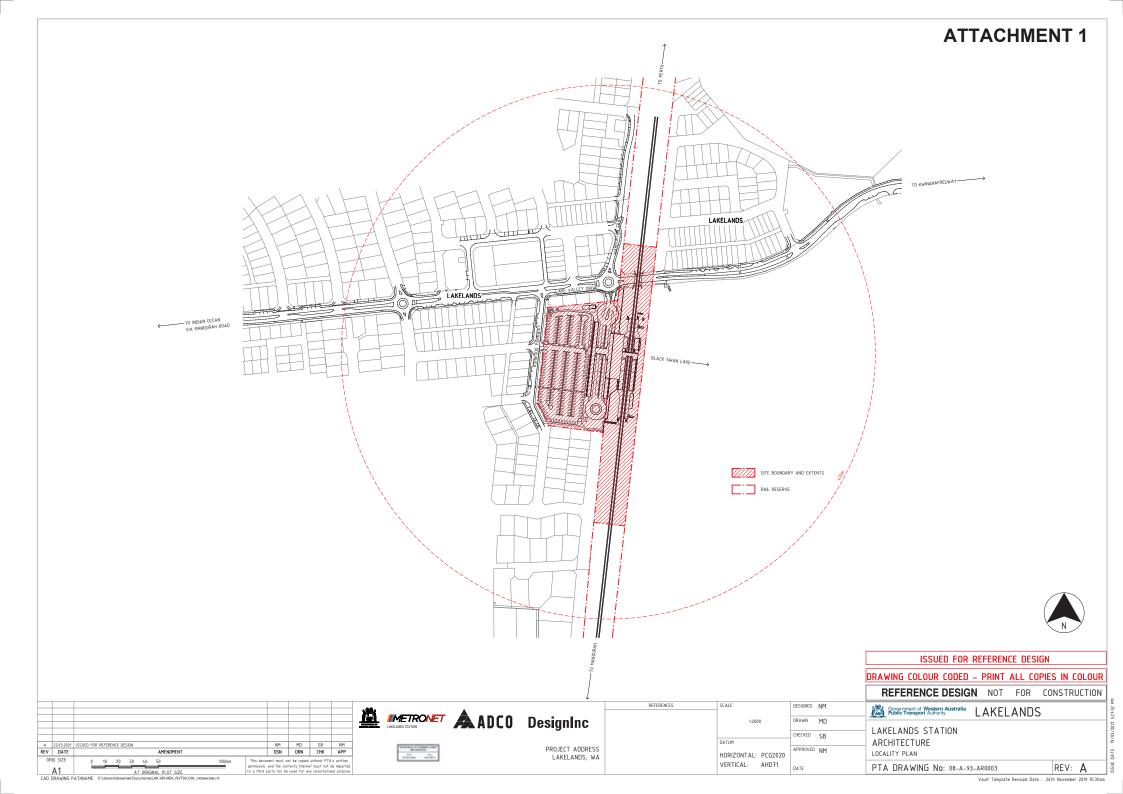
Other

A schedule of draft conditions was provided to the applicant and the City and the feedback provided has been considered in the preparation of the recommended conditions included in this report.

Conclusion:

The application seeks approval to construct a new railway station, bus interchange, car parking and to undertake minor improvements to the surrounding road, pedestrian and cyclist networks. The proposed development of the Lakelands station has been earmarked for some time and its development will provide local residents with improved access to public transport facilities.

The proposed development is consistent with the purpose of the Railways reservation under the PRS and the applicable policy framework. Several minor modifications to the development proposal are considered necessary to address technical matters raised by referral agencies. Further consideration is also required regarding necessary works that need to be undertaken in the vicinity of the station to facilitate its effective operation in a manner that does not unreasonable adversely affect the amenity of the locality. It is recommended that these matters be addressed via the imposition of suitable conditions and that the application be approved accordingly.













PROJECT ADDRESS LAKELANDS, WA REFERENCES

SCALE DESIGNED NM SCALE BAR - 1:500 CHECKED NM DATUM HORIZONTAL: PCG2020 VERTICAL: AHD71

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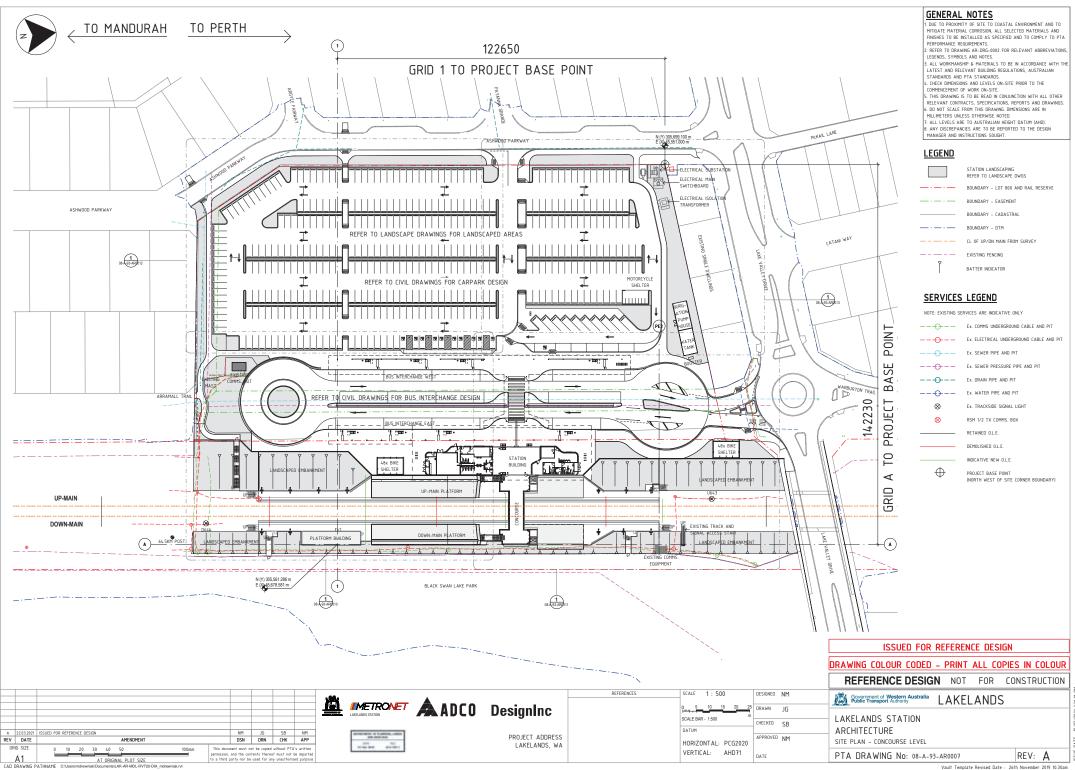
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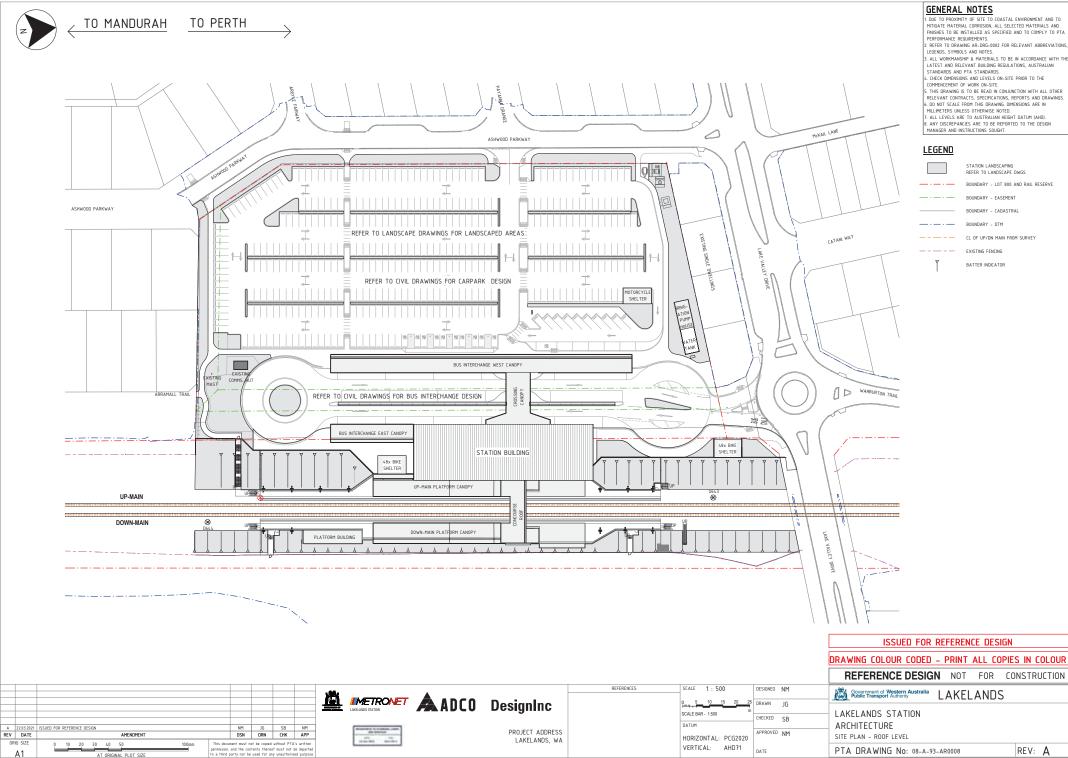
LAKELANDS STATION ARCHITECTURE

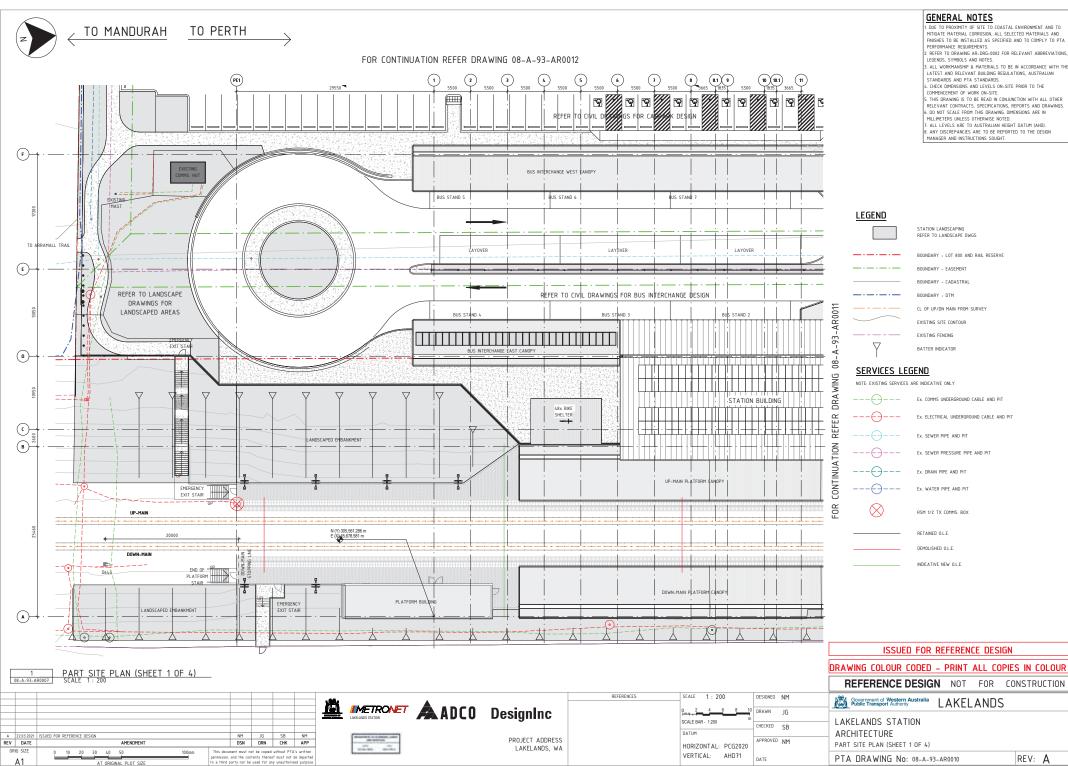
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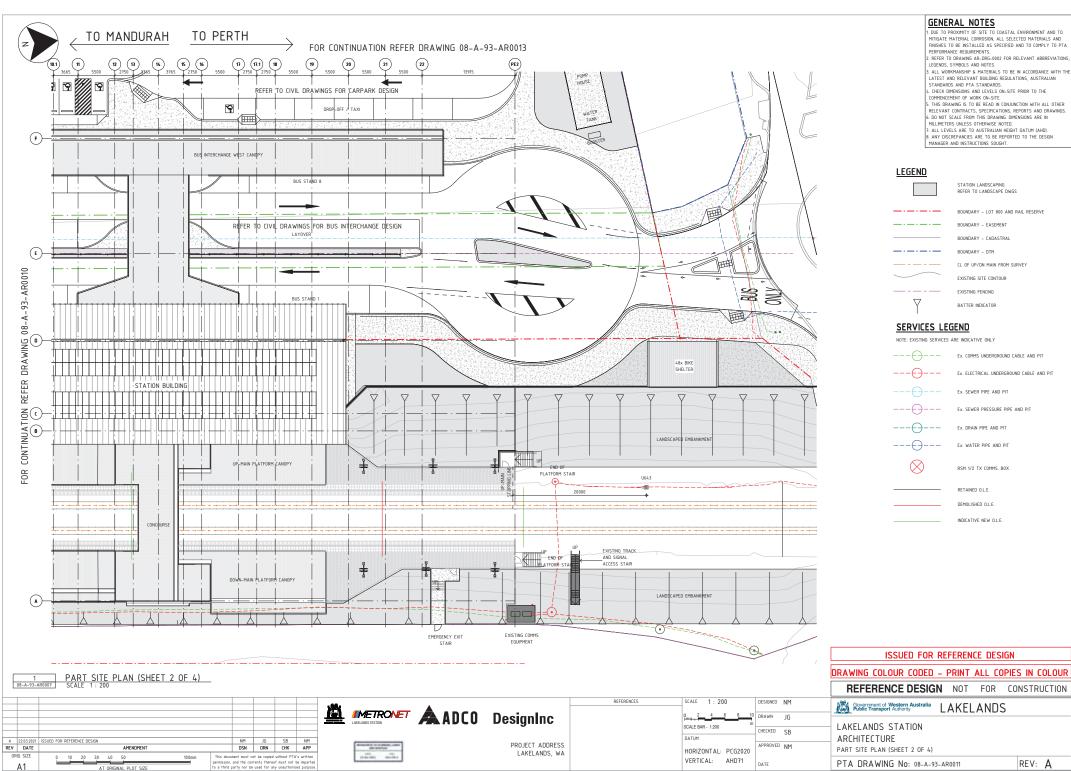
 Station Forecourt
 Station pods 3. Concourse Bridge 4. Up-Main Platform 5. Down-Main Platform 6. Bus Interchange 7. Bus Layover 8. Bus Entry/Exit

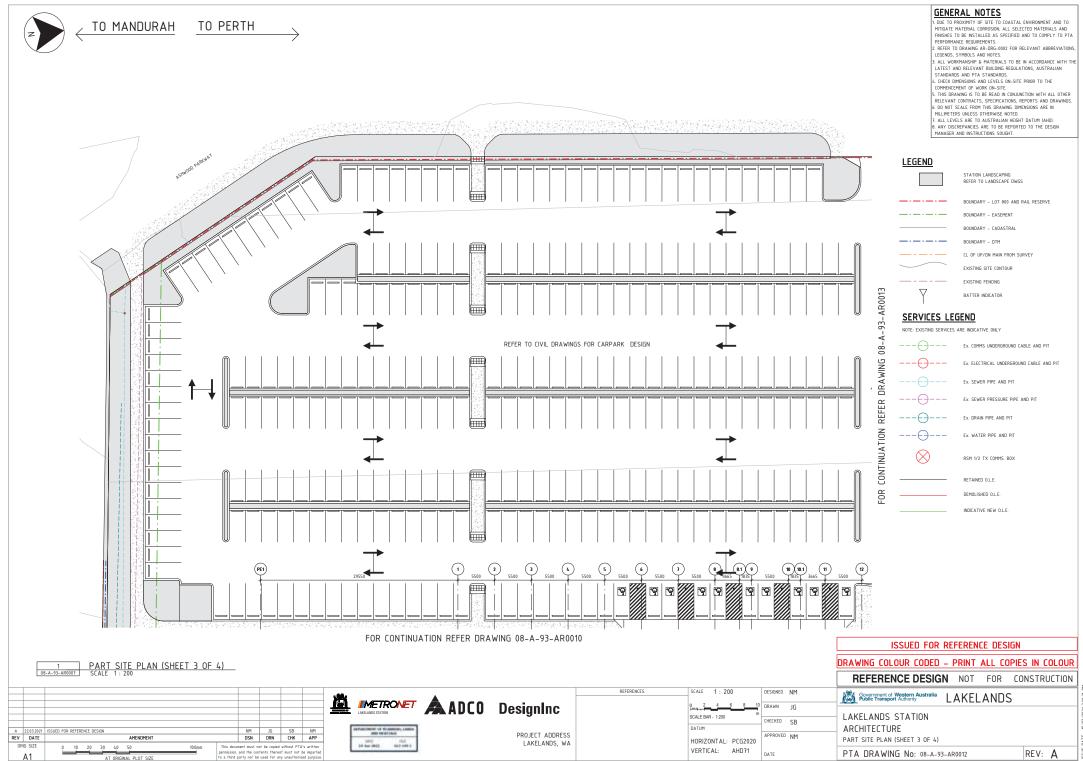
16. Bike Shelter 17. Pedestrian Entry 18. Pedestrian Axis 19. Walking Trail



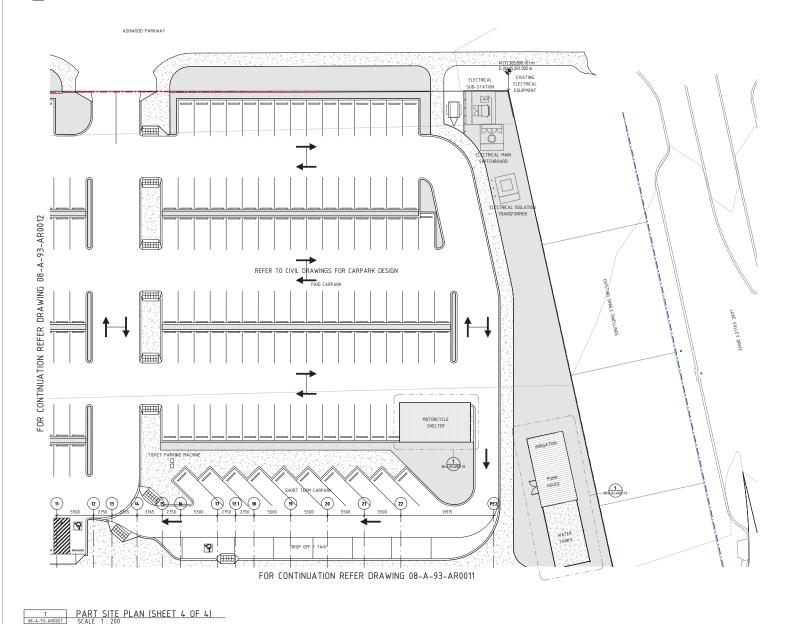












GENERAL NOTES

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2. REFER TO DRAWING AR-DRG-0002 FOR RELEVANT ABBREVIATIONS LEGENDS, SYMBOLS AND NOTES.

3. ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH THE LATEST AND RELEVANT BUILDING REGULATIONS, AUSTRALIAN STANDARDS AND PTA STANDARDS

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LEGEND

STATION LANDSCAPING REFER TO LANDSCAPE DWGS

BOUNDARY - LOT 800 AND RAIL RESERVE BOUNDARY - FASEMENT

BOUNDARY - CADASTRAL

BOUNDARY - DTM CL OF LIP/ON MAIN FROM SURVEY

EXISTING SITE CONTOUR

EXISTING FENCING BATTER INDICATOR

SERVICES LEGEND

NOTE: EXISTING SERVICES ARE INDICATIVE ONLY



Ex. SEWER PRESSURE PIPE AND PIT

Ex SEWER PIPE AND PIT

Ex. DRAIN PIPE AND PIT

Ex. WATER PIPE AND PIT

RSM 1/2 TX COMMS. BOX

RETAINED OLE

DEMOLISHED O.L.E.

INDICATIVE NEW O.L.E.

ISSUED FOR REFERENCE DESIGN

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PTA DRAWING No: 08-A-93-AR0013

LAKELANDS STATION ARCHITECTURE

PART SITE PLAN (SHEET 4 OF 4)

REV: A

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REFERENCES

SCALE 1 · 200

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HORIZONTAL: PCG2020

VERTICAL: AHD71

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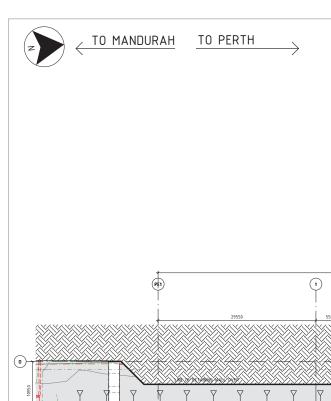
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CHECKED SB

APPROVED NM

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REV DATE

ORIG SIZE

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 NM
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LEGEND	
	STATION LANDSCAPING REFER TO LANDSCAPE DWGS
	BOUNDARY - LOT 800
	BOUNDARY - EASEMENT
	BOUNDARY - CADASTRAL
	BOUNDARY - DTM
	CL OF UP/DN MAIN FROM SURVEY
	NOT IN SCOPE
	AM CONTOUR

- - EXISTING FENCING BATTER INDICATOR

SERVICES LEGEND

NOTE: EXISTING SERVICES ARE INDICATIVE ONLY ---- Ex. COMMS UNDERGROUND CABLE AND PIT

- Ex. ELECTRICAL UNDERGROUND CABLE AND PIT --- Ex. SEWER PRESSURE PIPE AND PIT

- Ex. DRAIN PIPE AND PIT

———— Ex. WATER PIPE AND PIT RSM 1/2 TX COMMS. BOX

ROOM SCHEDULE - PLATFORM			
Number	Name	Area	
P.01	UP MAIN PLATFORM	1087.76 m ²	
P.02	DOWN MAIN PLATFORM	956.03 m ²	
P.03	PTA AIRLOCK	4.68 m ²	
P.04	PTA WC	5.52 m ²	
P.05	STORE	19.61 m²	
P.06	GSS 2	1.5 m ²	
P.07	A/C	2.73 m ²	
P.08	CER	65.53 m ²	
P.09	STORE	19.93 m ²	
P.10	LVR	30.18 m ²	
P.11	CLEANER	6.4 m ²	
P.12	AIRLOCK	9.69 m ²	
P.13	LIFT 1	6.14 m ²	
P.14	FUTURE LIFT 3	6.14 m ²	
P.15	FUTURE LIFT 4	6.14 m ²	

P.16 LIFT 2

6.14 m²

GENERAL NOTES

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PERFORMANCE REQUIREMENTS. REFER TO DRAWING AR-DRG-0002 FOR RELEVANT ABBREVIATIONS

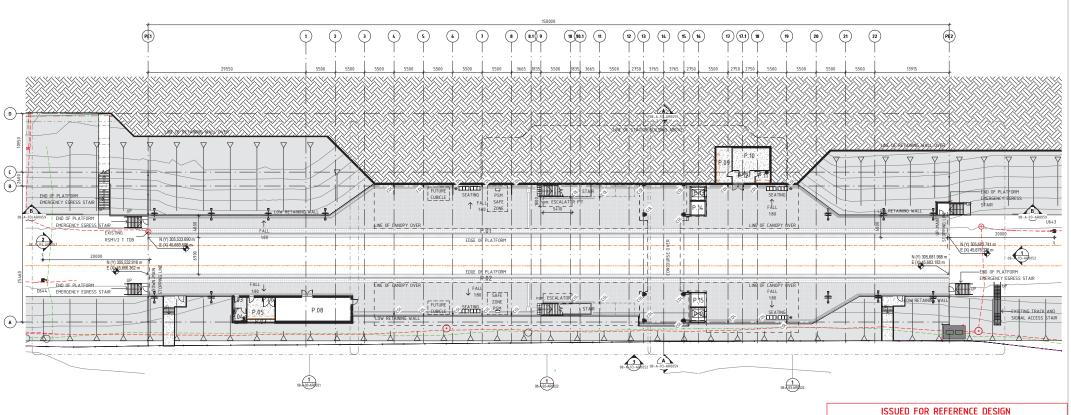
LEGENDS, SYMBOLS AND NOTES. ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH THE LATEST AND RELEVANT BUILDING REGULATIONS, AUSTRALIAN

STANDARDS AND PTA STANDARDS CHECK DIMENSIONS AND LEVELS ON-SITE PRIOR TO THE

COMMENCEMENT OF WORK ON-SITE

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PROJECT ADDRESS

LAKELANDS, WA

REFERENCES

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VERTICAL: AHD71

DATUM

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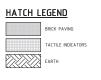
LAKELANDS STATION

PLATFORM OVERALL PLAN

PTA DRAWING No: 08-A-93-AR0015

ARCHITECTURE







BATTER INDICATOR

SERVICES LEGEND

NOTE: EXISTING SERVICES ARE INDICATIVE ONLY
ex. comms underground cable and PiT
Ex. ELECTRICAL UNDERGROUND CABLE AND PIT
Ex. SEWER PIPE AND PIT

 Ex. SEWER PRESSURE PIPE AND PIT
 Ex. DRAIN PIPE AND PIT
 Ex. WATER PIPE AND PIT

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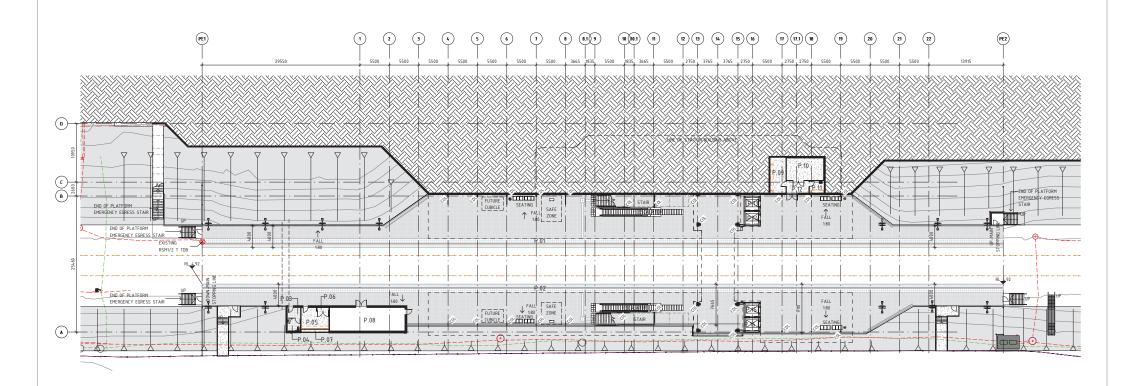
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P.14	FUTURE LIFT 3	6.14 m ²
P.15	FUTURE LIFT 4	6.14 m ²

6.14 m²

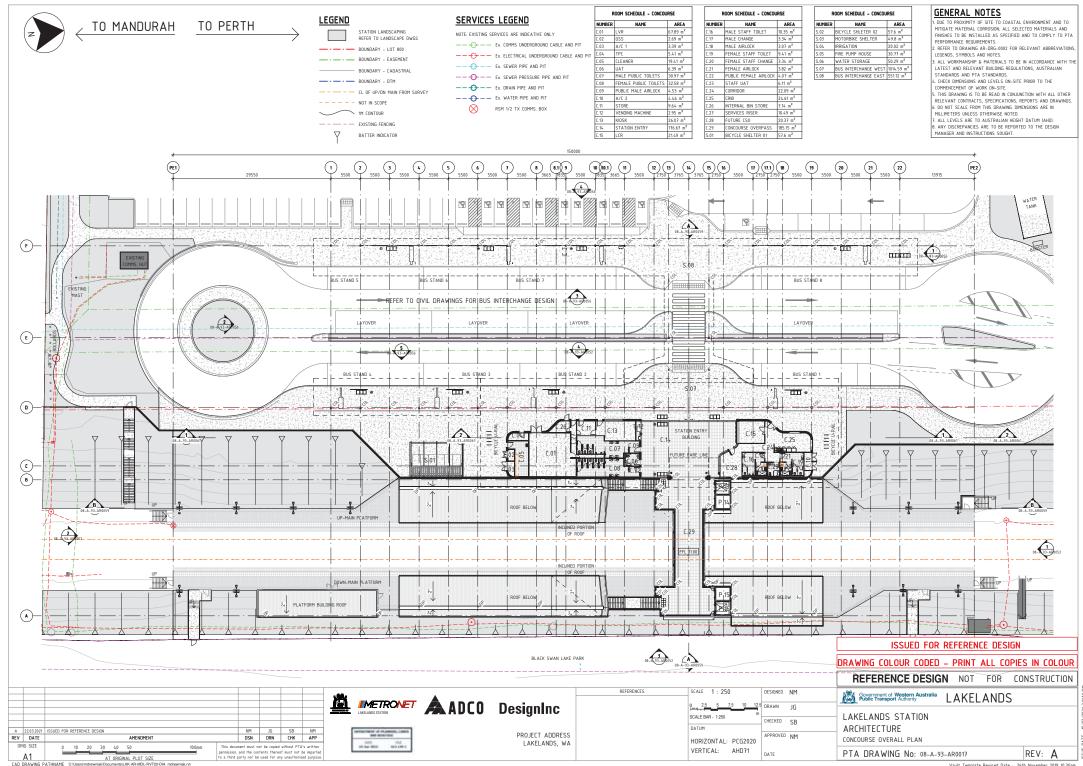
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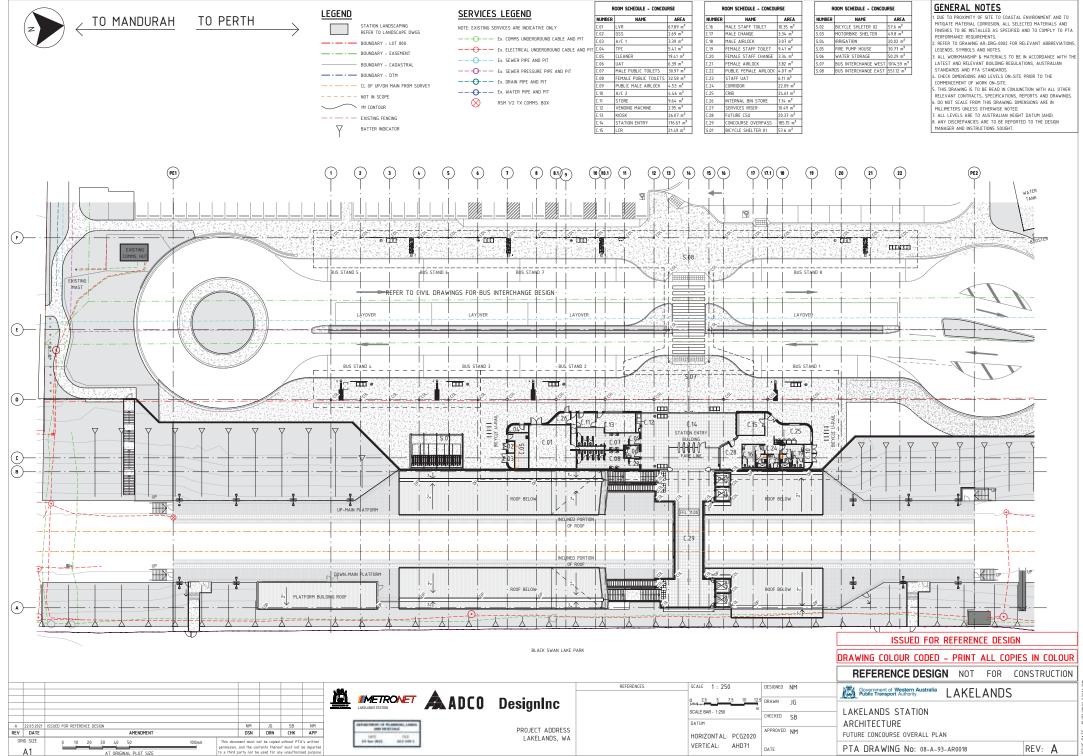
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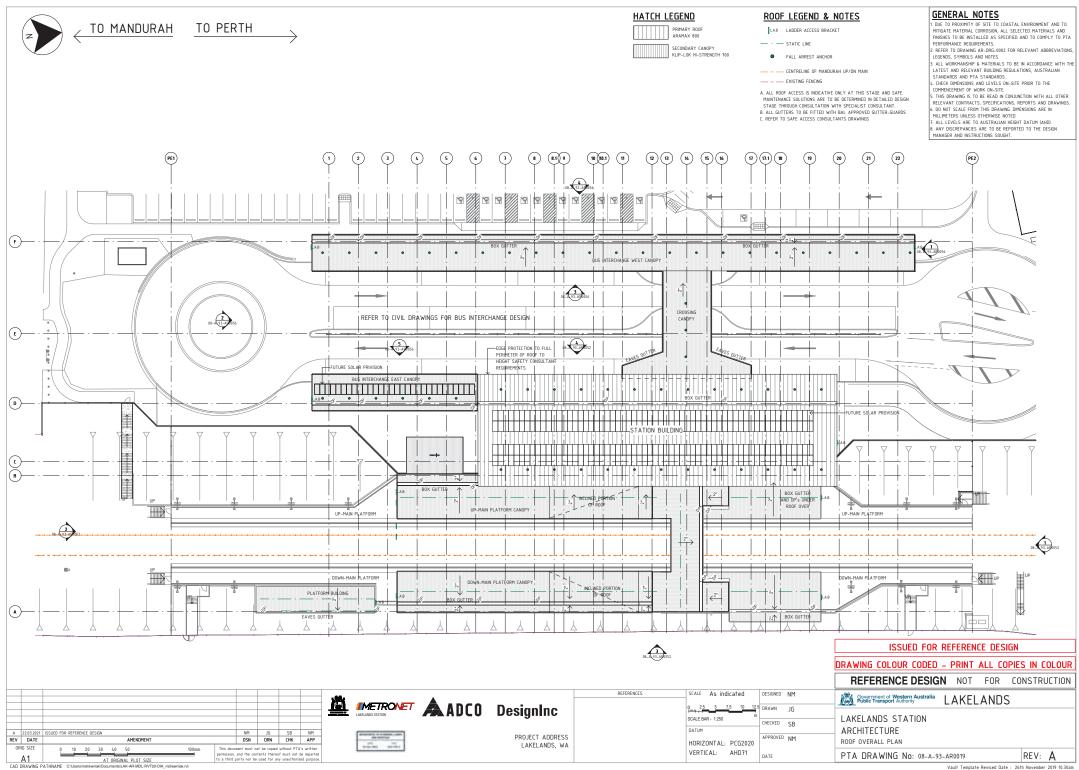
- I. DUE TO PROXIMITY OF SITE TO COASTAL ENVIRONMENT AND TO MITIGATE MATERIAL CORROSION, ALL SELECTED MATERIALS AND FINISHES TO BE INSTALLED AS SPECIFIED AND TO COMPLY TO PTA PERFORMANCE REQUIREMENTS.
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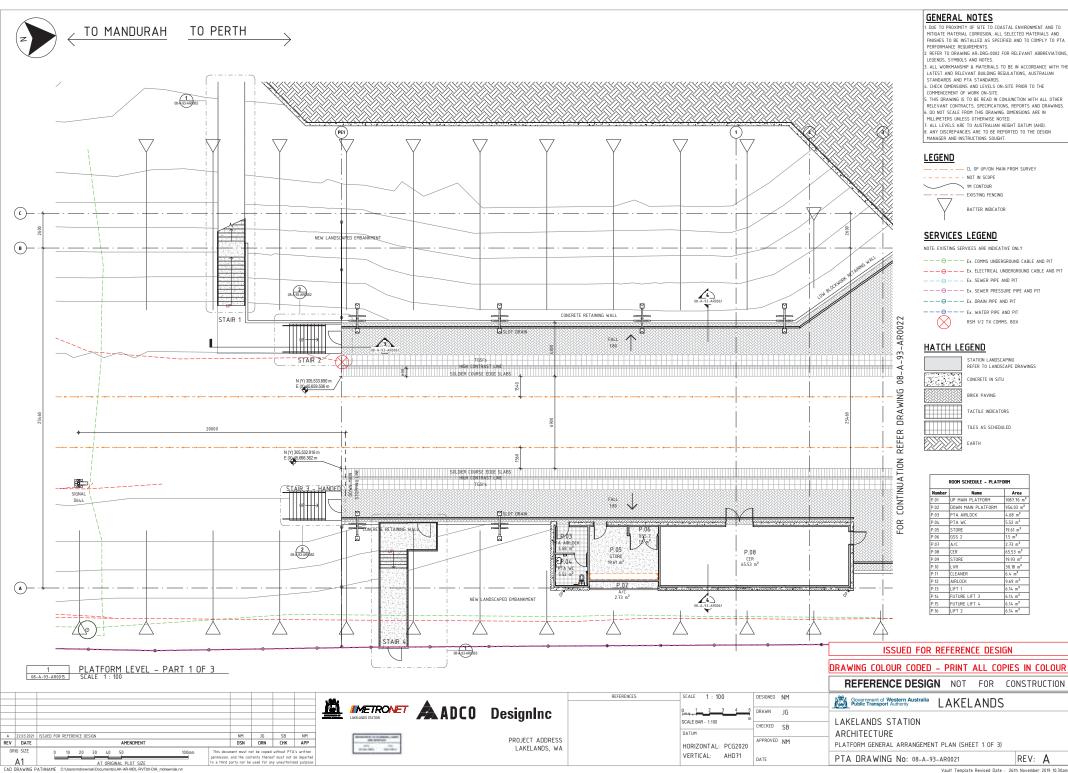


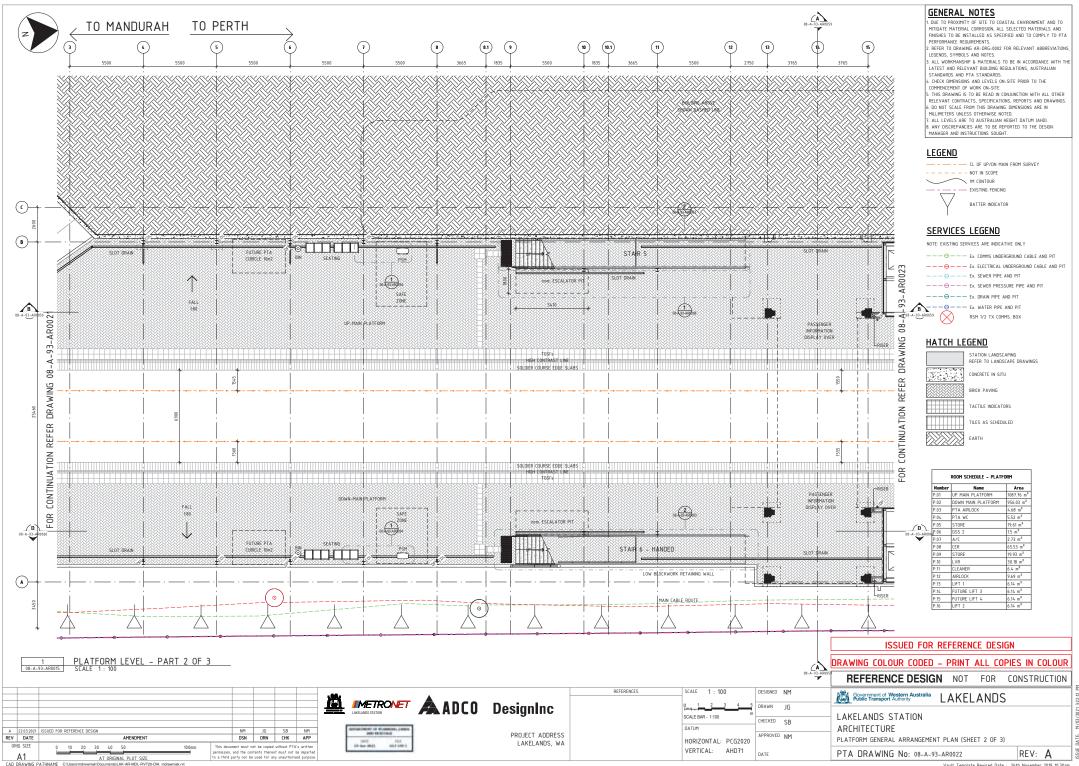


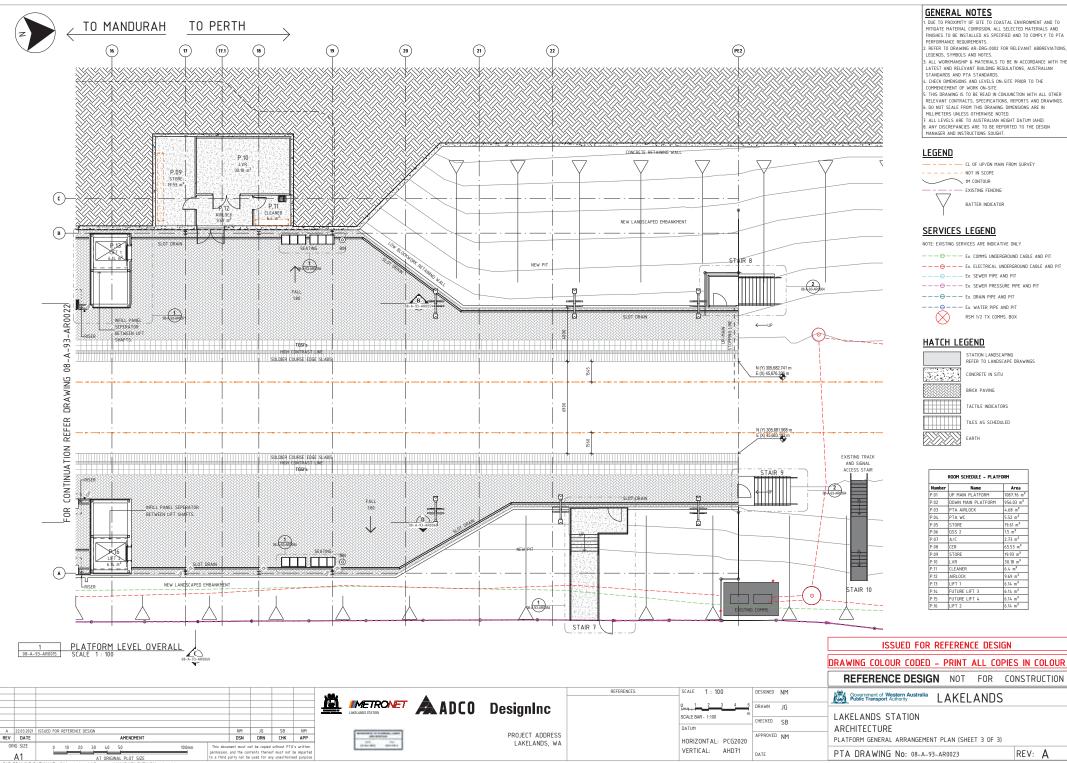


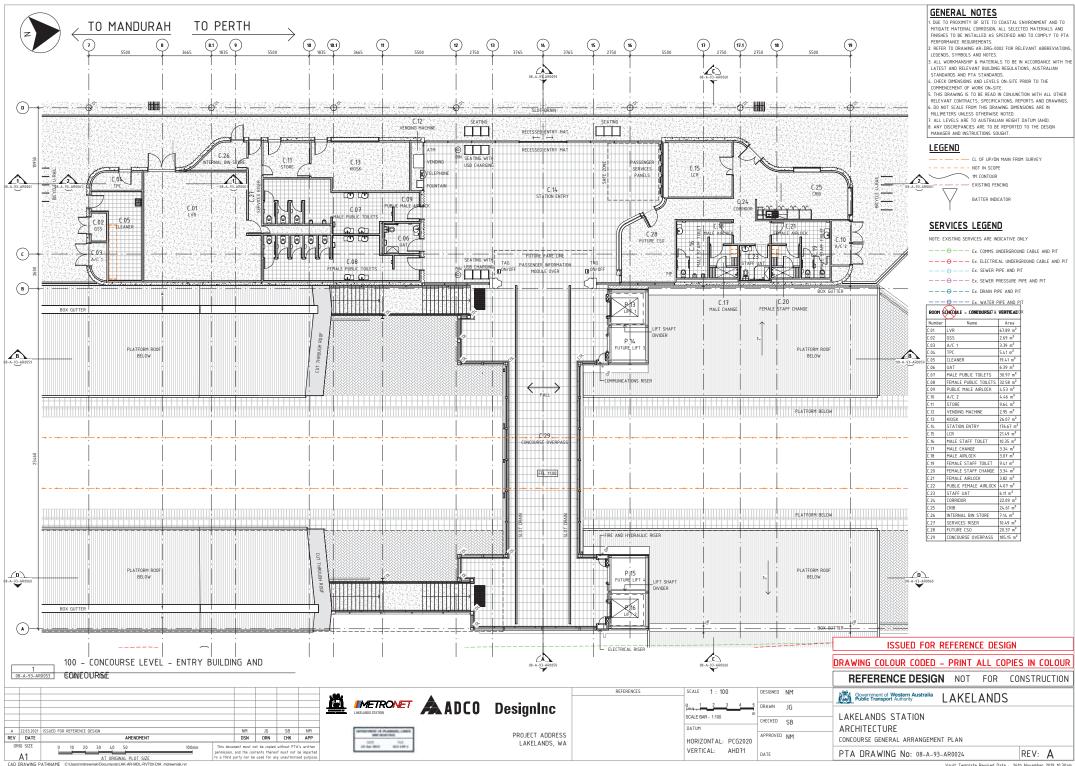




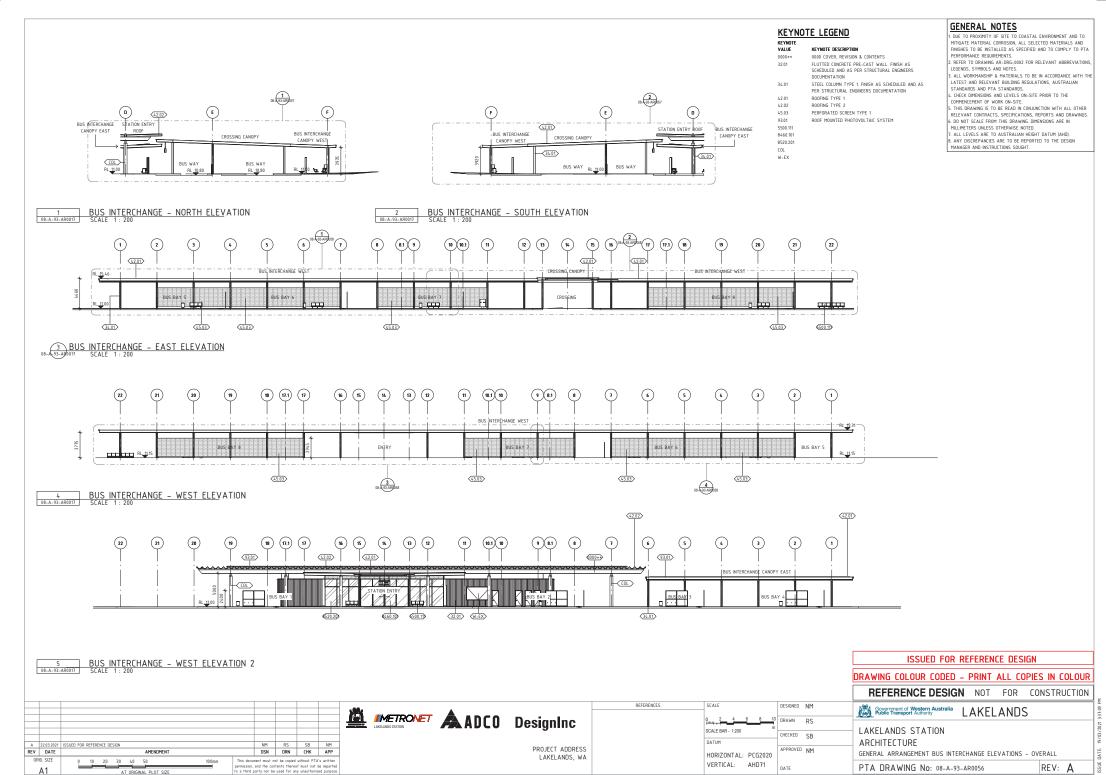


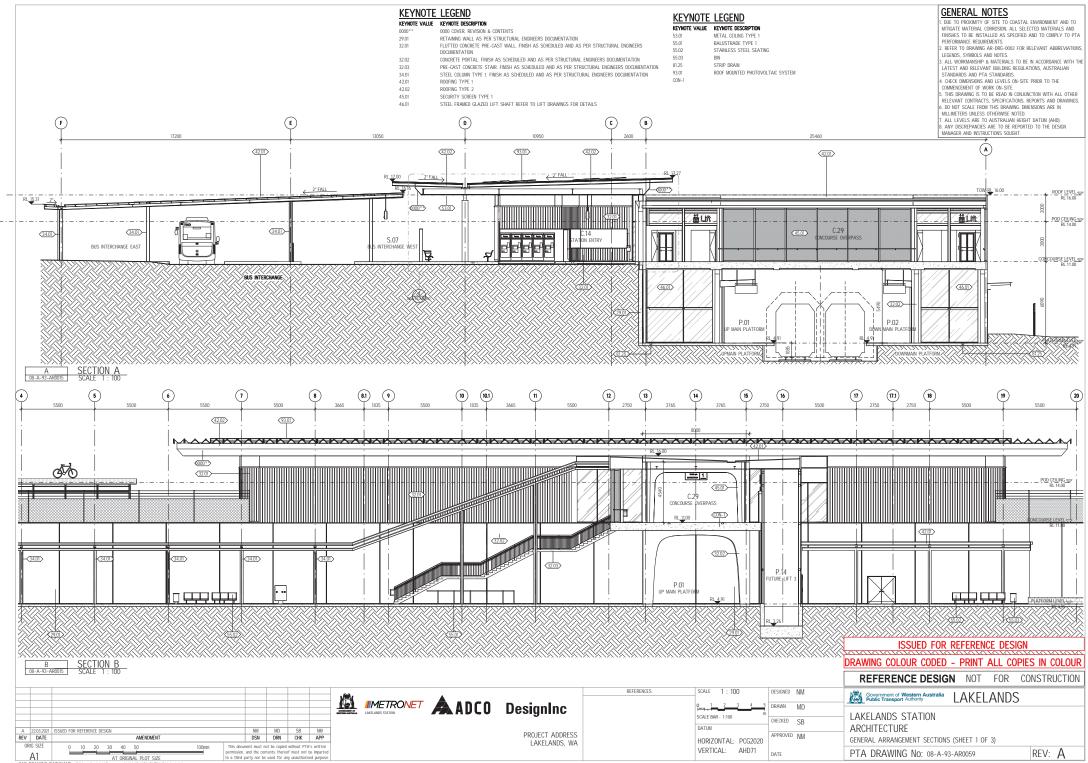


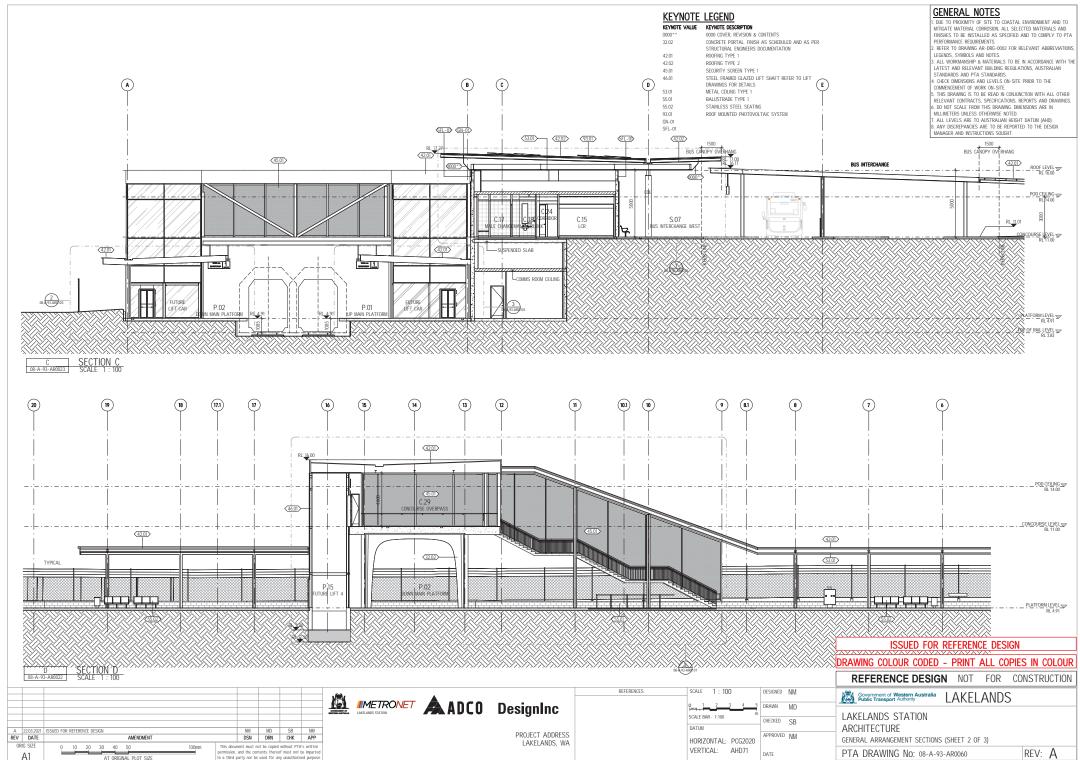


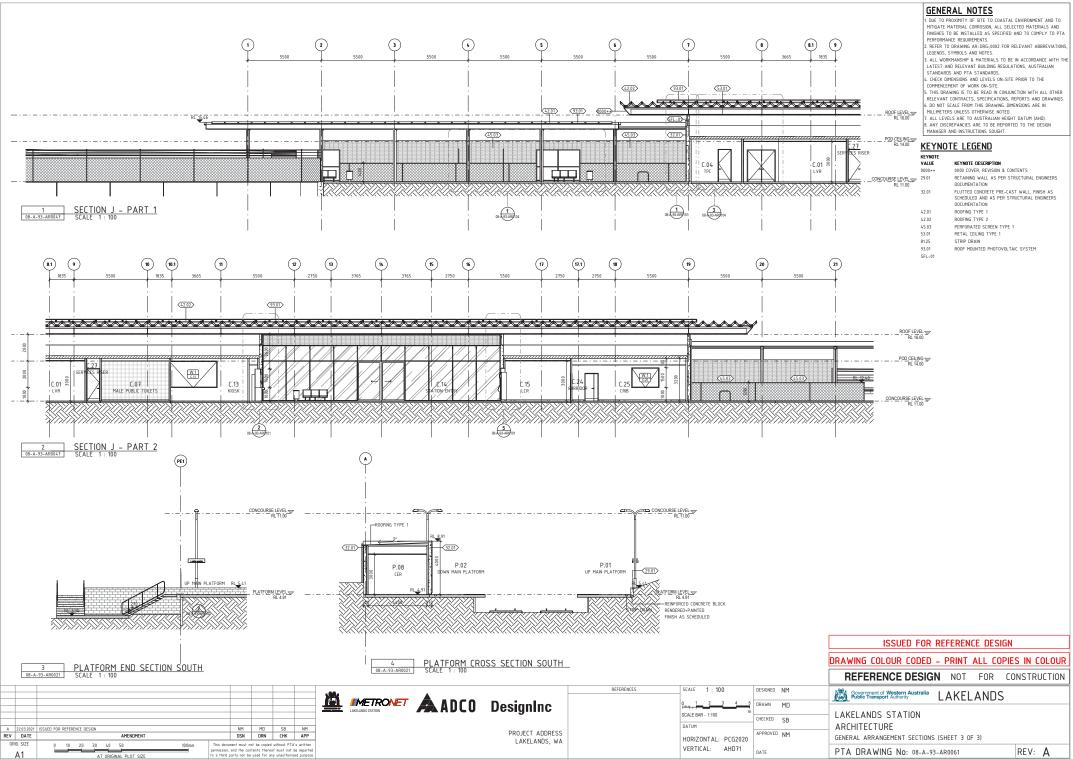












Document Number: LAKD-ADCO-AR-SCH-00006 Stage: Initial Detailed Design

NOTE: THIS SCHEDULE TO BE READ IN CONJUCTION WITH MATERIAL AND FINISHES SCHEDULE, AND DRAWINGS.

NOTE: ALL SELECTIONS SUBJECT TO DETAILED DESIGN DEVELOPMENTS, COMPLIANCE REVIEW AND CONFIRMATION OF SUITABILITY

Room	SWTC -	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
number	Accomodation							
	Schedule Ref.							
ENTR'	Y BUILDIN	G AND CONCO	URSE OVERPA	SS				
C.01	4.1 5.8	Station Entry (and primary roof)	Roof Sheeting	042.02	Fielders Aramax Freespan or similar approved	Fielders Aramax Freespan proprietary system with all associated brackets, gutters, flashings etc. Material: Aluminium Sheet width: 1200mm	Finish, colour and specification TBC	As per manufacturers recommendation
			Soffit	043.01	ACS Ceilings or similar approved	Coruline unperforated metal strip ceiling with ACS P/No 4 universal carrier rails spaced at 600mm apart	High durability specification Colour: off-white	Security installation method with conceal fix as per manufacturers recommendation
			Roof Fascia	043.02	BlueChip or similar approved	Imm thick Ultrasure prefinished aluminium panel Panels to be CNC cut and routed Allowance for aluminium stiffeners and aluminium Z channel to back of sheet Stock standard 15-35 tophats subframe Insulation and sisalation excluded 15mm Caulked joint in stock colour Standard panels only max dims: 3960 x 1460 Manufacture leadtime stock subject to availability 8-10 weeks if not in stock	TBC in Detail Design Phase	As per manufacturers recommendation
			Gutter	082.01	Contractor	Aluminium TBC, depending on roof sheeting surrounding	TBC in Detailed Design Stage	TBC in Detailed Design Stage
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
			Glazing Frame	045.01	Alspec or similar approved	Profile: TBC	Frame finish: TBC Frame colour: TBC	As per manufacturers recommendation
			Glazing	046.01	By contractor	Clear laminated glass. Sliding door as per door schedule Thickness: TBC Type: TBC	Clear colour Laminated	As per manufacturers recommendation
			Threshold Portal	032.02	Contractor	Concrete Precast portal with detailed graphic texture through combination of high quality craftmanship of polishing and tooling techniques Material: Concrete off-form concrete with minimum Class 2 finish	Colour: TBC Finish: Smooth Class 2 Sealer: 061.01 Apply sealer up to 3m high. Refer to Public Art documentation	TBC in Detailed Design phase
			Floor	063.01	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation
			Entry Mat	065.01	TBC in Detailed Design Stage	Recessed and flush with surrounding floors	TBC in Detailed Design Stage	TBC in Detailed Design Stage
C.02	-	Concourse Overpass	Roof sheeting	042.01	Lysaght or similar approved	Klip Lok 700 Aluminium TBC	Finish: Colorbond Ultra Colour: Windspray	As per manufacturers requirements

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NOTE: THIS SCHEDULE TO BE READ IN CONJUCTION WITH MATERIAL AND FINISHES SCHEDULE, AND DRAWINGS.

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Room number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			Columns	034.03	Contractor	Exposed structure Steel	Finish: 067.05	TBC in Detailed Design phase
			Column Finish	067.05	Dulux or similar approved	TBC	Colour: TBC (dark for all structure) Colour Code: TBC Finish: TBC	-
			Soffit	043.01	ACS Ceilings or similar approved	Coruline unperforated metal strip ceiling with ACS P/No 4 universal carrier rails spaced at 600mm apart	High durability specification Colour: off-white	Security installation method with conceal fix as per manufacturers recommendation
			Floor	063.01	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation
			Screens	045.02	Crimsafe security screens or similar approved	Crimsafe Security Screens	Frame finish: TBC Frame colour: TBC Screen finish: TBC Screen finish: TBC	As per manufacturers recommendation
C.03	3.8.11	Third Party Communications Cupboard- Concourse	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.04	3.9.6	Scrubbers / Cleaners Store Room - Concourse	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
		35.1.5541.55	Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Tiles behind basin	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation

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m SWTC - F	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
Accomodation Schedule Ref.							
		Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC	-
						Finish: Matt	
		External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2	As per manufacturers recommendation
						Sealer: 061.01 Apply sealer up to 3m high.	
		External Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls.	Colourless	As per manufacturers recommendation
					Non-sacrificial two-pack finish	No glossy finish	
	Gas Suppression System	Floor	031.01	Contractor	In-situ concrete	Colour: Grey	TBC in Detailed Design phase
	Cupboard (GSS) – concourse					Finish: Trowel finish Slip resistance: TBC	
		Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
		Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic	Colour: Vivid White	-
					for Kitchens and Bathrooms	Colour Code: TBC Finish: Low Sheen	
		Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
		Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic	Colour: Lexicon Quarter	-
					for Kitchens and Bathrooms	Colour Code: TBC Finish: Matt	
		External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form	Colour: TBC	As per manufacturers recommendation
					Material: Concrete	Finish: Class 2 Sealer: 061.01	
						Apply sealer up to 3m high.	
		External Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
6, C.28 3.8.1	Mech Rooms - Concourse	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish	TBC in Detailed Design phase
						Slip resistance: TBC	
		Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
		Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic	Colour: Vivid White	-
					for Kitchens and Bathrooms	Colour Code: TBC	
		Ceiling	053.03	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint finish: 067.04	As per manufacturers recommendation
		Ceiling Finish	067.04	Dulux or similar approved	Dulux weatherside Matt	Colour: Vivid White	-
						Colour Code: TBC	
		External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form	Colour: TBC	As per manufacturers recommendation
					Material: Concrete	Finish: Class 2	
		Ceiling Ceiling Finish	053.03 067.04	Gyprock or similar approved Dulux or similar approved	for Kitchens and Bathrooms Compressed Fibre Cement Sheet Dulux weatherside Matt Concrete Precast panels with fluted concrete form	Colour Code: TBC Finish: Low Sheen Paint finish: 067.04 Colour: Vivid White Colour Code: TBC Finish: Matt Colour: TBC	-

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Room number	SWTC - Accomodation	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
	Schedule Ref.							
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.07	3.8.4	Main Electrical Room - concourse LVR	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.03	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.08, C.09,	3.5.1 3.5.2 3.5.3	Public Toilets: - Female Public Toilet, - Male Public Toilet,	Floor	063.02	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation As per manufacturers recommendation
C.10, C.11, C.12		- Unisex Universally Accessible Toilet	Internal Wall & Toilet partitions	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
6.11, 6.12		- and associated airlocks	Internal Wall Finish	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet
			Feature Wall	063.06	Metz or similar approved	Feature wall (behind basins) Product: Spettro wall tile Tiles in various formats Installed vertically in random Pattern	Colour: Edera (matt) and Salgemma (gloss) Finish: Matt and Gloss Grout Colour: to match tiles - Salgemma colour	Fixed to fibre cement wall sheet
l			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation

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Room number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
C.13, C.14	13.2 13.3	Future Leased Kiosk and Kiosk Store room	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	TBC	#N/A	#N/A	#N/A	#N/A
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.15	3.9.2	Internal Bin Store - Concourse	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	TBC	#N/A	#N/A	#N/A	#N/A
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.16	-	Services Riser and Duct (between Male and Female Public Toilets)	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	TBC	#N/A	#N/A	#N/A	#N/A
C.17	-	Amenities (kiosk, phone, ATM, water fountain)		031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
		Fa	Fascia / Cover piece	0552.01	Contractor	Aluminium sheet Thickness: TBC	Finish: Anodised Colour: TBC	TBC in Detailed Design Stage

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Room	SWTC -	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
number	Accomodation Schedule Ref.							
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	
C.18	8 3.8.10	Lobby Comms Room (L.C.R)	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.19, C.20	3.6.1	Staff Crib Room, Corridor	Floor	065.02	TBC in Detailed Design Stage	Slip resistant vinyl sheet flooring 2mm thick with coved skirting Slip rating: P3, R10 PU reinforced throughout the mix and surface	Jervis Green - 5A513541 with matching joint seam	Full spread hard set adhesive Seams Heat-welded (use matching weld rod)
			Internal wall	051.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation

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			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
			Benchtop	0551.01	Laminex or similar approved	18mm laminate doors with matching ABS edge Kick to be lined with coved floor vinyl - with matching joint seam	Natural Finish Colour: Green Slate 8793	As per manufacturers recommendation
			Joinery	0551.02	Laminex or similar approved	32mm postformed laminate benchtop, with a square profile front edge, rounded corners (minimal radius)	Natural Finish White Valencia 742	As per manufacturers recommendation
C.21, C.22, C.24, C.25,	3.6.2	Staff Toilets -Male Staff - Female Staff	Floor	063.02	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation
C.26	- Unisex Universally Accessible Internal Wa Toilet Internal Wa	Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation	
			Internal Wall Finish	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	As per manufacturers recommendation As per manufacturers recommendation In Layouts for As per manufacturers recommendation Fixed to fibre cement wall sheet As per manufacturers recommendation
			Toilet partition	0551.03	TBC	13mm Compact Laminate 2027mm high, Doors: 1700mm high x 600mm wide with a 205mm floor clearance.	Laminex: Moose	As per manufacturers recommendation
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
	Ceiling Finish	Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-	
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.23, C.27	3.6.3 3.6.4	Staff Showers & Change - Male Shower and change room	Floor	063.02	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation
		- Female Shower and change room	Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-

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Room number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
C.29	3.7.2	Customer Service Office	Floor	065.02	TBC in Detailed Design Stage	Slip resistant vinyl sheet flooring 2mm thick with coved skirting Slip rating: P3, R10 PU reinforced throughout the mix and surface	Jervis Green - 5A513541 with matching joint seam	Full spread hard set adhesive Seams Heat-welded (use matching weld rod)
			Internal wall	051.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
			External Wall	032.01	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Colour: TBC Finish: Class 2 Sealer: 061.01 Apply sealer up to 3m high.	As per manufacturers recommendation
			External Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation

STATION PLATFORMS

.01, P.02	6.5	Platforms	Platform Edge Tile	063.08	Metz or similar approved	Product: Yellow non-slip tile	Colour: Yellow	As per manufacturers recommendation
,	6.6		Platform Paver	027.02	Midland Brick/	Heavy Duty Clay Paver	Finish: Kiln 9 (grain to run length of face)	Lay on 1:6 cement/sand screed.
					Boral or similar approved	Laid in herringbone 45 degree pattern	No sealer.	1:80 minimum cross fall away from track.
						Slip resistance: P5	Colour: red	As per manufacturers recommendation
			Low Retaining wall to	033.01	Midland brick or similar approved	Product: 200 series	Finish: paint TBC	TBC in Detailed Design phase
			Embankments			Code: 20.01 Grey	Grout colour: TBC	
						Core filled where required and as specified by structural		
						engineering documentation.		
			Exposed Concrete Retaining	029.01	Contractor	Pre-cast off-form concrete with Class 2 finish, as per AS	Colour: TBC	TBC in Detailed Design phase
			Wall			3610 - Formwork for Concrete for Publicly Visible Surfaces	Finish: Smooth	
						with Painted Finish or Clear Sealant;	Sealer: 061.01	
							Apply sealer up to 3m high.	
						off-form concrete with minimum Class 3 finish as per AS		
						3610 - Formwork for Concrete, for Non-Publicly Visible	Refer to Public Art documentation	
						Surfaces.		

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NOTE: ALL SELECTIONS SUBJECT TO DETAILED DESIGN DEVELOPMENTS, COMPLIANCE REVIEW AND CONFIRMATION OF SUITABILITY

number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			Wall Finish	061.01	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
			Concrete portal	032.02	Contractor	Concrete Precast portal with detailed graphic texture through combination of high quality craftmanship of polishing and tooling techniques Material: Concrete	Colour: TBC Finish: Smooth Class 2 Sealer: 061.01 Apply sealer up to 3m high.	TBC in Detailed Design phase
-	4.1	Platform shelters	Roof sheeting	042.01	Lysaght or similar approved	off-form concrete with minimum Class 2 finish Klip Lok 700 Aluminium TBC	Refer to Public Art documentation Finish: Colorbond Ultra Colour: Windspray	As per manufacturers requirements
			Columns	034.01	Contractor	Exposed structure Steel	Finish: 067.05	TBC in Detailed Design phase
			Column Finish	067.05	Dulux or similar approved	TBC	Colour: TBC (dark for all structure) Colour Code: TBC Finish: TBC	-
			Gutter	082.01	Contractor	Aluminium TBC, depending on roof sheeting surrounding	TBC in Detailed Design Stage	TBC in Detailed Design Stage
			Soffit	043.01	ACS Ceilings or similar approved	Coruline unperforated metal strip ceiling with ACS P/No 4 universal carrier rails spaced at 600mm apart	High durability specification Colour: off-white	Security installation method with conceal fix as per manufacturers recommendation
-	-	Down-main Platform Building exterior finishes	External Wall	033.01	Midland brick or similar approved	Product: 200 series Code: 20.01 Grey Core filled where required and as specified by structural engineering documentation.	Finish: paint TBC Grout colour: TBC	TBC in Detailed Design phase
			Wall Finish	061.01	ТВС	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	Colourless No glossy finish	As per manufacturers recommendation
			Roofing	042.01	Lysaght or similar approved	Klip Lok 700 Aluminium TBC	Finish: Colorbond Ultra Colour: Windspray	As per manufacturers requirements
P.03, P.04	3.6.5	Driver's Toilet	Floor	063.02	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet
			Ceiling	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
P.05, P.09	3.9.5	Platform Store Rooms	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall (fire rated)	051.03	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation

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Room number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling (fire rated)	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
P.06	3.8.16	Gas Suppression System Cupboard (GSS) – Platform	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.03	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	
P.07	3.8.1	Mech Rooms - Platform	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.03	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
P.07 3.8.1 Mech Rooms - Platform Floor O31.01 Contractor Internal Wall Finish O67.02 Dulux or similar approved Gyprock or similar approved FRL level 120/120/120 Internal Wall Finish O67.01 Dulux or similar approved FRL level 120/120/120 Internal Wall Finish O67.02 Dulux or similar approved FRL level 120/120/120 Internal Wall Finish O67.02 Dulux or similar approved FRL level 120/120/120 Internal Wall Finish Frowel finish Silip resistance: TBC Finish: Trowel finish Silip resistance: TBC FRL level 120/120/120 Internal Wall Finish O67.01 Dulux or similar approved Sylvager of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120 FRL Finish: Trowel finish, refer to Room Layouts for further achieve FRL level 120/120/120 FRL Finish: Low Sheen FRL level 120/	-							
P.08	3.8.6		Floor	031.01	Contractor	In-situ concrete		TBC in Detailed Design phase
		- electrical equipment	Internal Wall	051.03	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.02	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation

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Room	SWTC -	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
number	Accomodation Schedule Ref.	·						
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic	Colour: Lexicon Quarter	-
						for Kitchens and Bathrooms	Colour Code: TBC Finish: Matt	
P.10	3.8.5 3.8.7	Platform Low Voltage Room (LVR) - comms. Equipment	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
		- electrical equipment	Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
P.11	3.9.6	Platform Cleaners Storage Room	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Tiles behind basin	063.04	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-
P.12	-	Airlock entry	Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Internal Wall	051.02	Gyprock or similar approved	Compressed Fibre Cement Sheet	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Internal Wall Finish	067.01	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-
			Ceiling	053.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard (can be used externally)	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-

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Room	SWTC -	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
number	Accomodation Schedule Ref.							
P.13, P.14,	9.4	Lift shaft and Lift Car	Lift Pit Floor & Walls	2011.01	Contractor	As per PTA specification for lifts	TBC in Detailed Design Stage	As per manufacturers recommendation
P.15, P.16			(including lift pits for future lifts)					
			Lift Pit Water Proof Membranes	2011.02	Contractor	As per PTA specification for lifts	TBC in Detailed Design Stage	As per manufacturers recommendation
			Lift – Door frames, doors and cover panels	2011.03	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	As per manufacturers recommendation
			Lift – door control panel and control button	2011.04	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	As per manufacturers recommendation
			Lift Controller Panel	2011.05	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	As per manufacturers recommendation
			Grated Strip Drains	2011.06	#N/A	#N/A	#N/A	#N/A
			Lift Shaft intake louvres	2011.07	GroupArcadia	Product: 3 stage louvre	Finish: Powdercoat, Satin	As per manufacturers recommendation
					http://www.grouparcadia.com.au	Material: Aluminium	Colour: TBC	
					/Louvres	Model: SPUR EL3		
					or equivalent			
			Lift Shaft ventilation louvres	2011.08	GroupArcadia	Product: 3 stage louvre	Finish: Powdercoat, Satin	As per manufacturers recommendation
					http://www.grouparcadia.com.au		Colour: TBC	
					/Louvres	Model: SPUR EL3		
			lift Shaft cailing 2011 09		or equivalent			
			Lift Shaft ceiling	2011.09	Contractor	CFC Sheet to internal Lift Shaft	Painted	TBC in Detailed Design Stage
			Lift Shaft Walls - Central	2011.10	0	Shaft Separation - Wire Netting	Hot dipped galvanised steel	As per manufacturers recommendation
			Dividing screen between			Wire netting, hot dipped galvanised, protection with		
			adjacent lift shafts Lift Shaft Outer Walls	2011.11	Viridian	accessories for fixing in the lift shaft. Type: Viridian Supergreen	Finish: Powdercoat, Satin	As per manufacturers recommendation
			(Glazing)	2011.11	or similar approved	Thickness: TBC	Film: SCLARL 400 (3M Scotchshield)	As per mandiacturers recommendation
			(Glazing)		or similar approved	Construction: Laminated, annealed, 1.5mm interlayer	Colour: TBC	
					Framing:	Frame: Capral 300 narrowline		
					Capral			
					or similar approved			
-	6.7	End of Platform Stair	Stair	ТВС	#N/A	#N/A	#N/A	#N/A
	6.8		Balustrade	0554.05	Contractor	Galvanised steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage
			Handrail	0554.04	Contractor	Galvanised Handrail (for end of platform and emergency stairs)	TBC in Detailed Design Stage	TBC in Detailed Design Stage
-	9.1	Pedestrian Stairs between	Stair	032.04	Contractor	Precast concrete stair	Colour: TBC	TBC in Detailed Design phase
		Concourse and Platform					Finish: TBC Sealer: CODE	
			Balustrade	0554.01	Contractor	Side Fixed Handrails Material: 316 Stainless steel Diameter: 38mm min or to match Colour & Finish: Linish (No.4)	0	As per manufacturers recommendation
			Handrail	0554.02	Contractor	Side fixed to supports. Material: 316 Stainless steel Diameter: 38mm min or to match Colour & Finish: Linish (No.4)	Stainless steel	As per manufacturers recommendation
				<u> </u>		Side fixed to supports.	1	

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	Schedule Rei.							
-	9.2	Emergency Egress Only Stairs	Stair	TBC	#N/A	#N/A	#N/A	#N/A
			Balustrade	0554.05	Contractor	Galvanised steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage
			Handrail	0554.04	Contractor	Galvanised Handrail (for end of platform and emergency	TBC in Detailed Design Stage	TBC in Detailed Design Stage
						stairs)		
-	9.3	Escalators - 2 x future	Refer VT Specification	TBC				

STATION PRECINCT

01, S.02		Secure Bicycle Parking Shelter	- Floor	031.01	Contractor	In-situ concrete	Colour: Grey	TBC in Detailed Design phase
	4.5	Concourse 2 x Bike Stores					Finish: Trowel finish	
			Gates and Screens	045.04	Contractor	Galvanised steel gate to match the fence	Slip resistance: TBC Powdercoat paint finish, colour and specification TBC	As per manufacturers recommendation
			Columns and Beams	034.05	Contractor	Galvanised and Painted Steel Material: Hot-dipped galvanized steel.	Finish: 067.03	TBC in Detailed Design phase
			Paint	067.03	Dulux or similar approved	"Transperth Green"	Colour: TBC Colour Code: TBC Finish: TBC	-
			Roof Sheeting to Shelter roof	042.04	Lysaght or similar approved	твс	TBC in Detailed Design Stage	As per manufacturers recommendation
TORCYCL	LE PARKING SHELT			I				
03	4.4	Shelter Roofing, Soffits and Ceiling Linings, walls and	Roof Sheeting to Shelter roof	ТВС	#N/A	#N/A	#N/A	#N/A
		screens	Screens	TBC	#N/A	#N/A	#N/A	#N/A
			Gutters to Shelter roof	TBC	#N/A	#N/A	#N/A	#N/A
			Columns and Beams	TBC	#N/A	#N/A	#N/A	#N/A
TERNAL W	VORKS - WATER T	ANK PUMP HOUSE	•	•		•		
)4	5.2	Irrigation	Roof Sheeting	042.01	Lysaght or similar approved	Klip Lok 700 Aluminium TBC	Finish: Colorbond Ultra Colour: Windspray	As per manufacturers requirements
			Ceiling	No ceiling	#N/A	#N/A	#N/A	#N/A
			Floor	031.01	Contractor	In-situ concrete	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase
			Wall	033.01	Midland brick or similar approved	Product: 200 series Code: 20.01 Grey Core filled where required and as specified by structural engineering documentation.	Finish: paint TBC Grout colour: TBC	TBC in Detailed Design phase
			Gutters to Shelter roof	082.02			Finish: Colorbond Aluminium Colour: TBC	As per manufacturers recommendation
)5	-	Fire Pump House	Roof Sheeting	042.01	Klip Lok 700 Aluminium TBC	Finish: Colorbond Ultra As per manufacturer Colour: Windspray		
				051.01	Gyprock or similar approved	Product: EC08 Complete Plasterboard	Paint finish, refer to Room Layouts for further	As per manufacturers recommendation

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Room number	SWTC - Accomodation	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
	Schedule Ref.							
			Ceiling Finish	067.02	Dulux or similar approved	Wash and Wear Acrylic	Colour: Lexicon Quarter	-
						for Kitchens and Bathrooms	Colour Code: TBC	
							Finish: Matt	
			Floor	031.01	Contractor	In-situ concrete	Colour: Grey	TBC in Detailed Design phase
							Finish: Trowel finish	
•			Wall	033.01	Midland brick or similar approved	Description 200 series	Slip resistance: TBC	TDC in Detailed Desire where
•			waii	033.01	ividiand brick of similar approved	Code: 20.01 Grey	Finish: paint TBC Grout colour: TBC	TBC in Detailed Design phase
•						Core filled where required and as specified by structural	Grout colour. TBC	
						engineering documentation.		
			Gutters to Shelter roof	082.02	Lysaght or similar approved	Material: Aluminium TBC, depending on roof sheeting	Finish: Colorbond Aluminium	As per manufacturers recommendation
					, , ,	surrounding	Colour: TBC	·
1						Profile: Half round		
i								
S.06	-	Water Storage	Screen	045.05	Contractor	Perforated Aluminium Sheet	Frame finish: TBC	As per manufacturers requirements
1						Perforation pattern: TBC	Frame colour: TBC	
			Floor	031.01	Contractor	In-situ concrete	Screen finish: anodised Colour: Grey	TBC in Detailed Design phase
			Floor	031.01	Contractor	III-Situ concrete	Finish: Trowel finish	TBC III Detailed Design phase
							Slip resistance: TBC	
BUS INTERCH	HANGE		<u> </u>				Sup resistance. The	
S.07, S.08		Bus Interchange Shelter	Roof Sheeting to Shelter roof	042.01	Lysaght or similar approved	Klip Lok 700	Finish: Colorbond Ultra	As per manufacturers requirements
0.07, 0.00		Roofing, Soffits and Ceiling			, , ,	Aluminium TBC	Colour: Windspray	·
		Linings	Exposed Column and Beam	034.02	Contractor	Exposed structure	Finish: 067.05	TBC in Detailed Design phase
			Supports			Steel		
•			Exposed Column to Primary	034.04	Contractor	Exposed structure	Finish: 067.05	TBC in Detailed Design phase
			Roof			Steel		
			Gutter	082.01	Contractor	Aluminium TBC, depending on roof sheeting surrounding	TBC in Detailed Design Stage	TBC in Detailed Design Stage
			Eaves gutter	082.02	Lysaght or similar approved	Material: Aluminium TBC, depending on roof sheeting	Finish: Colorbond Aluminium	As per manufacturers recommendation
						surrounding	Colour: TBC	
						Profile: Half round		
			0.11: / 55:	042.04	1.00 0 11:		10 L L 100 10 10	
			Ceiling / soffits	043.01	ACS Ceilings or similar approved	Coruline	High durability specification Colour: off-white	Security installation method with conceal fix as per manufacturers recommendation
					or similar approved	unperforated metal strip ceiling with ACS P/No 4 universal carrier rails spaced at 600mm	Colour: off-white	per manufacturers recommendation
						apart		
S.07, S.08	3.1.4	Bus Interchange finishes	Paving	027.01	TBC	Concrete as per Civil documentation	Cement colour: grey	As per manufacturers requirements
3.07, 3.00					1.23		Finish: TBC	
1								
			Tactile Indicators	027.03	Urbanstone or similar approved	Tactile Pavers Type "B"	Finish: Shotblast	Laid on 1:6 cement/sand screed. As per
						Indicator and Warning Tactile Pavers	Colour: TBC dependant on surrounding finishes	manufacturers recommendation
						Engineered stone	No sealer	
			Exposed Column to Station	032.05	Contractor	Precast concrete column	Colour: TBC	TBC in Detailed Design phase
			Entry Roof	032.03	Contractor	Trecast condicte column	Finish: Smooth	The in betalied besign pridate
							Sealer: 061.01	
1						off-form concrete with minimum Class 2 finish	Apply sealer up to 3m high	

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Room number	SWTC - Accomodation Schedule Ref.	Room Description	Item Desciption	Material/Finish Keynote	Supplier	Product Type / Description / Manufacturer Code	Colour / Finish / Sealer	Fixing Method
			Finish to Columns	061.01	ТВС	9	Colourless No glossy finish	As per manufacturers recommendation
			Weather Screens	045.03	Contractor	Perforation pattern: TBC public art	Frame finish: TBC Frame colour: TBC Screen finish: anodised Refer to Public Art documentation	As per manufacturers requirements
FENCING	ı	1	I	1		l .	neer to rubile Art documentation	
-	5.3	Rail Reserve	1.8m PTA STANDARD	024.01	Contractor	_ · · · · · · · · · · · · · · · · · · ·	I	Refer to drawing 08-A-09-AR0120 for detailing and fixing information
-	5.4 3.1.6	Station Precinct	1.4m PTA STANDARD	024.02	Contractor	- · · · · · · · · · · · · · · · · · · ·	l •	Refer to drawing 08-A-09-AR0120 for detailing and fixing information

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NOTE: ALL SELECTIONS SUBJECT TO DETAILED DESIGN DEVELOPMENTS, COMPLIANCE REVIEW AND CONFIRMATION OF SUITABILITY

			NTS, COMPLIANCE REVIEW AND CO										
NATSPEC Keynote	Item Desciption	Supplier	Product Type / Description / Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
024	FENCING												
024.01	Fence Type 1 1.8m chain mesh with 3x rows of barbed wire	Contractor	All fence components to be galvanised as per the PTA specification. Chain mesh fabric nominal aperture 50mm. Wire diameter 3.15mm	1.8m height with 3x barbed wire. Refer to drawing X for post and footing dimension requirements	All components to be black PVC coated to comply with AS 1725.1	Refer to drawing 08-A- 09-AR0120 for detailing and fixing information		min. design life of 25 years	f TBC in Detailed Design phase	TBC in Detailed Design phase	8880-450-069 Specification: Fences and Noise Walls	TBC in Detailed Design phase	
024.02	Fence type 2 1.4m chain mesh	Contractor	All components to be galvanised as per the PTA specification. Chain mesh fabric nominal aperture 50mm. Wire diameter 3.15mm	1.4m height. Refer to drawing X for post and footing dimension requirements	All components to be black PVC coated to comply with AS 1725.1	Refer to drawing 08-A- 09-AR0120 for detailing and fixing information		min. design life of 25 years	f TBC in Detailed Design phase	TBC in Detailed Design phase	8880-450-069 Specification: Fences and Noise Walls	TBC in Detailed Design phase	
027	PAVEMENT												
027.01	Paving	TBC	Concrete as per Civil documentation	Thickness: TBC Refer to architectural drawings for expansion joint line locations	Cement colour: grey Finish: TBC	As per manufacturers requirements	Min. 2 years for installation	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	For traficable zones, buses & pedestrians Material to be non-combustible to meet AS 1530.1 Reinforced to engineering specifications	TBC in Detailed Design phase	
027.02	Platform Paver	Midland Brick/ Boral or similar approved	Heavy Duty Clay Paver Laid in herringbone 45 degree pattern Slip resistance: P5	Nom. 230 x 114 x 60mm	Finish: Kiln 9 (grain to run length of face) No sealer. Colour: red	Lay on 1:6 cement/sand screed. 1:80 minimum cross fall away from track. As per manufacturers recommendation	Min. 2 years for installation	TBC in Detailed Design phase	TBC in Detailed Design phase	https://www.midlandbrick.com.au/Products/Pavers/He avy-Duty/Heavy-Duty-Red https://www.midlandbrick.com.au/MidlandBrick/medi a/Documents/BricksBrochures/PDS-Heavy-Duty- Red.pdf	8803-000-008 Specification: Station Functional Planning & Urban Design. 8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet A\$ 1330.1	TBC in Detailed Design phase	
027.03	TGSI Paver	Urbanstone or similar approved	Tactile Pavers Type "B" Indicator and Warning Tactile Pavers Engineered stone	400 x 400 x 60 mm 300 x 300 x 60 mm	Finish: Shotblast Colour: TBC dependant on surrounding finishes No sealer	Laid on 1:6 cement/sand screed. As per manufacturers recommendation	Min. 2 years for installation	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-008 Specification: Station Functional Planning & Urban Design. 8803-000-002 Specification — Maintainability and Constructability. To provide colour contrast (45%) as per AS1428.4 Material to be non-combustible to meet AS 1530.1 Compressive Strength: 40MPa	TBC in Detailed Design phase	
029	RETAINING WALLS												
029.01	Pre-cast Concrete Retaining Wall	Contractor	Pre-cast off-form concrete with Class 2 finish, as per AS 3610 - Formwork for Concrete for Publicly Visible Surfaces with Painted Finish or Clear Sealant; off-form concrete with minimum Class 3 finish as per AS 3610 - Formwork for Concrete, for Non-Publicly Visible Surfaces.	As per engineering specifications and documentation	Colour: TBC Finish: Smooth Sealer: 061.01 Apply sealer up to 3m high. Refer to Public Art documentation	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 153.0 1 Reinforced to engineering specifications	TBC in Detailed Design phase	
031	IN-SITU CONCRETE												

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NOTE: ALL SELECTIONS SUBJECT TO DETAILED DESIGN DEVELOPMENTS, COMPLIANCE REVIEW AND CONFIRMATION OF SUITABILITY

NATSPEC (eynote	Item Desciption	Supplier	IENTS, COMPLIANCE REVIEW AND CO Product Type / Description / Manufacturer Code	Nominal Size		Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
31.01	Internal floors	Contractor	In-situ concrete	Thickness: 60mm TBC Joint lines: TBC	Colour: Grey Finish: Trowel finish Slip resistance: TBC	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1 Reinforced to engineering specifications	TBC in Detailed Design Stage	
032	CONCRETE												
	SYSTEMS												
332.01	Pre-cast Fluted wall	Contractor	Concrete Precast panels with fluted concrete form Material: Concrete	Thickness: 250mm total (200mm structural component, 50mm for fluting profile). Refer to engineering specification and documentation for additional information	Finish: Class 2	As per manufacturers recommendation	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification — Maintainability and Constructability. In accordance with structural Engineer's specification. Material to be non-combustible to meet AS 1530.1 Reinforced to engineering specifications	TBC in Detailed Design Stage	
332.02	Pre-cast Concrete Portals	Contractor	Concrete Precast portal with detailed graphic texture through combination of high quality craftmanship of polishing and tooling techniques Material: Concrete off-form concrete with minimum Class 2 finish	specified on drawing 08	Colour: TBC Brinish: Smooth Class 2 Sealer: 661.01 Apply sealer up to 3m high. Refer to Public Art documentation	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design phase	8803-000-002 Specification — Maintainability and Constructability. In accordance with structural Engineer's specification. Material to be non-combustible to meet AS 1530.1 Reinforced to engineering specifications	TBC in Detailed Design phase	
32.021	Pre-cast Concrete Portals (not publicly visible parts)	Contractor	Concrete Precast portal with detailed graphic texture through combination of high quality craftmanship of polishing and tooling techniques Material: Concrete off-form concrete with minimum Class 3 finish as per AS 3610 - Formwork for Concrete, for Non-Publicly Visible Surfaces	Platform portals specified on drawing Of A-93-AR0105	Colour: TBC Finish: Class 3 for non- visible areas Sealer: 061.01 Apply sealer up to 3m high.	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability. In accordance with structural Engineer's specification. Material to be non-combustible to meet AS 1530.1 Reinforced to engineering specifications	TBC in Detailed Design phase	
32.03	Pre-cast Platform Culverts	Contractor	Precast concrete culvert	As per engineering specifications and documentation	Colour: TBC Finish: Class 2 finish to exposed face Sealer: 061.01	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design phase	
32.04	Pre-cast Stair	Contractor	Precast concrete stair	As per engineering specifications and documentation	Colour: TBC Finish: TBC Sealer: CODE	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design phase	
32.05	Pre-cast Concrete Columns	Contractor	Precast concrete column off-form concrete with minimum Class 2 finish	As per engineering specifications and documentation	Colour: TBC Finish: Smooth Sealer: 061.01 Apply sealer up to 3m high	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design phase	

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			NTS, COMPLIANCE REVIEW AND CO					1	-				
NATSPEC Keynote	Item Desciption	Supplier	Product Type / Description / Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
032.051	Pre-cast Concrete Columns (not publicly visible parts)	Contractor	Precast concrete column off-form concrete with minimum Class 3 finish as per AS 3610 - Formwork for Concrete, for Non-Publicly Visible Surfaces	As per engineering specifications and documentation	Colour: TBC Finish: Smooth Class 2 Sealer: 061.01 Apply sealer up to 3m high	TBC in Detailed Design phase	Contractor to advise	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design phase	
033	MASONRY												
033.01	Fair Face Concrete Blockwork	Midland brick or similar approved	Product: 200 series Code: 20.01 Grey Core filled where required and as specified by structural engineering documentation.	390(l) x 190(w) x 190(h) mm	Finish: paint TBC Grout colour: TBC	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	TBC in Detailed Design phase	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
034	STEELWORK (STRUCTURAL)												
034.01	Column type 1 (platform canopies)	Contractor	Exposed structure Steel	As per engineering specifications and documentation	Finish: 067.05	TBC in Detailed Design phase	Coating systems min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
034.02	Column type 2 (bus interchange canopies)	Contractor	Exposed structure Steel	As per engineering specifications and documentation	Finish: 067.05	TBC in Detailed Design phase	Coating systems min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
034.03	Column type 3 (concourse truss)	Contractor	Exposed structure Steel	As per engineering specifications and documentation	Finish: 067.05	TBC in Detailed Design phase	Coating systems min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
034.04	Beam type 1 (bus interchange canopies)	Contractor	Exposed structure Steel	As per engineering specifications and documentation	Finish: 067.05	TBC in Detailed Design phase	Coating systems min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
034.05	Bike Shelter Structure	Contractor	Galvanised and Painted Steel Material: Hot-dipped galvanized steel.	As per engineering specifications and documentation	Finish: 067.03	TBC in Detailed Design phase	Coating systems min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-008 Specification - Station Functional Planning and Urban Design 8803-000-002 Specification – Maintainability and Constructability. Requirement: Anti-graffiti coating for exposed structural steel Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
042	ROOFING												
042.01	Roofing Type 1	Lysaght or similar approved	Klip Lok 700 Aluminium TBC	700mm cover Height of ridge: 43mm		As per manufacturers requirements	Min. 20 years for roofing installation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	https://cdn.dcs.bluescope.com.au/download/klip lok-classic-700-brochure	Material to be non-combustible to meet AS 1530.1 Maintainability and Constructability. 8803-000-006 - Specification - Stations and Buildings - Hydraulic	TBC in Detailed Design phase	

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			ENTS, COMPLIANCE REVIEW AND CO										
NATSPEC Keynote	Item Desciption	Supplier	Product Type / Description / Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
042.02	Roofing Type 2	Fielders Aramax Freespan or similar approved	Fielders Aramax Freespan proprietary system with all associated brackets, gutters, flashings etc. Material: Aluminium Sheet width: 1200mm	800mm cover	Finish, colour and specification TBC	As per manufacturers recommendation	Min. 20 years for roofing installation Min. 15 years for powdercoating finish Min. 10 years for Aluminium	TBC in Detailed Design Stage	TBC in Detailed Design Stage	https://fielders.com.au/wp- content/uploads/dlm_uploads/Aramax_FreeSpan_ Brochure.pdf	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design phase	
042.03	Flashing	Contractor	0.8mm BMT Colorbond aluminium custom folded. Colour: custom range To all metal sheet roofing	Varies	To suit surrounding roof sheetings	As per manufacturers recommendation	Min. 20 years for roofing installation Min. 10 years for Aluminium Min. 15 years for Aluminium Coating	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
042.04	RoofingType 3 (bicycle shelter)	Lysaght or similar approved	TBC	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	Min. 20 years for roofing installation Min. 15 years for powdercoating finish Min. 10 years for Aluminium	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
043	CLADDING	INCLUDING SO	FFITS AND FASCIA										
043.01	Soffit	ACS Ceilings or similar approved	Coruline unperforated metal strip ceiling with ACS P/No 4 universal carrier ralls spaced at 600mm apart	nom. 160mm cover nom. 6000mm length maximum length 9000mm, note correct installation techniques	High durability specification Colour: off-white	Security installation method with conceal fix as per manufacturers recommendation	Min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	https://www.acscellings.com.au/wp- content/uploads/2017/04/Coruline-unperforated- panel-specification.pdf https://www.acscellings.com.au/wp- content/uploads/2017/04/Std_Speci_No4_Coruline_Perf_High_Durability_1.pdf	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
043.02	Fascia to Entry Building Roof	BlueChip or similar approved	Amm thick Ultrasure prefinished aluminium panel Panels to be CNC cut and routed Allowance for aluminium stiffeners and aluminium Z channel to back of sheet Stock standard 15-35 tophats subframe insulation and sisalation excluded 15mm Caulked Joint in stock colour Standard panels only max dims: 3960 x 1460 Manufacture leadtime stock subject to availability 8-10 weeks if not in stock	Varies	TBC in Detail Design Phase	As per manufacturers recommendation	Min. 10 years for Aluminium Min. 15 years for Aluminium Coating	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
043.03	Fascia to canopies	Contractor	Hot rolled steel angle to entire length of canopy. Mitred at corners.	TBC in Detailed Design Stage	Finish: paint TBC	TBC in Detailed Design Stage	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
045	DOORS, WINDOWS AND SCREENS												
045.01	Aluminium Glazing Frame for windows and doors	Alspec or similar approved	Profile: TBC	Frame dimensions: TBC	Frame finish: TBC Frame colour: TBC	As per manufacturers recommendation	Min. 15 years for assemble	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

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NATSPEC	Item Desciption	Supplier	Product Type / Description /	Nominal Size		Fixing Method	Warranty periods	Design Life to	Replacement time	Technical Data Reference	SWTC Requirements	Quality	Reference Image (indicative only)
Keynote	item besciption	Supplier	Manufacturer Code	Normal Size	Colour / Fillish / Scale	Tiving Welliou	(minimum refers to SWTC book 3A chapter 18 Table 12)	replacement	Replacement time	real mean batta reference	SWITC REQUIREMENTS	benchmarks	Reference image (managere only)
045.02	Screen type 1 (concourse)	Crimsafe security screens or similar approved	Crimsafe Security Screens	Frame dimensions: TBC Panel sizes: nom. 3000m in length. Refer to architectural drawings for layout	Frame colour: TBC	As per manufacturers recommendation	Min. 10 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
045.03	Screen type 2 (bus interchange)	Contractor	Perforated Aluminium Sheet. Perforation pattern: TBC public art	Frame dimensions: TBC Panel sizes: nom. 2800m high. Refer to architectural drawings for layout	Frame finish: TBC Frame colour: TBC Screen finish: anodised Refer to Public Art documentation	As per manufacturers requirements	Min. 15 years for powdercoating finish	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
045.04	Screen type 3 (bike shelter)	Contractor	Galvanised steel gate to match the fence	TBC in Detailed Design Stage	Powdercoat paint finish, colour and specification TBC	As per manufacturers recommendation	Min. 15 years for powdercoating finish	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-008 Specification - Station Functional Planning and Urban Design 8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	
045.05	Screen type 4 (water tank storage)	Contractor	Perforated Aluminium Sheet Perforation pattern: TBC	Frame dimensions: TBC Panel sizes: nom. 2400m high. Refer to architectural drawings for layout	Frame finish: TBC Frame colour: TBC Screen finish: anodised	As per manufacturers requirements	Min. 15 years for powdercoating finish	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
046	GLASS												
046.01	Glazing	By contractor	Clear laminated glass. Sliding door as per door schedule Thickness: TBC Type: TBC	Varies TBC	Clear colour Laminated	As per manufacturers recommendation	Min. 2 years for sliding door assembles Min. 15 years for metal frame and glazing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
051	LININGS												
051.01	Wall Lining type 1	Gyprock or similar	Product: EC08 Complete Plasterboard	Thickness: 13mm	Paint finish, refer to Room	As per manufacturers	Min. 5 for plasterboard	25 years	TBC in Detailed	https://www.gyprock.com.au/products/plasterboard-	Material to be non-combustible to	TBC in Detailed	
	- Plasterboard	approved			Layouts for further information	recommendation	installation	,	Design Stage	ec08-complete	meet AS 1530.1	Design Stage	
051.02	Wall Lining type 2 - Compressed Fibre cement	Gyprock or similar approved	Compressed Fibre Cement Sheet	Thickess: min 9mm	Paint or tiled finish, refer to Room Layouts for further information	As per manufacturers recommendation	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
051.03	Fire Rated Plasterboard Wall Lining	Gyprock or similar approved	2x layer Fibre Cement Sheet to both sides of stud wall to achieve FRL level 120/120/120	Thickess: 9mm TBC	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation	Min. 5 for plasterboard installation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Gyprock Red Book 1 Design Guide	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
053	CEILINGS												
053.01	Type 1 - plasterboard	Gyprock or similar	Product: EC08 Complete Plasterboard	Thickness: 13mm	Paint finish, refer to Room	As per manufacturers	Min. 5 for plasterboard	TBC in Detailed	TBC in Detailed	TBC in Detailed Design Stage	8803-000-002 Specification –	TBC in Detailed	
	-,, posteroda	approved	(can be used externally)		Layouts for further information	recommendation	installation Min. 10 years for suspended ceilings	Design Stage	Design Stage		Maintainability and Constructability.	Design Stage	
053.02	Ceiling - Fire Rated	Gyprock or similar approved	3x layers of 16mm EC08 Complete Plasterboard to achieve FRL level 120/120/120	Thickness: 16mm Total thickness of sheets: 48mm	Paint finish, refer to Room Layouts for further information	As per manufacturers recommendation	Min. 5 for plasterboard installation Min. 10 years for suspended ceilings	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Gyprock Red Book 1 Design Guide	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

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ATSPEC	Item Desciption	Supplier	Product Type / Description /	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods	Design Life to	Replacement time	Technical Data Reference	SWTC Requirements	Quality	Reference Image (indicative only)
note	icon Bessiption	С	Manufacturer Code	Normal size		. maig mediod	(minimum refers to SWTC book 3A chapter 18 Table 12)	replacement	nopusonom unic		on to requirements	benchmarks	The control of the co
.03	Type 2 - Compressed Fibre Cement	Gyprock or similar approved	Compressed Fibre Cement Sheet	Thickess: min 9mm	Paint finish: 067.04	As per manufacturers recommendation	Contractor to advise	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification — Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
51	FURNITURE AND FURNISHING	JOINERY											
51.01	Cabinetry	Laminex or similar approved	18mm laminate doors with matching ABS edge Kick to be lined with coved floor vinyl - with matching joint seam	TBC in Detailed Design Stage	Natural Finish Colour: Green Slate 8793	As per manufacturers recommendation	Min. 5 years for cabinetwork	TBC in Detailed Design Stage	TBC in Detailed Design Stage	https://www.laminex.com.au/products/green- slate/p/AU1004043?referer=%2EProwse%2Eproduct_a polication%3E-rategor/code%3Doofx%26%380%253ar elevance%253aallCategories%253aPA_CABINET%253aa IlCategories%253aPT_LXDECPANEL%253aallCategories %253aC_8793		TBC in Detailed Design Stage	
51.02	Benchtop	Laminex or similar approved	32mm postformed laminate benchtop, with a square profile front edge, rounded corners (minimal radius)	TBC in Detailed Design Stage	Natural Finish White Valencia 742	As per manufacturers recommendation	Min. 5 years for cabinetwork	TBC in Detailed Design Stage	TBC in Detailed Design Stage	https://www.laminex.com.au/products/white- valencia/p/AU10017737referer=%2Ffor-your- home%2Fsearch%2F%3Ftext%3Dvalencia	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	
1.03	Toilet Partitions	ТВС	13mm Compact Laminate 2027mm high, Doors: 1700mm high x 600mm wide with a 205mm floor clearance.	TBC in Detailed Design Stage	Laminex: Moose	As per manufacturers recommendation	Min. 5 years for installation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	installation for Ambulant: DDA compliant as per AS1428.1 and AS1428.2	TBC in Detailed Design Stage	1
552	FABRICATED METALWORK												
52.01	Panel (for fascias to amenities and ticket machines and CSO)	Contractor	Aluminium sheet Thickness: TBC	TBC in Detailed Design Stage	Finish: Anodised Colour: TBC	TBC in Detailed Design Stage	Min. 10 years for Aluminium Min. 15 years for Aluminium Coating	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification — Maintainability and Constructability Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
52.02	Wall fascia to concrete pods	Contractor	Aluminium sheet Thickness: TBC With top-hat frame	TBC in Detailed Design Stage	Finish: TBC Colour: TBC	TBC in Detailed Design Stage	Min. 10 years for Aluminium Min. 15 years for Aluminium Coating	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
554	HANDRAILS AND BALUSTRADES												
554.01	Balustrade type 1	Contractor	Side Fixed Handrails Material: 316 Stainless steel Diameter: 38mm min or to match Colour & Finish: Linish (No.4) Side fixed to supports.	TBC in Detailed Design Stage		As per manufacturers recommendation	min. 5 years for balustrade min. 5 years for stainless steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification — Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

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NOTE: ALL SELECTIONS SUBJECT TO DETAILED DESIGN DEVELOPMENTS, COMPLIANCE REVIEW AND CONFIRMATION OF SUITABILITY

NATSPEC Keynote	Item Desciption	Supplier	Product Type / Description / Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
0554.02	Handrail type 1	Contractor	Material: 316 Stainless steel Diameter: 38mm ein or to match Colour & Finish: Linish (No.4) Side fixed to supports.	TBC in Detailed Design Stage	Stainless steel	As per manufacturers recommendation	min. 5 years for balustrade min. 5 years for stainless steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
0554.03	Handrail type 2	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	
0554.04	Handrail type 3 (for end of platform and emergency stairs)	Contractor	Galvanised Handrail (for end of platform and emergency stairs)	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	min. 5 years for balustrade	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
0554.05	Balustrade type 2 (emergency stairs)	Contractor	Galvanised steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	min. 5 years for balustrade	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification — Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
061	FINISHES												
061.01	To concrete walls	TBC	Water-based graffiti shield for Precast Concrete Walls. Non-sacrificial two-pack finish	-	Colourless No glossy finish	As per manufacturers recommendation	Min. 10 years for anti- graffiti film(?)	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. No discoloration of substrate material or demarcation lines to be visible. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	و او
061.02	External concrete sealer	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED
061.03	Internal concrete sealer	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED
063	TILINGS												
063.01	Flooring (entry building)	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	600 x 300mm Thickness: TBC	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metztiles.com.au/wp- content/uploads/sites/2/2020/02/METZ_Stradale.pdf	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
063.02	Flooring (bathroom areas)	Metz or similar approved	Product: Stradale Dark Slip resistance: P5	300 x 300mm Thickness: TBC	Colour: TBC (dark / charcoal) Finish: MicroGrip P5 Grout Colour: to match tiles	As per manufacturers recommendation	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metztiles.com.au/wp- content/uploads/sites/2/2020/02/METZ_Stradale.pdf	8803-000-002 Specification — Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

Document Number: LAKD-ADCO-AR-SCH-00006 Stage: Initial Detailed Design

			ENTS, COMPLIANCE REVIEW AND CO										
NATSPEC Keynote	Item Desciption	Supplier	Product Type / Description / Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement	Replacement time	Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
063.03	Skirting (bathroom areas)	Metz or similar approved	Product: Coved tiled skirting to match Tile 063.02	300 x 100mm Thickness: TBC	Colour tile: to match tile 063.02 Finish: to match tile 063.02 Grout Colour: to match tile 063.02	recommendation	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metrtiles.com.au/wp- content/uploads/sites/2/2020/02/METZ_Stradale.pdf	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
063.04	Wall Tile type 1	Metz or similar approved	Product: Spettro wall tile Installed in a vertical stack	300 x 100mm Thickness: TBC	Colour: Talco (white) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metztiles.com.au/wp- content/uploads/sites/2/2021/02/METZ_Spettro.pdf	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	TALCO
063.05	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED
063.06	Wall Tile type 2	Metz or similar approved	Feature wall (behind basins) Product: Spettro wall tile Tiles in various formats Installed vertically in random Pattern	300 x 100mm 600 x 100mm 600 x 200mm Thickness: TBC	Colour: Edera (matt) and Salgemma (gloss) Finish: Matt and Gloss Grout Colour: to match tiles - Salgemma colour	Fixed to fibre cement wall sheet	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metrtiles.com.au/wp- content/uploads/sites/2/2021/02/METZ_Spettro.pdf	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	EDERA SALGEMMA
063.07	Wall Tile type 3	Metz or similar approved	Product: Spettro wall tile Installed vertical stack (Splashback tiles - at kitchenette joinery)	300 x 100mm Thickness: TBC	Colours: Piombo (gloss) Finish: Gloss Grout Colour: to match tiles	Fixed to fibre cement wall sheet	10 years (Metz) Min. 10 years for Ceramic Tiles	25 years	TBC in Detailed Design Stage	https://metztiles.com.au/wp- content/uploads/sites/2/2021/02/METZ_Spettro.pdf	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	PIOMBO
063.08	Contrast strip to platform edge	Metz or similar approved	Product: Yellow non-slip tile	300 x 100mm Thickness: 12mm	Colour: Yellow	As per manufacturers recommendation	10 years (Metz) Min. 10 years for Ceramic Tiles		TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	
063.09	Platform edge tile	Metz or similar approved	Product: Sicodur floor tile Vitrified Ceramic	300 x 300mm 300 x 100mm Thickness: 12mm	Colour: Anthracite mix	As per manufacturers recommendation	10 years (Metz) Min. 10 years for Ceramic Tiles	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	

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NATSPEC Keynote		Supplier	Product Type / Description / Manufacturer Code	Nominal Size		Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	Design Life to replacement		Technical Data Reference	SWTC Requirements	Quality benchmarks	Reference Image (indicative only)
063.10	TGSI Tile	TBC in Detailed Design Stage	Porcelain tactile tiles Indicator and warning	300 x 300 x 17mm 400 x 400 x 17mm	White	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	To provide colour contrast (45%) as per AS1428.4 Material to be non-combustible to meet AS 1530.1 Compressive Strength: 40MPa To meet PS slip resistance requirements	TBC in Detailed Design Stage	
065	FLOOR SURFACING												
065.01	Recessed Entry Floor Mat	TBC in Detailed Design Stage	Recessed and flush with surrounding floors	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	
065.02	Vinyl flooring	TBC in Detailled Design Stage	Slip resistant vinyl sheet flooring Zmm thick with coved skirting Slip rating: P3, R10 PU reinforced throughout the mix and surface	TBC in Detailed Design Stage		Full spread hard set adhesive Seams Heat-welded (use matching weld rod)	Min. 10 years for vinyl sheeting product	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-008 Specification : Station Functional Planning & Urban Design. 8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1 Lay over level, flat and clean subfloor according to	TBC in Detailed Design Stage	
067	PAINTING												
067.01	Paint finish 1	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	-	Colour: Vivid White Colour Code: TBC Finish: Low Sheen	-	Min. 10 for painting preparation and application	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	Wind William **
067.02	Paint finish 2	Dulux or similar approved	Wash and Wear Acrylic for Kitchens and Bathrooms	-	Colour: Lexicon Quarter Colour Code: TBC Finish: Matt	-	Min. 10 for painting preparation and application	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability.	TBC in Detailed Design Stage	See or Sectional Granter
067.03	Paint finish 3 (bicycle shelter)	Dulux or similar approved	"Transperth Green"	-	Colour: TBC Colour Code: TBC Finish: TBC	-	Min. 10 for painting preparation and application	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8880-000-006 Specification - Design of Bicycle Facilities and Access 8803-000-002 Specification – Maintainability and Constructability, Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
067.04	Paint finish 4 (external celling - A/C)	Dulux or similar approved	Dulux weatherside Matt	-	Colour: Vivid White Colour Code: TBC Finish: Matt		Min. 10 for painting preparation and application	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	Marie Vand Wilder
067.05	Paint finish 5	Dulux or similar approved	TBC	-	Colour: TBC (dark for all structure) Colour Code: TBC Finish: TBC	-	Min. 10 for painting preparation and application	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

LAKELANDS STATION - MATERIAL AND FINISHES SCHEDULE

Document Number: LAKD-ADCO-AR-SCH-00006

Stage: Initial Detailed Design

NOTE: ALL SEL	Item Desciption		MENTS, COMPLIANCE REVIEW AND CO Product Type / Description /	Nominal Size	Colour / Finish / Sealer	Fixing Method	Morrontunoriodo	Design Life to	Donlooment time	Technical Data Reference	SWTC Requirements	Ovelity	Deference Image (indicative cuts)
Keynote	item Desciption	Supplier	Manufacturer Code	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods (minimum refers to SWTC book 3A chapter 18 Table 12)	replacement	Replacement time	Technical Data Reference	SWIL Requirements	Quality benchmarks	Reference Image (indicative only)
082	HYDRAULIC SYSTEMS												
082.01	Box gutter	Contractor	Aluminium TBC, depending on roof sheeting surrounding	Nominated by Hydraulic Design	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Min. 20 years for roof plumbing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability, Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
082.02	Eaves gutter	Lysaght or similar approved	Material: Aluminium TBC, depending on roof sheeting surrounding Profile: Half round	Nominated by Hydraulic Design	Finish: Colorbond Aluminium Colour: TBC	As per manufacturers recommendation	Min. 10 years Min. 15 years for Aluminium Coating Min. 20 years for roof plumbing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-008 Specification - Station Functional Planning and Urban Design 8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
082.03	Gutter Guard	Contractor	Amm steel gutter guard TBC Galvanised steel To all gutters general corrosion and dissimilar metal reviews yet to be done	To suit gutter size	Galvanised steel	As per manufacturers recommendation	Min. 20 years for roof plumbing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC In Detailed Design Stage	To all Gutters Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
082.04	Downpipe type 1	Contractor	Stainless Steel	Nominated by Hydraulic Design	Hot dipped galvanised steel Brushed finish	As per manufacturers recommendation	Min. 20 years for roof plumbing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
082.05	Downpipe type 2	Contractor	Syphonic downpipe - PVC	Nominated by Hydraulic Design	TBC in Detailed Design Stage	As per manufacturers recommendation	Min. 20 years for roof plumbing	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	8803-000-002 Specification – Maintainability and Constructability. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
082.06	Grated Strip Drains	Stormtech or similar	Grated Strip Drains Prodct: 200 Custom-316 Material: Stainless Steel 316 Grate: CR Width: 200x 50	TBC in Detailed Design Stage	Colour & Finish: Linish Stainless Steel	As per manufacturers recommendation	Min. 5 years	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Heelgard to meet DDA requirements Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
2011	LIFT												
2011.01	Lift Pit Floor & Walls (including lift pits for future lifts)	Contractor	As per PTA specification for lifts	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC In Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8803-000-002 & 8880-000-003 & 8880-000-004 & 8803-000-008 Material to be non-combustible	TBC in Detailed Design Stage	
2011.02	Lift Pit Water Proof Membranes	Contractor	As per PTA specification for lifts	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8803-000-002 & 8880-000-003 & 8803-000-004 & 8803-000-008 Material to be non-combustible	TBC in Detailed Design Stage	

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LAKELANDS STATION - MATERIAL AND FINISHES SCHEDULE

Document Number: LAKD-ADCO-AR-SCH-00006 Stage: Initial Detailed Design

IATSPEC	Item Desciption	Supplier	Product Type / Description /	Nominal Size	Colour / Finish / Sealer	Fixing Method	Warranty periods	Design Life to	Replacement time	Technical Data Reference	SWTC Requirements	Quality	Reference Image (indicative only)
eynote	nem besuption	зирие	Manufacturer Code	NOTHINAL SIZE	COOLI / FIIIMI / Sealel	rixing ive tiou	(minimum refers to SWTC book 3A chapter 18 Table 12)	replacement	керысетен ште	Technical Data Reference	Swite Requirements	benchmarks	Reference image (indicative unity)
011.03	Lift – Door frames, doors and cover panels	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8800-000-0001 & 8800-000-0004 & 8800-000-004 & 8800-000-004 & 8003-000-008 Material to be non-combustible	TBC in Detailed Design Stage	
011.04	Lift – door control panel and control button	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8800-000-003 & 8800-000-003 & 8800-000-003 & 8800-000-000 & 8800-000-000 & 8800-000-000 & 8000-000-000 & 8000-000-000 & 8000-000-000 & 8000-000-000 & 8000-000	TBC in Detailed Design Stage	
011.05	Lift Controller Panel	Contractor	As per PTA specification for lifts Stainless steel	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per manufacturers recommendation	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8803-000-002 & 8880-000-003 & 8880-000-004 & 8803-000-008 Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	3
011.07	Lift Shaft intake louvres	GroupArcadia http://www.grouparcadi a.com.au/Louvres or equivalent	Product: 3 stage louvre Material: Aluminium Model: SPUR EL3	TBC in Detailed Design Stage	Finish: Powdercoat, Satin Colour: TBC	As per manufacturers recommendation	Min. 10 years for Aluminium Min. 15 years for powdercoating finish	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Intake louvres as per Mech engineers spec. Intake louvres to have a hindge door access for maintenance purposes. With anti-vermin mesh. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
011.08	Lift Shaft ventilation louvres	GroupArcadia http://www.grouparcadi a.com.au/Louvres or equivalent	Product: 3 stage louvre Material: Aluminium Model: SPUR EL3	TBC in Detailed Design Stage	Finish: Powdercoat, Satin Colour: TBC	As per manufacturers recommendation	Min. 10 years for Aluminium Min. 15 years for Aluminium Coating	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Requirements: air vents at lower and upper levels of lift shaft With anti-Vermin mesh. Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	
011.09	Lift Shaft ceiling	Contractor	CFC Sheet to internal Lift Shaft	TBC in Detailed Design Stage	Painted	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-000-0001 & 8803-000-002 & 8880-000-003 & 8880-000-004 & 8803-000-008 Material to be non-combustible	TBC in Detailed Design Stage	DELETED
011.10	Lift Shaft Walls - Central Dividing screen between adjacent lift shafts		Shaft Separation - Wire Netting Wire netting, hot dipped galvanised, protection with accessories for fixing in the lift shaft.	TBC in Detailed Design Stage	Hot dipped galvanised steel	As per manufacturers recommendation		TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	As per PTA Vertical Transport specifications 8880-00-0001 & 8803-000-002 & 8880-000-003 & 8880-000-004 & 8803-000-008 Material to be non-combustible	TBC in Detailed Design Stage	311221
011.11	Lift Shaft Outer Walls (Glazing)	Viridian or similar approved Framing: Capral or similar approved	Type: Viridian Supergreen Thickness: TBC Construction: Laminated, annealed, 1.5mm interlayer Frame: Capral 300 narrowline	TBC in Detailed Design Stage	Finish: Powdercoat, Satin Film: SCLARL 400 (3M Scotchshield) Colour: TBC	As per manufacturers recommendation	Min. 15 years for powdercoating finish	TBC in Detailed Design Stage	TBC in Detailed Design Stage	TBC in Detailed Design Stage	Requirement: Fixed panelised glazing Comply with AS 2047 and AS 1288 Material to be non-combustible to meet AS 1530.1	TBC in Detailed Design Stage	

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ATTACHMENT 2

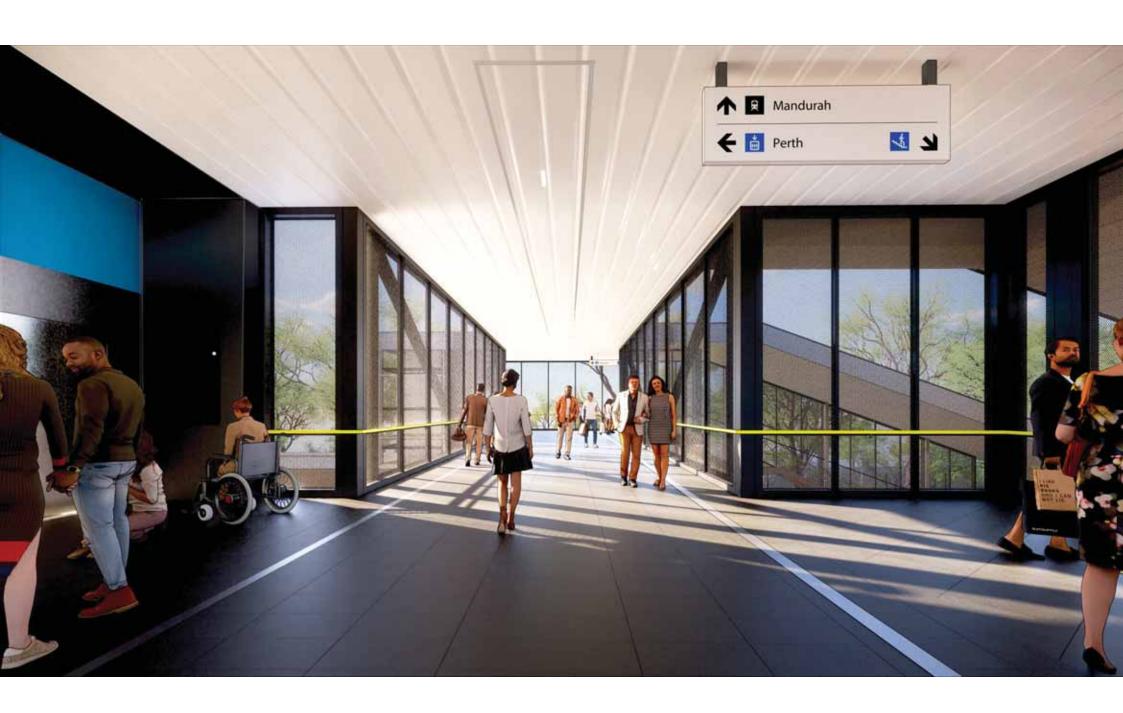
















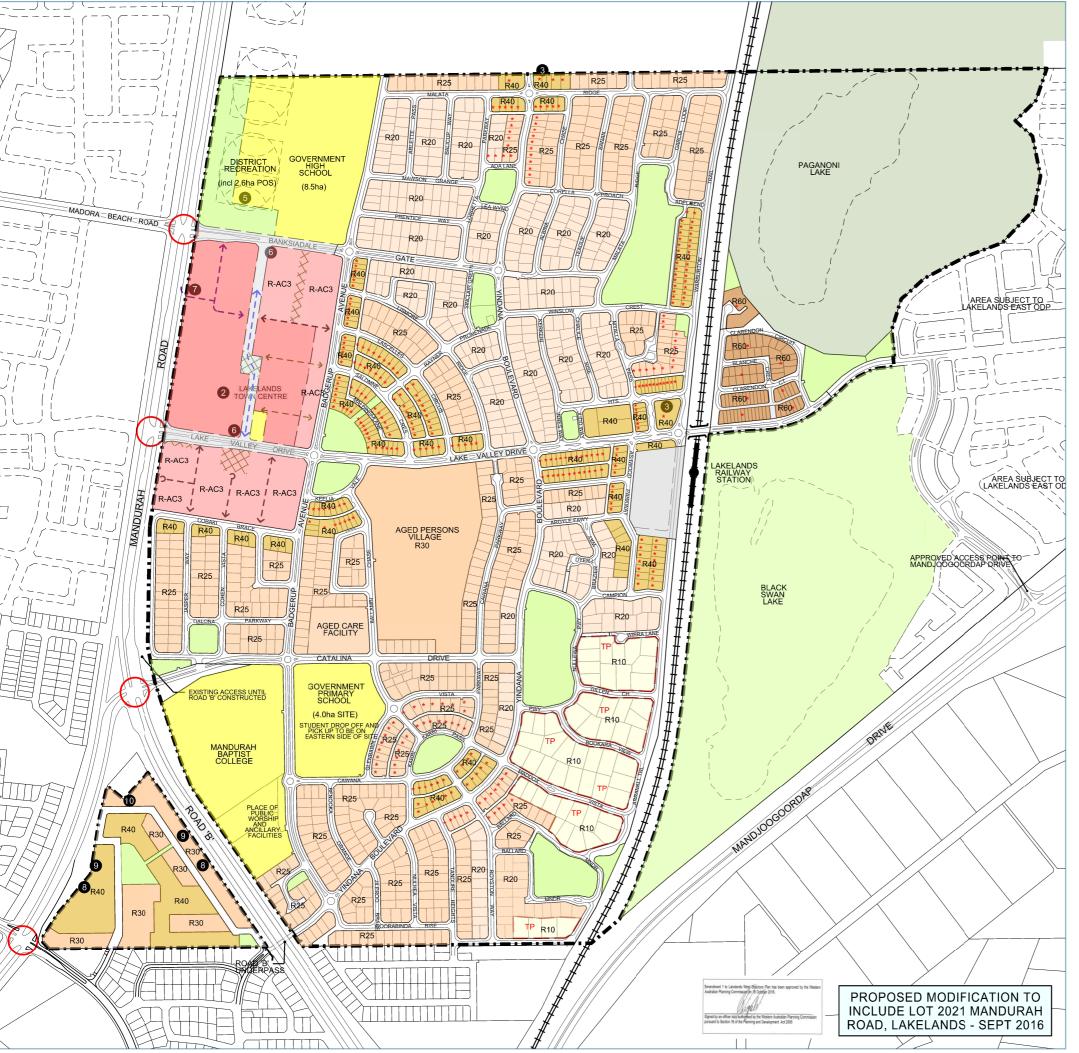
Development Application 613-149-1 Legend Proposed railway station Produced by Data Analytics, Department of Planning, Lands and Heritage, on behalf of the Western Australian Planning Commission. Copyright © August 2021 ----- Passenger railway line Extent of proposed station precinct \\dopgisfilesvr02\\Products\PerthPeel\\ DevelopmentApplications\JDAP_613_149_1\\ Attahment3_PeelRegionScheme_A3L.mxd Peel Region Scheme - Zones and Reserves Base information supplied by Western Australian Land Information Authority SLIP 1180-2020-1 Primary regional roads Railways Regional open space Rural Urban LAKE VALLEY DRIVE LAKE VALLEY DRIVE City of Mandurah Lakelands CATALINA

Attachment 3 - Peel Region Scheme

Development Application 613-149-1



Attachment 4 – Aerial & Context Plan



Plan Legend

ATTACHMENT 5

Town Centre (Land Uses as per Commercial Zone)

Residential R-AC3 R-AC3 (Subject to Detailed Area Plans)

R60 Residential R60

R40 Residential R40 R30 Residential R30

R25 Residential R25 R20 Residential R20

R10 Residential R10

Regional Open Space

Public Open Space

School Site / Community Site

Town Centre Open Spaces / Town Square

Railway Station Parking (Subject to Detailed Design)

Tree Preservation Area (Refer to Clause 6.5 of TPS3)

Sites / Street Block Subject to Detailed Area Plan

Traffic Signals (Existing and Proposed)

Town Centre 'Main Street'

Town Centre 'Access Street'

Town Centre Vehicle Accessway

Town Centre Pedestrian Accessway Perth to Mandurah Railway

ODP Boundary

Plan Notes

##

TP

Lot layout is indicative only and subject to detailed subdivision design.

Town Centre is to be designed based on Mixed Use / Main Street retail development outcomes. Details shown on ODP are indicative only and subject to detailed design. An Activity Centre Structure Plan is required to provide development standards for the Town Centre.

Neighbourhood Centre(s) to be subject to Detailed Area Plan which shall set out development standards designed to achieve comtemporary built form

Developer Contribution required for pedestrian crossing linking Lakelands to Madora Bay. The type of crossing (overpass, level or underpass) is to be determined as part of the Lakelands Town Centre application for approval.

Development of high school and district recreation as per Master Plan including sharing of ovals between school site and general community.

The location and design of the intersections of the Town Centre Main Street with Lake Valley Drive and Banksiadale Gate will be determined by a traffic assessment, on the advice of Main Roads WA (MRWA) either prior to a development application or subdivision application being determined within the town centre, whichever occurs first.

The location and design of the proposed left turn in from Mandurah Road into the Town Centre is subject to the approval of MRWA. MRWA has advised that this access will only be supported after the completion of the Lake Valley Drive and Bankisadale Gate intersections with Mandurah Road.

The recommendations and requirements of the Acoustic Report prepared to support the development on Lot 2021 Mandurah Road should be implemented as a condition of subdivision and development approval.

Lots identified by the Acoustic Report as requiring quiet house design will likely require Local Development Plans as a condition of subdivision

A memorial should be placed on the title of Lots abutting Lot 50 Mandurah Road to notify purchasers of the proximity to the 24 hour service station and advising that approval was granted in July 2016 to redevelop the 24 hour

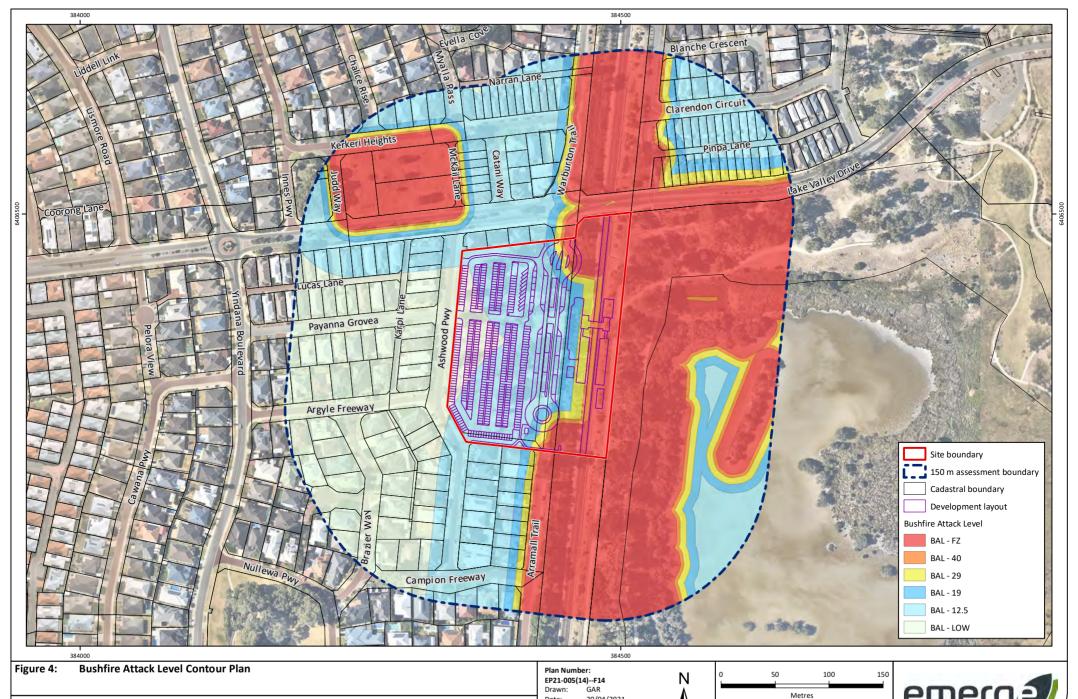


Path Issues Plan



Red dots reflect residential lots with no adjacent footpath
 (Source: PTA Lakelands Station Access Strategy)

ATTACHMENT 7



30/04/2021

04/05/2021

Scale: 1:3,500@A4

GDA 1994 MGA Zone 50

DAE

Checked:

Date:

Approved: AJR

Client: ADCO Constructions Pty Ltd While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used ©Landgate (2020). Nearmap Imagery date: 04/01/2021

Project:

Bushfire Management Plan

Lakelands Station

LOT 708 (420) JOONDALUP DRIVE, JOONDALUP – COMMERCIAL OFFICE DEVELOPMENT, CAFÉ AND CHILDCARE **FACILITY**

Form 1 – Responsible Authority Report (Regulation 12)

DAP Name:	Metro Outer JDAP
Local Government Area:	City of Joondalup
Applicant:	Element Advisory Pty Ltd
Owner:	Lendlease Funds Management Limited as
	trustee of the Joondalup Trust
Value of Development:	\$45 million
-	
	☐ Opt In (Regulation 6)
Responsible Authority:	City of Joondalup
Authorising Officer:	Dale Page
3	Director Planning and Community
	Development
LG Reference:	DA21/0546
DAP File No:	DAP/21/02004
Application Received Date:	24 May 2021
Report Due Date:	25 August 2021
Application Statutory Process	90 Days with an additional 14 days agreed
Timeframe:	
Attachment(s):	Location Plan
	Deposited Plan and Certificate of Title
	3. Development Plans and Elevations
	Building Perspectives
	5. Landscaping Plans
	Introductory Report and Architectural
	Statement
	7. Statement against SPP 7.0
	8. Applicant Planning Assessment
	Transport Impact Assessment Noise Assessment
	11. Waste Management Plan
	12. Sustainability Report
	13. Environmentally Sustainable Design
	Checklist
	14. DFES Response
	15. Schedule of Submissions from Public
	Consultation
	16. Bushfire Management Plan
	17. Bushfire Emergency Evacuation Plan
Is the Responsible Authority	☐ Yes Complete Responsible Authority
Recommendation the same as the	⊠ N/A Recommendation section
Officer Recommendation?	
	☐ No Complete Responsible Authority
	and Officer Recommendation
	sections

Responsible Authority Recommendation

That the Metro Outer JDAP resolves to:

1. **Approve** DAP Application reference DAP/21/02004 and accompanying plans in Attachment 3 in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the City of Joondalup *Local Planning Scheme No.* 3:

Conditions

- 1. Pursuant to clause 26 of the Metropolitan Region Scheme, this approval is deemed to be an approval under clause 24(1) of the Metropolitan Region Scheme.
- 2. This decision constitutes planning approval only and is valid for a period of four (4) years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
- 3. This approval relates to the commercial office, child care premises and restaurant/café building and associated works only and development shall be in accordance with the approved plan(s), any other supporting information and conditions of approval. It does not relate to any other development on the lot.
- 4. The three ACROD bays located adjacent the stairs and lift on the ground floor shall be relocated and the pedestrian path widened. Details shall be submitted to the City for approval prior to commencement of development, and works shall be completed prior to occupation of the development, to the satisfaction of the City.
- 5. The existing pedestrian path on the western side of the development, adjacent the existing accessway shall be maintained to the satisfaction of the City.
- 6. The colours and materials for the roof plant screening shall be further refined to minimise the visual impact, to the satisfaction of the City. Final details relating to the screening are to be submitted to, and approved by the City, prior to the commencement of development.
- 7. A full schedule of colours and materials for all exterior parts to the building is to be submitted to and approved by the City prior to the commencement of development. Development shall be in accordance with the approved schedule to the satisfaction of the City.
- 8. A Construction Management Plan shall be submitted to and approved by the City prior to the commencement of development. The management plan shall include details regarding mitigation measures to address impacts associated with construction works and shall be prepared to the specification and satisfaction of the City. The construction works shall be undertaken in accordance with the approved Construction Management Plan.
- 9. Details of all changes to road carriageways and associated kerbing, pavements, onstreet parking shall be submitted to and approved by the City prior to commencement of development and shall be constructed to the satisfaction of the City prior to occupation of the development.

- 10. The car parking bays, driveways and/or access points/crossovers shown on the approved plans are to be designed, constructed, drained and marked in accordance with the Australian Standards (AS2890), prior to the occupation of the development and thereafter maintained to the satisfaction of the City.
- 11. Bicycle parking spaces shall be designed and installed in accordance with the Australian Standard for Off-street Car parking Bicycles (AS2890.3-1993). Detail is to be provided and approved by the City prior to occupation of the development and thereafter maintained to the satisfaction of the City.
- 12. A parking management plan shall be submitted to and approved by the City prior to commencement of development. Parking management shall be undertaken in accordance with the approved parking management plan, to the satisfaction of the City.
- 13. A waste management plan indicating the method of rubbish collection is to be submitted prior to the commencement of development, and approved by the City prior to the development first being occupied and thereafter implemented to the satisfaction of the City.
- 14. A delivery management plan shall be submitted prior to the commencement of development, and approved by the City prior to the development first being occupied. Delivery management shall then be undertaken in accordance with the approved plan.
- 15. A wayfinding strategy detailing the pedestrian connections, signage and other measures to enhance navigation to the train and bus station shall be submitted to the City for approval prior to commencement of development. The recommendations of the strategy shall be implemented to the satisfaction of the City prior to occupation of the development.
- 16. A safety and security plan detailing safety and security measures related to the pedestrian plaza and connection to the train and bus station shall be submitted to the City for approval prior to commencement of development. The plan shall be implemented to the satisfaction of the City prior to occupation of the development.
- 17. A detailed landscaping plan shall be submitted to, and approved by, the City prior to the commencement of development. The plan is to indicate the proposed landscaping treatment(s) in the subject site and the adjoining road verge(s), and shall:
 - Be drawn at an appropriate scale of either 1:100, 1:200 or 1:500;
 - Provide all details relating to paving, treatment of verges and tree planting in the car park:
 - Show spot levels and/or contours of the site;
 - Indicate any natural vegetation to be retained and the proposed manner in which this will be managed;
 - Be based on water sensitive urban design principles to the satisfaction of the City;
 - Be based on Designing out Crime principles to the satisfaction of the City; and
 - Show all irrigation design details.

Landscaping and reticulation shall be established in accordance with the approved landscaping plan and relevant Australian Standards prior to the development first being occupied and thereafter maintained to the satisfaction of the City.

- 18. All stormwater shall be collected on-site and disposed of in a manner acceptable to the City.
- 19. A notification, pursuant to section 70A of the *Transfer of Land Act 1893*, shall be placed on the certificate of title for the subject lot. The notification shall be at the owner/applicants' expense and lodged with the City of Joondalup for execution prior to commencement of development, and placed on the certificate of title prior to occupation of the development. The notification is to state as follows:
 - 'A portion of this land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner'.
- 20. The development shall at all times comply with the requirements and recommendations of the Bushfire Management Plan (Version 1) prepared by Emerge Associates dated April 2021.
- 21. The development shall at all times comply with the detail set out in the Bushfire Emergency Evacuation Plan (Version 1) prepared by Emerge Associates dated April 2021.
- 22. The recommendations listed in the Noise Assessment (dated 16 April 2021) prepared by Floth that relate to acoustic design for the building and the operation of the child care premises are to be implemented to the satisfaction of the City.
- 23. The signage shall:
 - use low illumination that does not flash, pulsate or chase;
 - not include fluorescent, reflective or retro reflective colours:
 - relate to the associated business and not contain any obscene or vulgar material;
 and
 - be established and thereafter maintained to a high standard

to the satisfaction of the City.

Advice Notes

- 1. The City of Joondalup *Local Planning Scheme No. 3* defines:
 - 'Office' as:

"means premises used for administration, clerical, technical, professional or similar business activities."

- 'Child care premises' as: "means premises where:
 - a. an education and care service as defined in the Education and Care Services National Law (Western Australia) section 5(1), other than a family day care service as defined in that section, is provided; or
 - b. a child care service as defined in the Child Services Act 2007 section 4 is provided."
- 'Restaurant/Café' as:

"means premises primarily used for the preparation, sale and serving of food and drinks for consumption on the premises by customers for whom seating is provided, including premises that are licenced under the Liquor Control Act 1988."

- 2. In regard to condition 8, the construction management plan shall be prepared using the City's Construction Management Plan template which can be provided upon request.
- 3. The applicant is reminded of its obligations under the *Environmental Protection (Noise) Regulations 1997.*
- 4. Except where approved by the City, any existing infrastructure/assets within the road reserve are to be retained and protected during construction of the development and are not to be removed or altered. Should any infrastructure or assets be damaged during the construction of the development, it is required to be reinstated to the satisfaction of the City.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme -	Central City Area
Zone/Reserve	Certiful Oily Area
Local Planning Scheme	Local Planning Scheme No. 3
Local Flaming Scheme	Local Flaming Scheme No. 5
Local Planning Scheme -	Centre
Zone/Reserve	Condo
Structure Plan/Precinct Plan	Joondalup Activity Centre Plan
Structure Plan/Precinct Plan	City Centre
- Land Use Designation	ony control
Use Class and	Office: Permitted ('P)
permissibility:	Child Care Premises: Discretionary ('D')
,	Restaurant/Café: Permitted ('P')
Lot Size:	23.78ha
Existing Land Use:	Car Parking and Vacant Land
State Heritage Register	No
Local Heritage	⊠ N/A
	□ Heritage List
	☐ Heritage Area
Design Review	
	☐ State Design Review Panel
	□ Other
Bushfire Prone Area	Yes
	Refer to Attachments 16 and 17
Swan River Trust Area	No

Proposal:

Proposed Land Use	Office Child Care Premises Restaurant/Café
Proposed Net Lettable Area	Office: 10,082m ² Childcare: 873m ² Café: 86m ²

Proposed No. Storeys	Seven storeys and two basement levels
Proposed No. Dwellings	N/A

The proposed development consists of the following:

- A seven storey building on the south-eastern portion of the site (corner Collier Pass and Grand Boulevard) with office, childcare and café uses on the ground floor and office use on levels 1 to 7.
- Two levels of basement parking, with a temporary at-grade car park to the northern side
 of the building. Car parking and loading dock service/area are accessed from the
 existing internal access road from Collier Pass.
- A pedestrian plaza on the northern side of the building, linking with the existing pedestrian connection from the train station via a new lift and stairs, and providing access to the proposed development and surrounding streets.
- Pedestrian access points into the building from Collier Pass, Grand Boulevard and the pedestrian plaza.
- Activated facades to the pedestrian plaza, Grand Boulevard and Collier Pass.
- Building finishes including glass, aluminium, stainless steel, painted concrete and limestone panels.
- Modification to the verge, including two additional on-street bays converted to 15-minute parking and providing an area within the Grand Boulevard verge to accommodate DFES trucks.
- Indicative signage locations.

The development forms stage 1 of a campus style office precinct, with an indicative stage 2 development to the north of the proposed building, where the temporary car park is currently proposed.

The development plans, building perspectives and landscaping concept plans are provided in Attachments 3, 4 and 5 respectively.

Background:

The applicant seeks approval for an office building with supporting childcare and café uses at Lot 708 (420) Joondalup Drive, Joondalup (the lot).

The lot is zoned 'Centre' under the City's Local Planning Scheme No. 3 (LPS3) and falls within the 'City Centre' zone of the Joondalup Activity Centre Plan (JACP). The land uses of 'Office' and 'Restaurant/Café' are permitted ("P") uses and the use 'Child Care Premises' is a discretionary ("D") use within the 'City Centre' zone under LPS3.

The lot contains Lakeside Joondalup Shopping Centre and associated multi-deck and ground level car parking. The development site (the site) is located on the south-eastern portion of the lot and is primarily vacant land, with 50 at grade parking bays on a portion. The site is bound by Collier Pass to the south, Grand Boulevard to the east, an internal access road to the west and a multi-deck car park to the north (Attachment 1 refers). The immediate area south of Collier Pass is comprised of vacant land and the RAC Centre (single storey building). Central Park is located immediately opposite the development site on the eastern side of Grand Boulevard. Joondalup Train Station, bus terminal and a public (City managed) car park is located to the west of the access road.

The site slopes downwards approximately 5.8 metres from the south-eastern corner (Collier Pass) to the north-western portion of the site (adjacent to the multi-deck car park). The existing frontage to Collier Pass consists of a bitumen access road, fencing and vegetation. The verge area contains four City-managed off street parking bays and grass, established verge trees and a footpath. The existing frontage to Grand Boulevard similarly consists of fencing and vegetation with the verge area also containing established verge trees and a footpath.

Legislation and Policy:

Legislation

- Planning Development Act 2005.
- Metropolitan Region Scheme (MRS).
- Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations).
- City of Joondalup Local Planning Scheme No. 3 (LPS3).

State Government Policies

- State Planning Policy 7.0: Design of the Built Environment (SPP7)
- State Planning Policy 5.4: Road and Rail Noise (SPP5.4)
- State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP3.7)

Structure Plans/Activity Centre Plans

• Joondalup Activity Centre Plan (JACP)

Local Policies

- Child Care Premises Local Planning Policy
- Advertisements Local Planning Policy
- Planning Consultation Local Planning Policy

Consultation:

Public Consultation

The proposal was advertised for 14 days, commencing on 12 July 2021 and concluding on 26 July 2021. Consultation was undertaken in accordance with the City's *Planning Consultation Local Planning Policy* in the following manner:

- a letter was sent to the owner and occupiers of the site directly opposite the development on Collier Pass.
- development plans and information provided by the applicant were made available for public viewing on the City's website and at the City's Administration Building.

Four submissions were received, with three submissions opposing the development and one in support of the proposal. A summary of concerns raised in the submissions and the City's responses are included in the table below.

The applicant's response to the issues raised during public consultation is provided in Attachment 15.

Issue Raised

Pedestrian connection to train station

- In its current form, access to the train station from the City Centre is blocked off by Lakeside Shopping Centre, restricting after-hours access to Grand Boulevard and Boas Avenue from the train and bus stations.
- Wayfinding is poor for people accessing the City Centre from public transport late at night and early in the morning. This should be considered as part of a broader site review and work should be undertaken to improve public access to the train and bus stations from Grand Boulevard and Boas Avenue.
- Further consideration should be given to the pedestrian interconnection between the train station and the proposed pedestrian plaza to improve pedestrian flow.

Interface with adjoining streets

- The proposal does not create the 'urban wall' along significant streets (inclusive of Grand Boulevard) which was originally envisioned in previous planning framework for Joondalup and the current Activity Centre Plan.
- The interface of the shopping centre and Grand Boulevard is already impacted negatively by the car park. The void to the car park on the north side of the site further exacerbates this issue and does little for Urbanism and a sense of entry to the CBD.

Building design

As a landmark site, the design of the building should address both streets and include a landmark statement to form a gateway into the City Centre. The current design does not achieve this.

Officer comments

The development proposes to improve the current access to the train station with an additional pedestrian plaza and walkway providing universal access through the site connecting Grand Boulevard and Collier Pass to the train and bus station precinct.

As discussed in the Planning Assessment section, should the development be approved, a condition of approval is recommended to further improve the proposed pedestrian connection and way-finding through the preparation and implementation of a wayfinding strategy.

Comments concerning the broader site access to the train and bus stations are not considerations which impact on the proposed development specifically and cannot be resolved through this application. An agreement with the City requires Lakeside Shopping Centre to maintain access between the station and Boas Avenue at times when trains are running to allow access during early mornings and late nights.

The provisions for landmark sites indicate that development standards for setbacks may not apply to allow for development to be set apart from the general urban fabric.

The level of articulation and glazing proposed is considered appropriate as outlined in the Planning Assessment section of this report.

The car park to the north of the development is temporary. It is intended that this portion of the lot will be developed as stage 2 for the precinct. The void to the carpark is an interim solution which improves the current state of the land until development of stage 2.

Revised plans provide improved activation to Collier Pass to allow the development to better address both streets.

The design is considered to be set apart from the built form of the surrounding development, insofar that it satisfies the development standards for a landmark site.

Issue Raised	Officer comments
	The design was considered to meet the requirements of a landmark development by
	the JDRP.

The comment in support was generally positive, stating that it could be taller and was not a bad architectural design.

Referrals/consultation with Government/Service Agencies

The application was referred to the Department of Fire and Emergency Services (DFES) in accordance with the provisions of SPP3.7 as the development site is located within a bushfire prone area, has a Bushfire Attack Level of BAL-12.5 and proposes a child care premises which is classified as a 'vulnerable land use'.

Detailed commentary in relation to the above is provided in the Planning Assessment below.

Design Reference Panel Advice

The proposal was initially referred to the Joondalup Design Reference Panel (JDRP) on 17 March 2021, prior to formally submitting a development application. The applicant subsequently made refinements to the proposal prior to lodgement. Following lodgement, the proposal was again referred to the JDRP on 16 June 2021. A summary of the JDRP feedback from this meeting and the applicant's response is outlined below.

JDRP comments	Summary of applicant's response
 Overall, the design is considered to be a good one and represent a landmark building, however the ground floor and roof plant elements should be revisited as per comments below. 	Supportive comments are noted, ground floor and roof plant elements addressed below.
 The roof plant is too dominant, and the design should consider ways to articulate, screen or blend the plant structure into the design. 	 The height of the plant room is the minimum height required to achieve the high standard of sustainability that the proponent is pursuing. The height of the plant has been reduced
 Potential for the building façade to be extended upwards to integrate plant into the design. 	 by 0.5 metres in response to JDRP comments. Extending the façade upwards will restrict safe access for building cleaning and maintenance.
 Ground floor elevation to Collier Pass is still not fully resolved to provide for an activated street frontage. 	 Amendments were made to the ground floor elevation to include full height glazing and additional street entries to enhance activation.
Small windows and screening are in contrast with the rest of the building and the intended development outcome.	The proponent is cognisant of the risk of providing glazing along the entire ground floor elevation given the likelihood of tenancies installing opaque film or blinds
Potential for increased window sizes that extend floor to ceiling. Activation and articulation forces the	to achieve visual privacy. The revised design provides a realistic design response given the proposed uses
 Activation and articulation favours the northern side of the building, towards the 	which provides more meaningful activation

JDRP comments	Summary of applicant's response
pedestrian plaza rather than Collier Pass on the southern side.	to Collier Pass and visual interest at the ground level.
An open activated ground floor façade should be provided for the childcare at this stage, and a potentially more restrictive interface applied for as part of an amended application at a later stage once a tenant is secured and their specific needs are known.	 The design of the childcare is informed by preliminary feedback from childcare operators. The acoustic report provided establishes the requirement for gap free fencing around the child care centre to reduce road and rail noise. Solid fencing to the outdoor play space is required in line with applicable child care regulations for visual privacy.
Continuity of pedestrian awnings over footpaths needs to be considered for current and future stages and how this will integrate into the broader site context and street.	 Stage 2 is intended to have a nil setback to Grand Boulevard with a canopy over the footpath. Stage 1 is located on a street corner and therefore provides a logical break in the footpath network and increases the generosity of the public realm. Pedestrians are expected to move through the central plaza before moving back out to the public footpath.
How will the design and planter boxes for the pedestrian plaza for stage 1 integrate into stage 2 and how will this impact on pedestrian flow through the broader site?	 Intent for stage 2 is to mirror the landscaped plaza that allows pedestrian flow between the buildings. Planter boxes are designed to be adaptable. An indicative landscaping sketch for stage 2 is provided (Attachment 5 refers).

The majority of concerns raised by the JDRP have been satisfied through the provision of revised plans or additional information, as discussed in the Planning Assessment below.

Planning Assessment:

The proposal has been assessed against the relevant legislative requirements of the City's Local Planning Scheme No. 3 (LPS3), the Joondalup Activity Centre Plan (JACP) and State and Local Planning Policies outlined in the Legislation and Policy Section of this report. The following matters have been identified as key considerations for the determination of this application.

Land Use

The subject site is zoned Centre under the City's *Local Planning Scheme No.* 3 (LPS3) and falls within the 'City Centre' zone under the *Joondalup Activity Centre Plan* (JACP).

The land use 'Child Care Premises' is a discretionary ("D") use in the 'City Centre' precinct under LPS3 and therefore requires the exercise of discretion to determine whether the land use is appropriate.

The relevant objective of the 'Centre' zone under LPS3 is to designate land for future development as an activity centre wherein detailed planning is provided through the provisions of an activity centre plan.

The JACP sets out objectives for the 'City Centre' zone, some of which are applicable when determining whether a child care premises proposal is compatible and complementary to the surrounding development context.

Clause 1.5.1.1 of the JACP encourages the highest intensity of mixed-use development in the 'City Centre' zone and encourages the greatest concentration of employment intensive land uses. It also promotes Grand Boulevard as an intense inner-city development corridor which supports mixed use development.

The proposed child care premises forms part of a high density commercial building that also incorporates office and café uses. The child care is primarily intended to service the office tenancy with priority given to employees. Spaces may be available to the public subject to operational demand. Given child care services are typically associated with working parents, a child care premises is a logical supporting land use to the predominant office land use. As such it is considered that the child care premises use is appropriate in this location and contributes to the employment intensive land uses outlined in the relevant objectives.

The location of the child care premises within a commercial area and as part of non-residential development is also consistent with the locational criteria of the City's *Child Care Premises Local Planning Policy*.

The land uses of 'Office' and 'Restaurant/Café' are permitted ("P") uses in the 'City Centre' zone and are considered to meet the objectives of the 'City Centre' precinct.

Landmark Site

JACP Figure 6: City Centre Precinct Plan identifies the development site as a landmark site. Clause 1.5.1, CC9 of the JACP sets out development standards for landmark sites in the City Centre.

Height

The JACP requires development on landmark sites to be set apart from the general urban fabric of the City and to provide enhanced wayfinding and identity within the City Centre. The JACP also requires a minimum development height of 20.5 metres for City Centre zones.

The development is seven storeys with a maximum height of 39.17 metres above natural ground level, exceeding the minimum height of the JACP. This building height is considered to set the development apart of the surrounding existing urban fabric which consists of low-rise development and vacant lots. This contrast will contribute to improved wayfinding and identity within the City Centre Precinct, with the building acting as an entry statement to the broader Lakeside Joondalup site.

Materials

The JACP requires development on landmark sites to incorporate architecture, landscaping and signage which is of a high standard and which contributes significantly to the surrounding streetscape. Additionally, materials used should be robust and high quality.

Materials proposed include a mixture of glass, aluminium, steel, concrete and limestone which are considered to provide a high-quality finish which provides good visual interest and architectural expression to the surrounding streetscape. The use of materials and design of the building are considered to achieve the landmark site objectives.

Joondalup Design Reference Panel

The JACP landmark site provisions were given consideration during the review of the proposed development by the JDRP. The Panel generally agreed that the development met the provisions stipulated for landmark sites within the JACP.

The JDRP did raise concerns regarding the type of screening used for the plant and equipment on the roof, given its scale and proposed finish. In response, the applicant has reduced the height by 0.5 metres, but has stated that the size cannot be further reduced as it would not meet their requirements. Whilst it is acknowledged that the plant and equipment is required, it is considered that alternative screen treatments could be proposed that may further reduce its visual impact. Should the development be approved, it is recommended that a condition be included requiring further consideration of the plant and equipment screen, to the satisfaction of the City.

Given the above, it is considered that the proposed design achieves the landmark site objectives of the JACP.

Collier Pass – Green Link

Under the JACP, Collier Pass is identified as part of a strategic future green link, with the link running from Mitchell Freeway to Neil Hawkins Park. The focus for this green link is predominantly within the public realm. Clause 1.5.1, C11 sets out development standards for land parcels with frontages to Collier Pass to support this green link.

Landscaping

The JACP requires frontages to Collier Pass to be well landscaped to create pleasant environments for pedestrians and to emphasize the primacy of the green link.

The development includes raised planter boxes to the southern side of the development, adjoining Collier Pass consisting of shrub and ground cover plant species. Deep soil planting areas are also proposed to the western side of the building to include tree species to provide an improved landscaping element which will integrate with landscaping in Collier Pass. The positioning of the building, being setback from Collier Pass, ensures the development will not interfere with the existing street trees, or any future work that may be done in the public realm to support the green link.

The JACP green link provisions requires frontages to Collier Pass to be activated with priority uses to generate pedestrian activity. Street activation is discussed in greater detail in the 'Street Interface' section below and is considered acceptable.

Given the above, it is considered that the proposed design achieves the objectives of the JACP relating to the Collier Pass green link.

Street Interface

JACP Figure 6: City Centre Precinct Plan identifies the development site as requiring two active frontages to Collier Pass and Grand Boulevard. Clause 1.5.1, CC3 of the JACP sets out development standards for active frontages in City Centre zones. It should be noted that as a landmark site and as part of the Collier Pass green link, the development standards such as setbacks become secondary considerations to the development standards for landmark and green link sites that are discussed above.

Street Activation

The JACP requires street activation to be provided at the ground floor with no residential uses at the ground level. The development incorporates ground floor office, child care and café uses, with four entrances and floor to ceiling windows facing Collier Pass and two entrances and floor to ceiling windows facing Grand Boulevard. Activation to the ground level is provided through the ground floor entrances and windows to Collier Pass and the café alfresco seating towards Grand Boulevard. In addition to this, the entrances to the ground floor office portion align with supporting pillars for the building, allowing adaptability for potential future uses to continue activation along Collier Pass.

Given the above, it is considered that the proposed design achieves the objectives of the JACP pertaining to street activation and is supported.

Building Setbacks and Pedestrian Shelter

The JACP requires nil building setbacks for 75% of the frontage (with some exceptions) and a continuous pedestrian shelter above the footpath with a minimum width of 2.5 metres and height between three to four metres.

The building setbacks and pedestrian shelter provided are:

- Collier Pass building setback between 2.9 to 5.6 metres.
- Grand Boulevard building setback a minimum of 8.3 metres.
- Pedestrian shelter is provided for the majority of the ground floor perimeter of the building
 with varying widths and at a height of 3.85 metres, however this pedestrian shelter does
 not overhang the verge footpath.

The setback of the building provides an improved design and landscaping outcome towards Collier Pass and Grand Boulevard and is considered appropriate for a landmark site. The large setback to Grand Boulevard provides a prominent forecourt to the street corner and main entry to the pedestrian plaza. This forecourt includes a large undercover area towards Grand Boulevard to encourage movement through the site.

Whilst pedestrian shelter has not been proposed over the verge footpath, the pedestrian shelter provided around the majority of the building still allows for pedestrian refuge. By not having a pedestrian awning over the Collier Pass verge it also minimises interference with existing and future vegetation within Collier Pass to emphasise the green link. The existing landscaping and the shadow of the building to Collier Pass ensure that sun protection is provided.

The setbacks and shelter proposed are considered to be consistent with that of a landmark development and the objectives of the JACP and are therefore supported.

Glazing

The JACP requires a minimum of 75% glazing to the ground floor facades facing Collier Pass and Grand Boulevard. The development provides 28.46% of glazing to Collier Pass and 34.69% of glazing to Grand Boulevard.

Given the ground floor office and child care premises uses, the development proposes a mixture of glazed and solid components to provide a balance between street activation and visual privacy. The façade to Collier Pass is designed to provide floor to ceiling glazing to the proposed office tenancies with reduced glazing to the child care premises. The portions of

ground floor where glazing has not been proposed incorporate landscaping and other architectural details to create visual interest and is considered an appropriate treatment.

Fencing

The JACP restricts fencing to any public road or public space. A two metre high solid wall is proposed to Collier Pass and the internal pedestrian plaza around the outdoor portion of the child care premises is proposed. In addition, visually permeable fencing is proposed to Grand Boulevard around the future stage 2 development (north of stage 1).

The solid wall to the child care premises comprises a small portion of the external perimeter of the overall building and is necessary for noise attenuation requirements outlined in *State Planning Policy 5.4 – Road and Rail Noise* to reduce the impact of noise from the train station. The fencing also provides visual privacy for the child care use. Landscaping has been provided to Collier Pass and the internal pedestrian plaza to screen the proposed wall and soften the impacts on the public realm.

The fencing to Grand Boulevard is necessitated by the existing level difference from the street to the temporary at grade car park until stage 2 of the development is completed. As this is a temporary measure and the fencing is visually permeable, the impact is considered to be minimal.

Given the above, it is considered that the proposed fencing achieves the objectives of the JACP and is supported.

Pedestrian Link to Train Station

The JACP objectives for the City Centre set out a broad vision for improved pedestrian links from the Joondalup Train/Bus Stations to surrounding precincts.

The development improves existing connections to the Joondalup Train/Bus Stations from the corner of Grand Boulevard and Collier Pass through the inclusion of the pedestrian plaza that connects to the existing pedestrian path on the ground floor through a lift and staircase. To accommodate the connection, the south-western portion of the existing multi-deck car park will be modified for the lift and stairs, and 12 car bays and three motorcycle bays will be removed from the shopping centre car park.

The applicant seeks to retain three ACROD bays on the ground floor adjacent the staircase and lift. By retaining these bays, it restricts the width of the footpath. Given this is to be a key link for the train and bus station to this precinct and Grand Boulevard, a wider pedestrian path is considered necessary. It is considered that the ACROD parking still be provided, however the parking be relocated within the existing shopping centre car park in the immediate vicinity.

The applicant also proposes to remove an existing at-grade pedestrian path along the access road to the west. Whilst it is not expected that this will continue to be a key pedestrian route following completion of the development, it is recommended that this path be retained to maintain permeability through the surrounding car parks.

Should the development be approved, conditions are recommended requiring the modifications as described above, and a wayfinding strategy to ensure that sufficient signage and measures are used to enhance navigation and orientation to the train/bus station.

It is considered that the proposed pedestrian access satisfies the objectives of the JACP and is supported, subject to conditions addressing the above.

Parking

F	Required	Provided	Officer	
			comments	
Car parking	One bay per 75m ² NLA	167 bays provided on	It is	
	(147 bays required).	site for the development	considered	
			the car	
Motorcycle/	Every 10 th car bay to	11 bays provided on	parking,	
scooter	be replaced with 2	site	scooter/	
parking	motorcycle/scooter		motorcycle	
	bays		and bicycle	
	(33 bays required)		parking bay	
Bicycle	Office – 1 bay per	102 bicycle bays	provision is	
parking	200m ² NLA (60	provided on site	satisfactory as	
	required)		discussed	
	Café – Dependent on		below.	
	patronage			

Car parking

The JACP sets out that car parking for Lakeside Shopping Centre is subject to negotiation with the City. The development is on the same lot as the shopping centre, however as it is separated from the shopping centre and providing its own basement car parking the JACP standard for non-residential development (one bay per 75m² NLA) has been applied.

A total of 147 bays are required for the development, with 167 new bays proposed. There is therefore considered sufficient car parking to service the proposed uses.

The development proposes to replace the existing 50 car bays on a portion of the development site with 50 new temporary at grade bays as an interim solution for the portion of the site designated for stage 2.

To facilitate the new pedestrian walkway, stairs and lift, the development proposes a reduction in the shopping centre's car parking of 12 vehicle bays and three motorcycle bays. It is also recommended that the three ACROD bays be relocated within the car park in the immediate vicinity as set out above. This will result in a marginal reduction to the centre's existing 4,706 bays and is not considered to have a detrimental impact on parking for the broader site.

Portions of the basement car parks have been designed and identified for staff parking, with more accessible areas identified for customers. Should the development be approved a condition is recommended requiring a parking management plan to ensure appropriate access to bays.

On-street parking

The development proposes an additional two on street car parking bays to the existing four bays within the verge on Collier Pass. These bays are proposed to be converted from paid parking bays to 15-minute parking bays which may be utilised for childcare drop-off or café patrons. In principle, the City is supportive of this modification. The modifications required within the verge to accommodate this will be subject to further detailed design and approvals from the City.

Motorcycle/Scooter Parking

The proposal includes 11 scooter/motorcycle bays in lieu of 33 bays required. The applicant has provided justification to support the number of bays provided noting that the motorcycle bay provision is based on the landowner's experience in similar developments wherein the number of provided bays is reflective of anticipated demand. The development site is well serviced by public transport infrastructure and provides an excess of car parking bays which could be used by motorcycles or scooters if demand exceeds supply.

It is therefore considered that the proposed motorcycle/scooter parking will satisfy demand for the land uses proposed and is supported.

Bicycle Parking

The proposal incorporates 102 bicycle bays and associated end of trip facilities within basement level 1. The JACP requires 60 bays to be provided for the office use and requirements for the child care and café uses are determined by patronage numbers which have not been determined at this stage. The 42 bays provided in excess to the office requirements are considered to adequately cater for the needs of the child care and café uses.

Crossovers and Access

The proposal includes two access points, from the internal access road to the west of the site. Each access point provides vehicle access to the basement levels 1 and 2 individually.

The locations of these access/egress points were included as part of the Transport Impact Assessment (TIA) (Attachment 9 refers) provided by the applicant which is considered acceptable by the City.

Traffic

A Transport Impact Assessment (TIA) was provided as part of the application (Attachment 9 refers). The report is required in accordance with the WAPC *Transport Impact Assessment Guidelines* given the development has the potential to generate more than 100 vehicle trips over a peak hour period. The TIA has been reviewed by the City and it is considered that the recommendations and conclusions of the document are acceptable.

The development is considered to generate up to 206 vehicle movements in any peak hour and 1,429 vehicle movements daily with the largest impact on the intersection of Collier Pass and the internal access road.

The conclusions of the TIA indicate that the additional traffic generated by the development can be adequately accommodated within the existing surrounding road network and that the priority-controlled intersection of Collier Pass and the access road will not be adversely affected by the proposed development and is anticipated to continue to perform with an excellent level of service.

Given the above, it is not considered that the development will have an adverse impact on the traffic of the surrounding road network.

State Planning Policy 3.7: Planning in Bushfire Prone Areas

The development site is located within a bushfire prone area and is therefore subject to assessment against the provisions of *State Planning Policy 3.7*. The applicant has provided a Bushfire Management Plan (BMP) and a Bushfire Emergency Evacuation Plan (BEEP) to

address the provisions of the policy. The BMP indicates that the development has a Bushfire Attack Level of BAL-12.5.

As the proposed Child Care Premises use is considered to be a vulnerable land use, clause 6.6.1 of SPP3.7 requires the joint endorsement of the BMP and BEEP by the City and DFES.

The development plans, BMP and BEEP were referred to DFES for review and a recommendation of support provided, subject to modifications to the BMP. The modifications requested referred to the classification of vegetation within City owned land external to the site as 'low threat' given City maintenance regimes. It was outlined in DFES's referral response that evidence is required to support this classification and indicate that there is an enforceable mechanism which can provide certainty that the proposed vegetation will be maintained to a level of 'low threat' in perpetuity.

The City has obligations under the *Local Government Act 1995* and within its Maintenance Works Program to ensure that road verges and parks are maintained. As such the City is satisfied there is ongoing maintenance of the vegetation within the adjacent verges, median strips and parks that are identified as 'low threat'.

Given the above, the City finds the classification of 'low threat' as identified within the BMP to be sound. Given all other findings of the BMP and BEEP are supported by DFES, the City considers that the development meets the provisions of *State Planning Policy 3.7* and is supported.

In accordance with clause 6.10 of SPP3.7, a 'notice on title' advising that the site is located in a bushfire prone area should be required as a condition of any development approval.

As a result, should the application be approved, it is recommended that a condition of approval is included which requires a section 70A notification be placed on the certificate of title consistent with the requirements of SPP3.7.

Conclusion:

As detailed above, the proposed development is considered to meet the intent and objectives of the JACP, along with the provisions of the relevant State and Local Planning Policies. Matters associated with pedestrian access, wayfinding through the site and screening of mechanical plant on the roof can be addressed through conditions of planning approval.

Overall, the design of the development is considered to provide a high-quality built form outcome which will present as an entry statement into the City Centre and improve pedestrian access to the train station precinct. Along with this, the uses proposed will promote street activation and economic growth in the City Centre.

As a result, it is recommended that the JDAP approve the application subject to conditions.

<u>Alternatives</u>

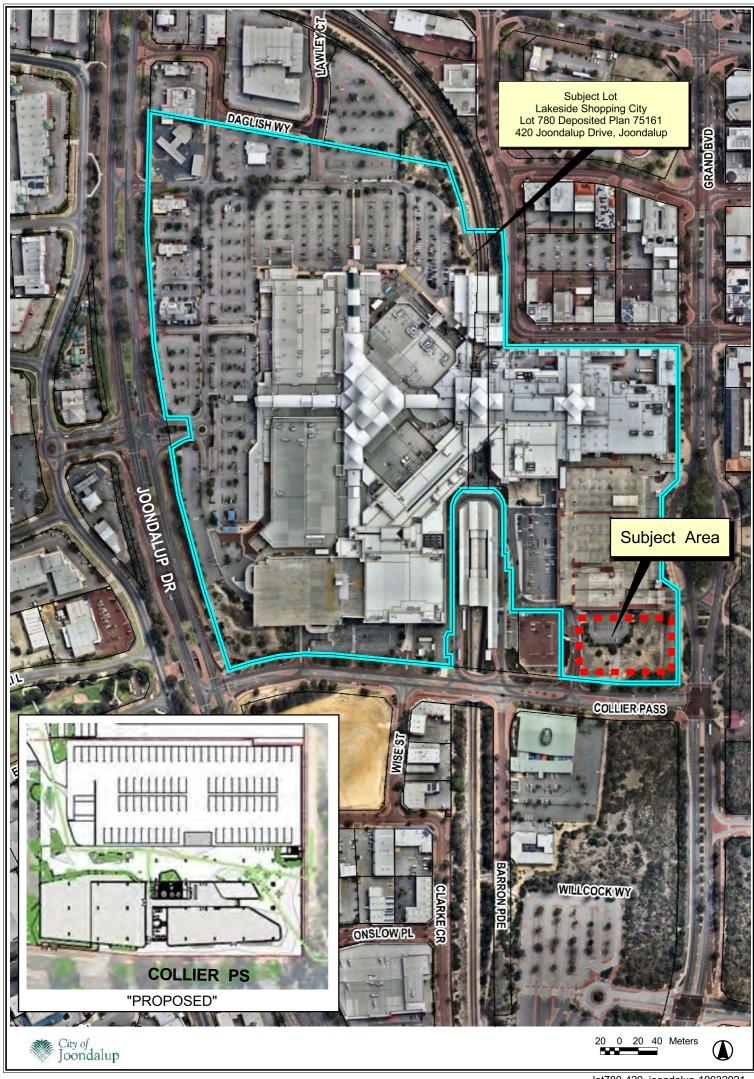
In accordance with clause 17(4) of the Regulations, the JDAP may determine an application by either approving the application (with or without conditions) or refusing the application.

In reference to the Responsible Authority Recommendation, the JDAP can amend or delete the conditions of approval recommended by the City and/or include additional conditions of approval should they be considered necessary to ensure the proposal complies with the relevant planning framework.

Should the JDAP resolve to refuse the application, this determination needs to be made based on valid planning considerations as outlined under clause 67 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and as set out in the *Development Assessment Panel Practice Notes: Making Good Planning Decisions*.

However, as outlined in the Planning Assessment and Officer's Comment sections above, the City considers that the development meets the relevant provisions and/or objectives of the applicable planning framework and the application is therefore recommended for approval.

If the applicant is aggrieved by the decision or any aspect of the decision, the applicant has a right of review in accordance with the *State Administrative Tribunal Act 2004* and the *Planning and Development Act 2005*.







AUSTRALIA

REGISTER NUMBER 708/DP75161 DUPLICATE EDITION DATE DUPLICATE ISSUED 12 27/1/2021

VOLUME 2813 EOI IO

189

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



LAND DESCRIPTION:

LOT 708 ON DEPOSITED PLAN 75161

REGISTERED PROPRIETOR:

(FIRST SCHEDULE)

LENDLEASE FUNDS MANAGEMENT LIMITED OF LEVEL 14 TOWER THREE INTERNATIONAL TOWERS SYDNEY EXCHANGE PLACE 300 BARANGAROO AVENUE BARANGAROO NSW 2000

(AN N396548) REGISTERED 29/7/2016

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:

(SECOND SCHEDULE)

1.	F380737	EASEMENT (FOR/INCLUDES WATER/DRAINAGE/SEWERAGE PURPOSE) TO WATER
		AUTHORITY OF WESTERN AUSTRALIA - SEE SKETCH ON DEPOSITED PLAN 75161.
		REGISTERED 30/11/1993

		TELOISTERED SOUTH 1995.
2.	G025647	LEASE TO HUNGRY JACKS PTY LTD OF OF GROUND FLOOR, BUILDING A, 345 HARBORNE
		STREET, HERDSMAN BUSINES PARK, OSBORNE PARK AS TO PORTION ONLY. EXPIRES: SEE
		LEASE DECISTEDED 0/11/1005

	LEASE. REGISTERED 9/11/1993.	
L211401	EXTENSION OF LEASE G025647. REGISTERED 25/1/2010.	

L211401	CHANGE OF ADDRESS. THE PROPRIETORSHIP IS NOW HUNGRY JACKS PTY LTD OF
	LEVEL 1, BUILDING A, THE GARDEN OFFICE PARK, 355 SCARBOROUGH BEACH ROAD,
	OSBORNE DARK REGISTERED 25/1/2010

N663357 EXTENSION OF LEASE G025647. REGISTERED 30/6/2017

3.	G025648	LEASE TO COMPETITIVE FOODS LTD OF GROUND FLOOR, BUILDING A, 345 HARBORNE
		STREET, HERDSMAN BUSINESS PARK, OSBORNE PARK AS TO PORTION ONLY. EXPIRES:
		SEE LEASE, REGISTERED 9/11/1995.

L211398 EXTENSION OF LEASE G025648. REGISTERED 25/1/2010.

L211398 CHANGE OF ADDRESS. THE PROPRIETORSHIP IS NOW COMPETITIVE FOODS LTD OF 1ST FLOOR, BUILDING A, 355 SCARBOROUGH BEACH ROAD, OSBORNE PARK REGISTERED 25/1/2010.

N663710 CHANGE OF NAME AFFECTING LEASE G025648. LESSEE NOW COLLINS RESTAURANTS WEST PTY LTD OF 485 KINGSFORD SMITH DRIVE HAMILTON OLD 4017 REGISTERED 30/6/2017.

EXTENSION OF LEASE G025648. REGISTERED 30/6/2017.

LANDGATE COPY OF ORIGINAL NOT TO SCALE 07/04/2021 02:39 PM Request number: 61847463

N663711 4. G124218 LEASE TO KMART AUSTRALIA LIMITED OF 800 TOORAK ROAD, TOORONGA, VICTORIA, AS TO PORTION ONLY. EXPIRES: SEE LEASE. REGISTERED 13/3/1996.

END OF PAGE 1 - CONTINUED OVER



		R	RECORD OF CERTIFICATE OF TITLE	
RE	GISTER NUMB	ER: 708/DP75161	VOLUME/FOLIO: 2813-189	PAGE 2
	J137175	EXTENSION OF	LEASE G124218. REGISTERED 30/12/2004.	
	N822892		LEASE G124218. REGISTERED 2/2/2018.	
5.	G238314		ND ASSOCIATED LTD OF 18 MILES ROAD, KEWDALE AS	TO PORTION
			E LEASE. REGISTERED 26/7/1996.	
	L219955		LEASE G238314. REGISTERED 2/2/2010.	OCIATED LTD O
	L219955		DRESS. THE PROPRIETORSHIP IS NOW FOODLAND ASSO	OCIATED LTD OF
	N440472		ROAD, CANNING VALE REGISTERED 2/2/2010. EASE G238314, LESSEE NOW WOOLWORTHS LTD OF 1 V	VOOL WORTHS
	N4404/2		STA NSW 2153 REGISTERED 21/9/2016.	VOOLWORINS
	O453579		ME. LESSEE NOW WOOLWORTHS GROUP LIMITED OF 1	WOOI WORTHS
	0433319		STA NSW 2153 REGISTERED 22/7/2020.	WOOLWORTIIS
	O588436		LEASE. REGISTERED 16/12/2020.	
6.	G492838		FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE SKETO	CH ON
			161. REGISTERED 1/1/1997.	
7.	H849257	LEASE TO THE GREA	ATER UNION ORGANISATION PTY LTD OF 49 MARKET S	TREET SYDNEY
			VILLAGE CINEMAS AUSTRALIA PTY LTD OF LEVEL 12A	
			E VIC, IN 1/3 SHARE, WARNER BROS THEATRES (AUSTF	
			ITARY ROAD NEUTRAL BAY NSW, IN 1/3 SHARE, AS TEN	
			SEE LEASE. AS TO PORTION ONLY REGISTERED 24/8/200	
	J187835		EASE H849257, LESSEE NOW VILLAGE CINEMAS AUSTR	
			STREET MELBOURNE VIC, IN 1/2 SHARE, THE GREATER	
			PTY LTD OF LEVEL 10 49 MARKET STREET SYDNEY NS	
			ANTS IN COMMON TRANSFER OF SUB-LEASE H849257, I MAS AUSTRALIA PTY LTD OF 206 BOURKE STREET, MEL	
			GREATER UNION ORGANISATION PTY LTD OF LEVEL 1	
			Y, NEW SOUTH WALES. REGISTERED 18/2/2005.	0, 49 MAKKE1
	N907838		UB LEASE H849257, LESSEE NOW GRAND THEATRE CO	MPANY PTY LTD
			NTERTAINMENT CENTRE, SUITE 16, 639 BEACH ROAD,	
		6024 REGISTERE		
	O339117	EXTENSION OF I	LEASE. REGISTERED 5/2/2020.	
8.	H862680	LEASE TO GREATER	UNION ORGANISATION PTY LTD OF 49 MARKET STREE	ET, SYDNEY,
			S, VILLAGE CINEMAS AUSTRALIA PTY LTD OF LEVEL 12	
			NE, VICTORIA, WARNER BROS. THEATRES (AUSTRALIA)	
			ARY ROAD, NEUTRAL BAY, NEW SOUTH WALES EXPIRE	S: SEE LEASE.
			LY REGISTERED 6/9/2001.	
	J187841		EASE H862680, LESSEE NOW VILLAGE CINEMAS AUSTR	
			STREET, MELBOURNE, VICTORIA, THE GREATER UNIO	
			PTY LTD OF LEVEL 10, 49 MARKET STREET, SYDNEY, N	
	N1007020		ANTS IN COMMON IN EQUAL SHARES REGISTERED 18/2	
	N907839		ÆASE H862680, LESSEE NOW GRAND THEATRE COMPAY ERTAINMENT CENTRE SUITE 19 639 BEACH ROAD WAR	
		WARWICKENII	EKTAINWIENT CENTRE SUITE 19 039 DEACH RUAD WAR	WICK WA 0024

WARWICK ENTERTAINMENT CENTRE SUITE 19 639 BEACH ROAD WARWICK WA 6024 REGISTERED 29/5/2018.

O339117 EXTENSION OF LEASE. REGISTERED 5/2/2020.

9. H862679 LEASE TO JAMESBRIDGE PTY LTD OF CARE OF SAVOY ESTATES PTY LTD, LEVEL 12, 200 ST GEORGE'S TERRACE, PERTH AS TO PORTION ONLY. EXPIRES: SEE LEASE. REGISTERED 6/9/2001.

L641017 TRANSFER OF LEASE H862679, LESSEE NOW LIQUORLAND (AUSTRALIA) PTY LTD OF 800 TOORAK ROAD, GLEN IRIS, VICTORIA REGISTERED 31/5/2011.

10. H862681 LEASE TO TARGET AUSTRALIA PTY LTD OF 12 THOMPSON ROAD, NORTH GEELONG, VICTORIA AS TO PORTION ONLY. EXPIRES: SEE LEASE. REGISTERED 6/9/2001.

K792776 EXTENSION OF LEASE H862681, REGISTERED 5/12/2008.

O307892 PARTIAL SURRENDER REGISTERED 18/12/2019.

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REGISTER NUMBER: 708/DP75161 VOLUME/FOLIO: 2813-189 PAGE 3	REGISTER NUMBER: 708/DP75161 VOLUME/FOLIO: 2813-189 PAGE 4
O307890 EXTENSION OF LEASE. REGISTERED 18/12/2019.	34. EASEMENT BURDEN CREATED UNDER SECTION 136C T.L.A. FOR ACCESS PURPOSES - SEE INSTRUMENT
O307890 CHANGE OF ADDRESS. THE PROPRIETORSHIP IS NOW TARGET AUSTRALIA PTY LTD OF	M117006 AND DEPOSITED PLAN 75161.
WESFARMERS HOUSE LEVEL 11/40 THE ESPLANADE PERTH WA 6000 REGISTERED	35. EASEMENT BURDEN CREATED UNDER SECTION 136C T.L.A. FOR ACCESS PURPOSES - SEE INSTRUMENT
18/12/2019.	M117007 AND DEPOSITED PLAN 75161.
O307891 EXTENSION OF LEASE. REGISTERED 18/12/2019.	36. M117008 EASEMENT TO CITY OF JOONDALUP FOR ACCESS PURPOSES - SEE SKETCH ON DEPOSITED
11. I041502 LEASE TO MCDONALD'S PROPERTIES (AUSTRALIA) PTY LTD OF 21-29 CENTRAL AVENUE,	PLAN 75161. REGISTERED 28/11/2012.
THORNLEIGH, NEW SOUTH WALES AS TO PORTION ONLY. EXPIRES: SEE LEASE.	37. M117009 EASEMENT TO CITY OF JOONDALUP FOR ACCESS PURPOSES - SEE SKETCH ON DEPOSITED
REGISTERED 13/3/2002.	PLAN 75161. REGISTERED 28/11/2012.
12. *K089472 CAVEAT BY WESTPAC BANKING CORPORATION LTD - AS TO PORTION ONLY LODGED	38. *M221181 CAVEAT BY COMMONWEALTH BANK OF AUSTRALIA LODGED 25/3/2013.
14/2/2007.	39. *M223594 CAVEAT BY JOONDALUP LIQUOR PTY LTD - AS TO PORTION ONLY. LODGED 27/3/2013.
13. EASEMENT BENEFIT CREATED UNDER SECTION 136C T.L.A. FOR ACCESS PURPOSES AND OTHER RIGHTS	40. *M223595 CAVEAT BY JOONDALUP TAVERN PTY LTD - AS TO PORTION ONLY. LODGED 27/3/2013.
- SEE INSTRUMENT K385949 AND DEPOSITED PLAN 75161 AS CREATED ON DEPOSITED PLAN 48494. AS TO	41. *M758882 CAVEAT BY TOWN INN PTY LTD AS TO PORTION ONLY LODGED 4/9/2014.
THE PORTION DELINEATED 'R' ON DEPOSITED PLAN 75161.	42. *N126125 CAVEAT BY HOUSE CORPORATE PTY LTD AS TO PORTION ONLY LODGED 18/9/2015.
14. EASEMENT BURDEN CREATED UNDER SECTION 136C T.L.A. FOR ACCESS PURPOSES AND OTHER RIGHTS	43. *N381836 CAVEAT BY COMMONWEALTH BANK OF AUSTRALIA AS TO PORTION ONLY LODGED
- SEE INSTRUMENT K385948 AND DEPOSITED PLAN 75161 AS CREATED ON DEPOSITED PLAN 48494.	13/7/2016.
15. K385950 RESTRICTIVE COVENANT BENEFIT - SEE SKETCH ON DEPOSITED PLAN 75161. AS TO THE	44. N396547 EASEMENT TO CITY OF JOONDALUP FOR DRAINAGE PURPOSES. SEE SKETCH ON
PORTION DELINEATED AS 'R' ON DEPOSITED PLAN 75161. REGISTERED 23/10/2007.	DEPOSITED PLAN 75161. REGISTERED 29/7/2016.
16. K385947 COVENANT BURDEN - SEE SKETCH ON DEPOSITED PLAN 75161. REGISTERED 23/10/2007.	45. N487313 LEASE TO MAGI ENTERPRISES PTY LTD OF 34 GARDEN STREET SOUTH YARRA VIC 3141
17. *K781215 CAVEAT BY ESPRIT (RETAIL) PTY LTD - AS TO PORTION ONLY LODGED 25/11/2008.	EXPIRES: SEE LEASE, REGISTERED 18/11/2016.
18. *K947064 CAVEAT BY PUMPKIN PATCH ORIGINALS LTD - AS TO PORTION ONLY LODGED 20/5/2009. 19. *K959834 CAVEAT BY WESTPAC BANKING CORPORATION OF ONE UNDIVIDED HALF SHARE ONLY -	46. N487314 LEASE TO TEA TOO PTY. LTD. OF 20-22 CAMBRIDGE STREET EPPING NSW 2121 EXPIRES:
	SEE LEASE. AS TO PORTION ONLY REGISTERED 18/11/2016. 47. N517922 MORTGAGE TO CBA CORPORATE SERVICES (NSW) PTY LTD REGISTERED 22/12/2016.
AS TO PORTION ONLY LODGED 3/6/2009. 20. *K959835 CAVEAT BY WESTPAC BANKING CORPORATION OF ONE UNDIVIDED HALF SHARE ONLY -	47. N517922 MORTGAGE TO CBA CORPORATE SERVICES (NSW) PTY LTD REGISTERED 22/12/2016. 48. N655185 LEASE TO OPORTO LEASING PTY LTD OF 1 WHIPPLE STREET BALCATTA WA 6021 EXPIRES:
AS TO PORTION ONLY LODGED 3/6/2009.	48. N035183 LEASE 10 OPORTO LEASING F11 LTD OF 1 WHIPPLE STREET BALCATTA WA 0021 EXPIRES. SEE LEASE AS TO PORTION ONLY REGISTERED 23/6/2017.
21. *L069014 CAVEAT BY MINISTER FOR HEALTH - AS TO PORTION ONLY LODGED 9/9/2009.	49. N655186 LEASE TO PETER ALEXANDER SLEEPWEAR PTY LTD OF JUST JEANS BUILDING 658
22. *L134431 CAVEAT BY JB HI-FI GROUP PTY LTD - AS TO PORTION ONLY, LODGED 11/11/2009.	CHURCH STREET RICHMOND VIC 3121 EXPIRES: SEE LEASE. AS TO PORTION ONLY
23. L211388 LEASE TO WOOLWORTHS LTD OF 1 WOOLWORTHS WAY, BELLA VISTA, NEW SOUTH	REGISTERED 23/6/2017.
WALES AS TO PORTION ONLY, EXPIRES: SEE LEASE, REGISTERED 25/1/2010.	50. N655187 LEASE TO WITCHERY FASHIONS PTY, LTD, OF 658 CHURCH STREET CREMORNE VIC 3121
N416686 EXTENSION OF LEASE L211388, REGISTERED 24/8/2016.	EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
24. L211391 LEASE TO IGA DISTRIBUTION (WA) PTY LTD OF CARE OF METCASH TRADING LIMITED, 50	51. N655188 LEASE TO SHEIKE & CO PTY LTD OF CARE OF MASSELOS GRAHAME MASSELOS SUITE 1701
WATERLOO ROAD, MACQUARIE PARK, NEW SOUTH WALES AS TO PORTION ONLY.	LEVEL 17 44 MARKET STRET SYDNEY NSW 2000 EXPIRES: SEE LEASE. AS TO PORTION
EXPIRES; SEE LEASE. REGISTERED 25/1/2010.	ONLY REGISTERED 23/6/2017.
O053102 TRANSFER OF LEASE L211391, LESSEE NOW OCEANLILY PTY LTD OF CARE OF UHY	52. N655189 LEASE TO CONNOR CLOTHING PTY LTD OF LEVEL 1 409 GEORGE STREET WATERLOO NSW
HAINES NORTON (FORMERLY SOTHERTONS) LEVEL 2 35 HAVELOCK STREET WEST	2017 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
PERTH WA 6005 REGISTERED 14/12/2018.	53. N655190 LEASE TO PORTMANS PTY LTD OF JUST JEANS BUILDING 658 CHURCH STREET RICHMOND
25. L211393 LEASE TO AUSTRALIAN POSTAL CORPORATION OF 1 CAMBRIDGE STREET, WEST	VIC 3121 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
LEEDERVILLE AS TO PORTION ONLY. EXPIRES: SEE LEASE. REGISTERED 25/1/2010.	54. N655191 LEASE TO RYU JAPANESE PTY LTD OF 62-64 BURWOOD ROAD BURWOOD NSW 2134
26. L211397 LEASE TO NATIONAL AUSTRALIA BANK LTD OF CARE OF UNITED GROUP SERVICES, GPO	EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
BOX P1233, PERTH AS TO PORTION ONLY. EXPIRES: SEE LEASE. REGISTERED 25/1/2010.	55. N655192 LEASE TO SUBWAY REALTY PTY LTD OF LEVEL 1 42 AMELIA STREET FORTITUDE VALLEY
27. *L272865 CAVEAT BY JARRAHGLEN INVESTMENTS PTY LTD OF ONE UNDIVIDED HALF SHARE ONLY	QLD 4006 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
- AS TO PORTION ONLY. LODGED 30/3/2010.	56. N655193 LEASE TO MIX & GO FROYO INVESTMENTS PTY. LTD. OF CARE OF MATTHEW DAY LEVEL 2
28. *L272866 CAVEAT BY JARRAHGLEN INVESTMENTS PTY LTD OF ONE UNDIVIDED HALF SHARE ONLY	10 MOORABOOL STREET GEELONG VIC 3220 EXPIRES: SEE LEASE. AS TO PORTION ONLY
- AS TO PORTION ONLY. LODGED 30/3/2010.	REGISTERED 23/6/2017.
29. *L695250 CAVEAT BY RACING AND WAGERING WESTERN AUSTRALIA - AS TO PORTION ONLY.	57. N655194 LEASE TO TAROCASH PTY. LIMITED OF LEVEL 1 409 GEORGE STREET WATERLOO NSW
LODGED 1/8/2011.	2017 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
30. *M000238 CAVEAT BY OPTIMUM LEASING PTY LTD - AS TO PORTION ONLY. LODGED 24/7/2012.	58. N655195 LEASE TO COUNTRY ROAD CLOTHING PTY. LTD. OF 658 CHURCH STREET CREMORNE VIC
31. *M040170 CAVEAT BY LUXOTTICA RETAIL AUSTRALIA PTY LTD - AS TO PORTION ONLY. LODGED 6/9/2012.	3121 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017. 59. N655196 LEASE TO BREADTIME JOONDALUP PTY LTD OF CARE OF WT PARTNERS SUITE 11 19-21
32. EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR ELECTRICITY PURPOSES TO ELECTRICITY NETWORKS CORPORATION - SEE DEPOSITED PLAN 75161.	OUTRAM STREET WEST PERTH WA 6005 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.
33. EASEMENT BURDEN CREATED UNDER SECTION 136C T.L.A. FOR INSTALLATION PURPOSES - SEE	60. N655197 LEASE TO YD. PTY LIMITED OF LEVEL 1 409 GEORGE STREET WATERLOO NSW 2017
55. EAGENERY BURDEN CREATED UNDER SECTION 150C L.E.A. FOR INSTALLATION FURFUSES - SEE	00. NO.53177 LEASE TO TE, FIT LIMITED OF LEVEL 1 407 GEORGE STREET WATERLOO NSW 2017

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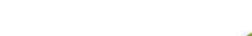
EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6/2017.

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INSTRUMENT M117005 AND DEPOSITED PLAN 75161.

REGISTER NUM	IBER: 708/DP75161 VOLUI	ME/FOLIO: 2813-189	PAGE 5	REGISTER NUM	MBER: 708/DP75161	VOLUME/FOLIO: 2813-189	PAGE 6
61. N655198		LTD. OF 249 PARK STREET SOUTH MELBOURNE VIC 3 ORTION ONLY REGISTERED 23/6/2017.	3205		HAWTHORN EAST VIO	C 3123 EXPIRES: SEE LEASE. AS TO PORTIO	ON ONLY REGISTERED
62. N655199	LEASE TO BLUE ILLUSION AUS	STRALIA PTY. LTD. OF 2-8 INKERMAN GROVE ST KIL TO PORTION ONLY REGISTERED 23/6/2017.	DA VIC	85. N941965		ANDS PTY LTD OF 34 WANGARATTA STR AS TO PORTION ONLY REGISTERED 12/7/	
63. N655200	LEASE TO REBEL SPORT LIMIT	ED OF IBC BUSINESS ESTATE LEVEL 1 29-33 CARTER SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6		86. N941966	LEASE TO SEDDON CO	OURT PTY. LTD. OF LEVEL 2 108 POWER S AS TO PORTION ONLY REGISTERED 12/7/	TREET HAWTHORN VIC 3122
64. N655201	LEASE TO HYPE DC PTY LIMIT	ED OF LEVEL 6 228 PITT STREEET SYDNEY NSW 2000 ORTION ONLY REGISTERED 23/6/2017.		87. N941971	LEASE TO COVER SYN	NDICATE PTY LTD OF 30 ENTERPRISE STR AS TO PORTION ONLY REGISTERED 12/7/2	REET RICHLANDS QLD 4077
65. N655202	LEASE TO STRANDBAGS GROU	JP PTY LIMITED OF SOUTH TOWER LEVEL 1 MINNA F . AS TO PORTION ONLY REGISTERED 23/6/2017.	BELROSE	88. O089484	LEASE TO DRAGON PA	ALACE JOONDALUP PTY LTD OF 66 FRAN E LEASE. AS TO PORTION ONLY. REGISTE	ICIS STREET NORTHBRIDGE
66. N655203	LEASE TO COUNTRY ROAD CL	OTHING PTY. LTD. OF 658 CHURCH STREET CREMOR O PORTION ONLY REGISTERED 23/6/2017.	NE VIC	89. O089485	LEASE TO GEE INVEST	TMENTS PTY LTD OF CARE OF MTK ACCO DER ROAD MOONEE PONDS VICTORIA 303	OUNTANTS PTY LTD SUITE 2
67. N655204	LEASE TO JACQUI E PTY LTD O	OF JUST JEANS BUILDING 658 CHURCH STREET RICH! AS TO PORTION ONLY REGISTERED 23/6/2017.	MOND	90. O089486	TO PORTION ONLY. RI		
68. N655205	LEASE TO DOTTI PTY LIMITED	AS TO PORTION ONLY REGISTERED 23/0/2017. AS TO PORTION ONLY REGISTERED 23/6/2017.	HMOND	91. O126245	3071 EXPIRES: SEE LEA	ASE. AS TO PORTION ONLY. REGISTERED LTD OF LEVEL 7 800 COLLINS STREET DO	12/2/2019.
69. N655206	LEASE TO JUST JEANS PTY. LT	D. OF JUST JEANS BUILDING 658 CHURCH STREET SEE LEASE. AS TO PORTION ONLY REGISTERED 23/6	/2017	92. O132826	SEE LEASE. AS TO POI	RTION ONLY. REGISTERED 8/4/2019. IOMINEES PTY LTD OF CARE OF BARRING	
70. N655207	LEASE TO SHINGLE INN LEASI	NG PTY LTD OF 25 MANILLA STREET EAST BRISBAN		92. 0132826	"BARRINGTON HOUSE	E" 283 ROKEBY ROAD SUBIACO WA 6008 I	
71. N655208		CO PORTION ONLY REGISTERED 23/6/2017. TD OF 247 KING STREET MASCOT NSW 2020 EXPIRES DEGISTERED 23/6/2017	: SEE	93. O132827		STERED 10/4/2019. NTRE TRAVEL GROUP LIMITED OF 275 GR XPIRES: SEE LEASE. AS TO PORTION ONI	
72. N655209	LEASE TO RETAIL PRODIGY OF	PERATIONS PTY LTD OF LEVEL 10 530 COLLINS STRE S: SEE LEASE. AS TO PORTION ONLY REGISTERED 23		O30785 94. O133921	51 EXTENSION OF LI	EASE. REGISTERED 18/12/2019. RPRISES PTY LTD OF 80 HAMPTON ROAD	
73. N663354	LEASE TO NATIONAL AUSTRA	S. SEE LEASE. AS TO PORTION ONLY REGISTERED 25 LIA BANK LIMITED OF LEVEL 1 800 BOURKE STREET S: SEE LEASE. AS TO PORTION ONLY REGISTERED 30.		94. O133921 95. O133922	SEE LEASE. AS TO POI	RTION ONLY. REGISTERED 17/4/2019. DALUP PTY LTD OF UNIT 31 6 HERBERT ST	
74. N663355	LEASE TO PHUONG THI MINH	NGUYEN OF 34 VAUCLUSE CIRCUIT BELMONT WA 61			2065 EXPIRES: SEE LEA	ASE. AS TO PORTION ONLY. REGISTERED	17/4/2019.
75. N663356	LEASE TO ORANGE GATE INVE	ORTION ONLY REGISTERED 30/6/2017. ESTMENTS PTY LTD OF CARE OF WT PARTNERS SUIT PERTH WA 6005 EXPIRES: SEE LEASE. AS TO PORTION		96. O307849		ELIGHT HOLDINGS LTD. OF SUITE 1 LEVE 24 EXPIRES: SEE LEASE. AS TO PORTION	
76 NGC2250	REGISTERED 30/6/2017.			97. O307850	LEASE TO NORTH ME	TROPOLITAN HEALTH SERVICE OF T BLO	
76. N663358	EXPIRES: SEE LEASE. AS TO PO	MITED OF 657 PARRAMATTA ROAD LEICHARDT NSW DRTION ONLY REGISTERED 30/6/2017.	V 2060	00 0207052	REGISTERED 18/12/201		
77. N663687	HIGHWAY SOUTH PERTH WA	OF CARE OF OZ HENRY & ASSOCIATES 29 CANNING 151 EXPIRES: SEE LEASE. AS TO PORTION ONLY		98. O307852	SEE LEASE. AS TO POI	N PTY LTD OF 16 SPRINGVALE DRIVE WA RTION ONLY REGISTERED 18/12/2019.	
78. N740393		RATIONS PTY LTD OF LEVEL 3 73-75 DUNMORE STRE		99. O307853	2204 EXPIRES: SEE LEA	N PTY LTD OF UNIT 2 8 LILIAN FOWLER P ASE. AS TO PORTION ONLY REGISTERED	18/12/2019.
	13/10/2017.	5 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGIS		100. O307855	GORDON NSW 2072 EX	AN GEOGRAPHIC RETAIL PTY LTD OF LEV (PIRES: SEE LEASE. AS TO PORTION ONL)	Y REGISTERED 18/12/2019.
79. N740394	3121 EXPIRES: SEE LEASE. AS T	OF JUST JEANS BILDING 658 CHURCH STREET RICHM O PORTION ONLY REGISTERED 13/10/2017.		101. O307856	PERTH WA 6005 EXPIR	PTY LTD OF CARE OF R.B. SHARPE & CO RES: SEE LEASE. AS TO PORTION ONLY RI	EGISTERED 18/12/2019.
80. N740395	AVENUE WA 6005 EXPIRES: SE	OYMENT FORCE PTY LTD OF SUITE 3 LEVEL 1 143 VE E LEASE. AS TO PORTION ONLY REGISTERED 13/10/20	017.	102. O307857	VIC 2315 EXPIRES: SEE	N CLOTHING PTY. LTD. OF 14 SHEPHERD OF LEASE. AS TO PORTION ONLY REGISTED	RED 18/12/2019.
81. N740396	RICHMOND VIC 3121 EXPIRES:	IRK PTY LTD OF JUST JEANS BUILDING 658 CHURCH SEE LEASE. AS TO PORTION ONLY REGISTERED 13/1	0/2017.	103. O307858	EXPIRES: SEE LEASE.	NDICATE PTY LTD OF 30 ENTERPRISE STR AS TO PORTION ONLY REGISTERED 18/12	2/2019.
82. N776240	2000 EXPIRES: SEE LEASE. AS T	URITZ PTY LTD OF LEVEL 4 414 KENT STREET SYDN O PORTION ONLY REGISTERED 29/11/2017.		104. O307859	EXPIRES: SEE LEASE.	Y DESIGNS PTY LTD OF 74 BALANUS WAY AS TO PORTION ONLY REGISTERED 18/12	2/2019.
83. N776241	2000 EXPIRES: SEE LEASE. AS T	M PTY LTD OF LEVEL 24 2 MARKET STREET SYDNEY O PORTION ONLY REGISTERED 29/11/2017.		105. O307860	AS TO PORTION ONLY	JIN OF 11 BARQUE PLACE KALLAROO WA 7 REGISTERED 18/12/2019.	
O10806	TOORAK ROAD GLEN IRIS	6241 TO ULTRA TUNE AUSTRALIA PTY. LTD. OF UNIT VIC 3146 EXPIRES: SEE SUB LEASE. REGISTERED 12/3		106. O307861	EXPIRES: SEE LEASE.	OOM PTY LTD OF 27 SOUTH LAKE DRIVE AS TO PORTION ONLY REGISTERED 18/12	2/2019.
84. N876975	LEASE TO COLES SUPERMARK	ETS AUSTRALIA PTY LTD OF 800 TOORAK ROAD		107. O307863	LEASE TO MAD MEX I	LEASING PTY LTD OF LEVEL 7 362 KENT S	STREET SYDNEY NSW 2000

END OF PAGE 5 - CONTINUED OVER





END OF PAGE 6 - CONTINUED OVER

REGISTER NUM	IBER: 708/DP75161 VOLUME/FOLIO: 2813-189	PAGE 7
108. O307864	EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019. LEASE TO MILROW PTY. LTD. OF CARE OF FJH SOLUTIONS PTY LTD G 21 TEDDING ROAD BURSWOOD WA 6100 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTEI 18/12/2019.	
O30786	EXTENSION OF LEASE, REGISTERED 18/12/2019.	
109. O307866	LEASE TO NOVASTATE PTY LTD OF PO BOX 951 MORLEY WA 6943 EXPIRES: SEE L TO PORTION ONLY REGISTERED 18/12/2019.	EASE. AS
110. O307867	LEASE TO OS 2ND ENTERPRISE PTY LTD OF CARE OF BEAUMARIS BUSINESS SOLU SUITE 8 643 NEWCASTLE STREET LEEDERVILLE WA 6007 EXPIRES: SEE LEASE, AS	
	PORTION ONLY REGISTERED 18/12/2019.	
111. O307868	LEASE TO PROUDS JEWELLERS PTY LTD OF 28 PARRAMATTA ROAD SUMMER HIL 2130 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	L NSW
112. O307871	LEASE TO SPECSAVERS PTY. LTD. OF 520 GRAHAM STREET PORT MELBOURNE VI EXPIRES: SEE LEASE, AS TO PORTION ONLY REGISTERED 18/12/2019.	C 3207
113. O307869	LEASE TO PSEA DEPT.STORES PTY LTD OF CARE OF PEPKOR SOUTH EAST ASIA 65	7 672
113. 030/809	PARRAMATTA ROAD LEICHHARDT NSW 2040 EXPIRES: SEE LEASE. AS TO PORTIO	
	REGISTERED 18/12/2019.	NONLI
114. O307870	LEASE TO RICH JOONDALUP PTY LTD OF 32 GREENLINK BOULEVARD HARRISDA	i E WA
114. 030/8/0	6112 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	JE WA
115. O307872	LEASE TO SPECIALTY FASHION GROUP LIMITED OF 151 WYNDHAM STREET ALEX	ANDRIA
113. 0307072	NSW 2015 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	AUDION .
116. O307873	LEASE TO S.S. PTY LTD OF CARE OF NARENDRA DAYA & CO 6 MAYFAIR PLACE	
	WILLETTON WA 6155 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18	/12/2019.
117. O307874	LEASE TO SUSHI SUSHI REALTY PTY LTD OF 63 RICKETTS ROAD MOUNT WAVERI	
	3149 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	
118. O307875	LEASE TO THE LUCKY CHARM PTY LTD OF CARE OF HAYDEN KINNAIRD UNIT 2 1 MAIN STREET OSBORNE PARK WA 6017 EXPIRES: SEE LEASE. AS TO PORTION ONI	
440.00000000	REGISTERED 18/12/2019.	a ann
119. O307876	LEASE TO USL PTY LTD OF 29 CANNING HIGHWAY SOUTH PERTH WA 6151 EXPIRI LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	
120. O307877	LEASE TO VANESSA CHIA OF 307 COLLIER ROAD BASSENDEAN WA 6054 EXPIRES LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	
121. O307878	LEASE TO VENGA PTY LTD OF LEVEL 1 SUITE 1 281 BRUNSWICK STREET FITZROY EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	VIC 3065
122. O307879	LEASE TO WITTNER'S AUSTRALIA PROPRIETARY LIMITED OF CARE OF GMK PAR' PTY LTD LEVEL 27 150 LONSDALE STREET MELBOUNRNE VIC 3000 EXPIRES: SEE I	
122 0207000	TO PORTION ONLY REGISTERED 18/12/2019.	HTT 2 24
123. O307880	LEASE TO WRIGHT HOSPITALITY PTY LTD OF CARE OF SHREEVE & CARSLAKE UI	
	WALTERS DRIVE OSBORNE PARK WA 6017 EXPIRES: SEE LEASE. AS TO PORTION O	JNLY
124. O307881	REGISTERED 18/12/2019. LEASE TO WESTMODE PTY LTD OF CARE OF WJ MARTIN PTY LTD SUITE 15 222 WA	ALTED
124. 030/881	ROAD EAST MORLEY WA 6062 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGIS'	
	18/12/2019.	LEKED
125. O307882	LEASE TO XY SKIN & BODY SPECIALISTS PTY LTD OF CARE OF CARTHILLS CHAR	TERED
120. 030,002	ACCOUNTANTS LEVEL 1 2072 LOGAN ROAD UPPER MOUNT GRAVATT QLD 4122 E	
	SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	
126. O307883	LEASE TO ELLEMENT 79 PTY LTD OF CARE OF BM&Y 230 ROKEBY ROAD SUBIACO	O WA 6008
	EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.	
127. O307885	LEASE TO JYZ ENTERPRISES PTY. LTD. OF CARE OF R A SNELGAR & CO 178 GRAN PROMENADE BEDFORD WA 6052 EXPIRES: SEE LEASE. AS TO PORTION ONLY REG	
	18/12/2019.	
128. O307886	LEASE TO MATTHEW LEE HUTTON OF 11 BLACKFRIARS ROAD JOONDALUP WA 60)27

END OF PAGE 7 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE 07/04/2021 02:39 PM Request number: 61847463

REGISTER NUMBER: 708/DP75161

VOLUME/FOLIO: 2813-189

PAGE 8

EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.

TRANSFER OF LEASE 0307886, LESSEE NOW VEKARIA PTY LTD OF CARE OF VARSANI & ASSOCIATES SUITE 1 15 BARRON PARADE JOONDALUP WA 6027 REGISTERED

18/12/2019.

129. O307889 LEASE TO THE COFFEE CLUB (PROPERTIES) PTY LTD OF 336 MONTAGUE ROAD WEST END

OLD 4101 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 18/12/2019.

130. O307854 LEASE TO LUXOTTICA RETAIL AUSTRALIA PTY LTD OF LEVEL 5 75 TALAVERA ROAD

MACQUARIE PARK NSW 2113 EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED

18/3/2020.

LEASE TO ALDI FOODS PTY LIMITED OF 1 SARGENTS ROAD MINCHINBURY NSW 2770 131. O527150

EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 16/10/2020.

A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.

* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.

Lot as described in the land description may be a lot or location.

----END OF CERTIFICATE OF TITLE---

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP75161

PREVIOUS TITLE: 2671-972, 2743-44

420 JOONDALUP DR, JOONDALUP. PROPERTY STREET ADDRESS:

LOCAL GOVERNMENT AUTHORITY: CITY OF JOONDALUP

NOTE 1: SECTION 138D TLA APPLIES TO CAVEAT G996503 K384239 NOTE 2: O209892 INTEREST ONLY DEPOSITED PLAN 417005 LODGED.

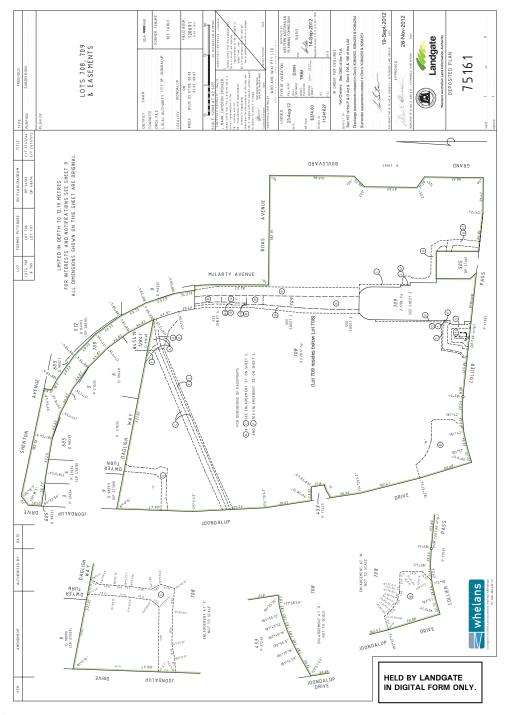
NOTE 3: O339117 LEASE H849257 SHOWN ABOVE WAS A SUB-LEASE AND IS NOW SHOWN AS A LEASE

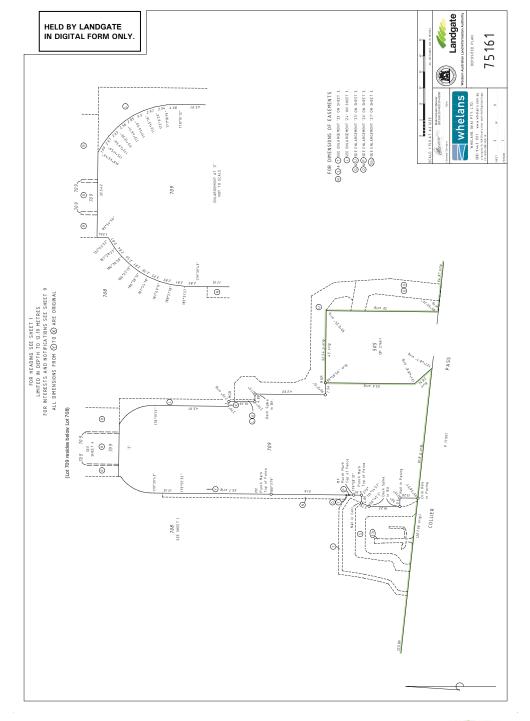
ON THE MERGE AND EXTINGUISHMENT OF HEAD LEASE G938413 IN TRANSFER

K385951.

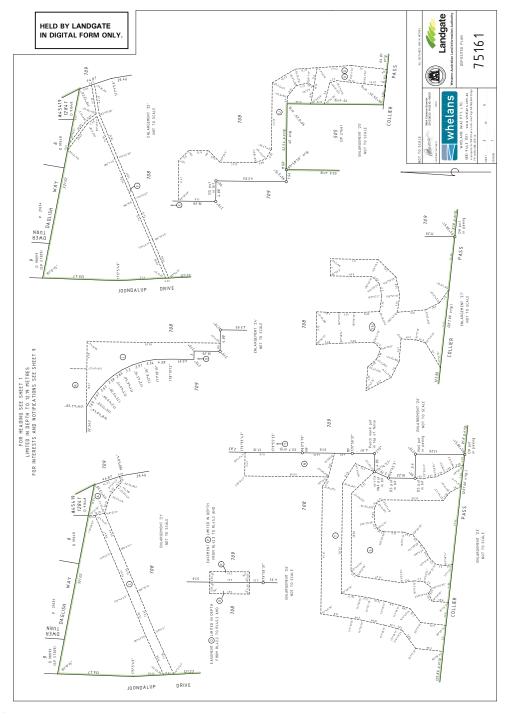


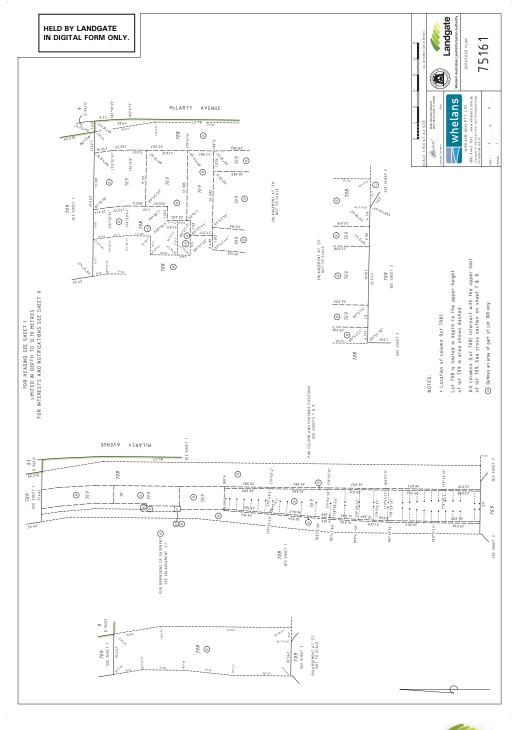


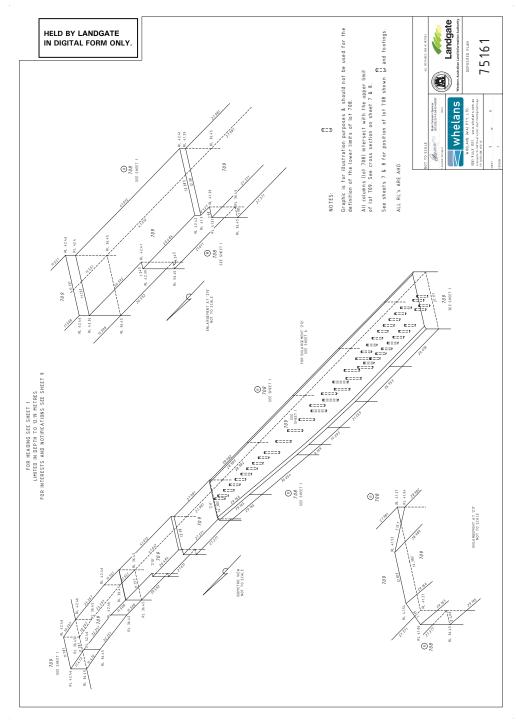


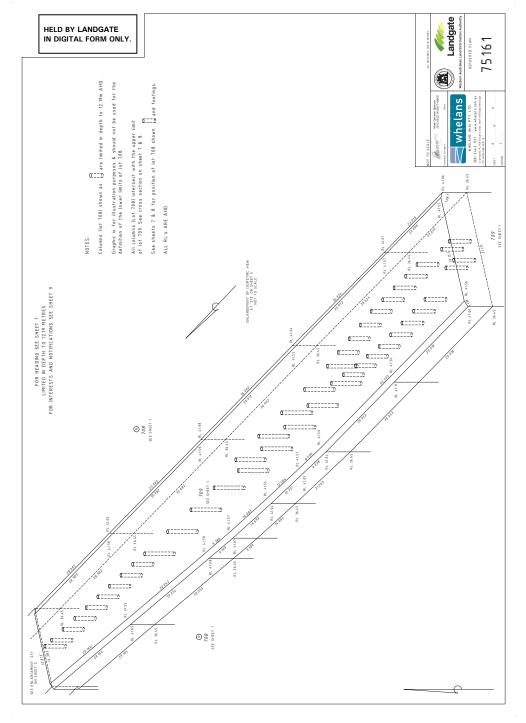


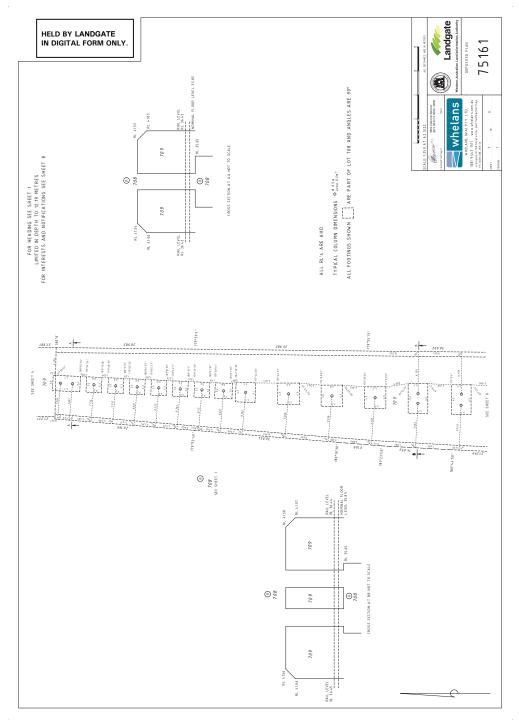


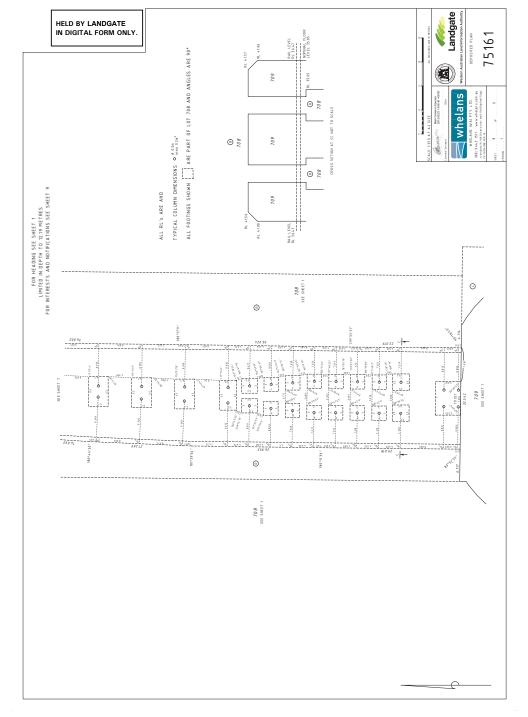














Landgate HELD BY LANDGATE IN DIGITAL FORM ONLY. 75161 whelans PUBLIC ACCESS ACCESS PUBLIC ACCESS 2. Cross section views indicate a top of rail level and a nominal floor level. These levels are given to provide a reference to physical features within the tunnel. There are minor variations through the tunnel. LOT 709

CITY OF JONDALUP

S. PUBLIC AT LARGE
CITY OF JONDALUP

CITY OF JONDALUP

S. PUBLIC AT LARGE 3. On the isometric view a level of RU 36.45 is stated to provide a constant horizontal point of reference. THIS DOES NOT MEAN THAT THE LOT IS LIMITED TO THIS DEPTH. i. All levels are to the Australian Height Datum and are shown as RL 46.15. Heights are in metres FOR HEADING SEE SHEET 1 LIMITED IN DEPTH TO 12.19 METRES THIS PLAN & DOC M117005
THIS PLAN & DOC M117006 THIS PLAN & DOC M117007 THIS PLAN & DOCM117007 00C M117009 THIS PLAN & DOC M117007 SEC 167 OF THE P&D ACT,
REG 33(c)
SEC 136C OF THE TLA
SEC 136C OF THE TLA SEC 136C OF THE TLA SEC 136C OF THE TLA GENERAL NOTES.



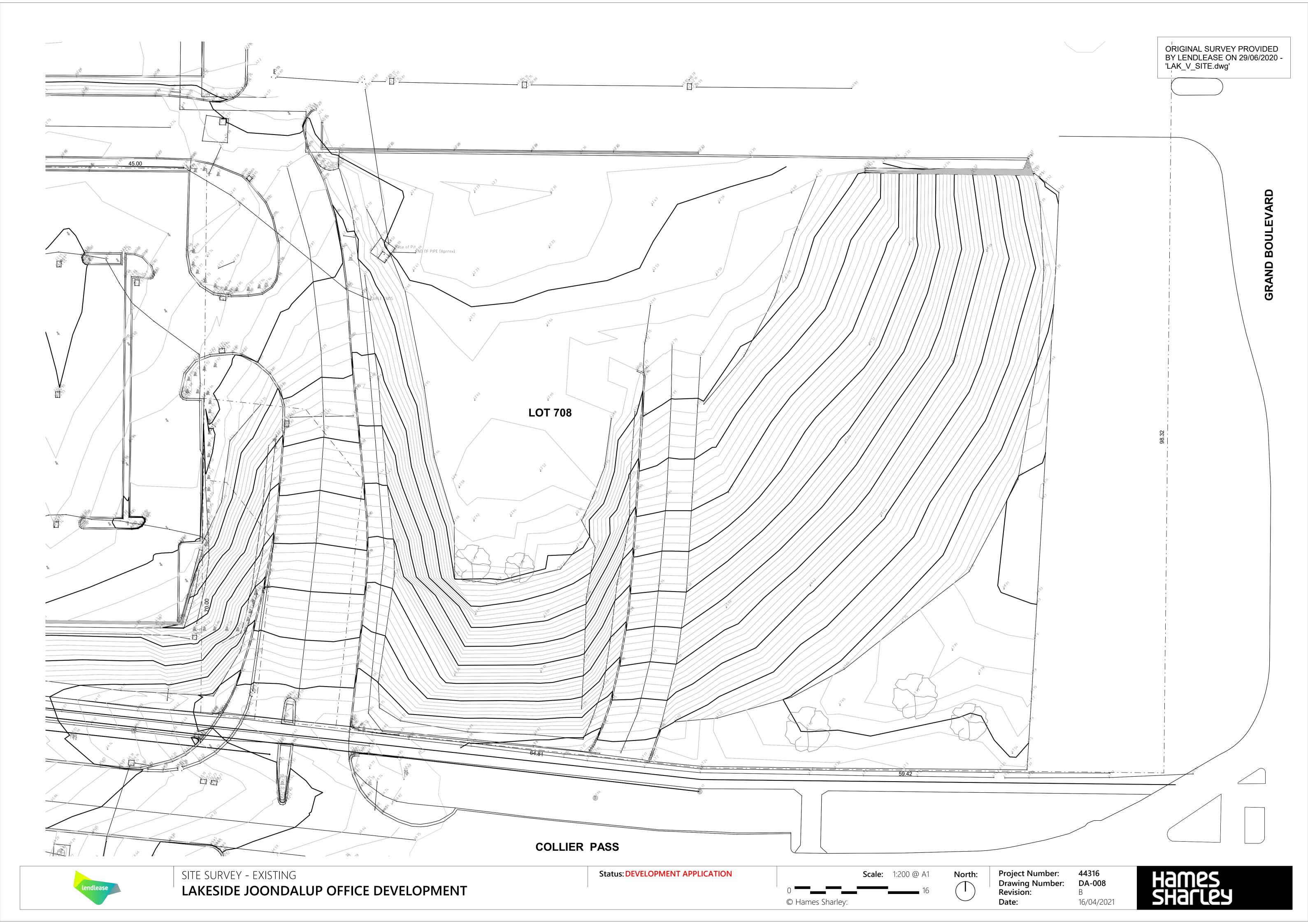
LAKESIDE JOONDALUP

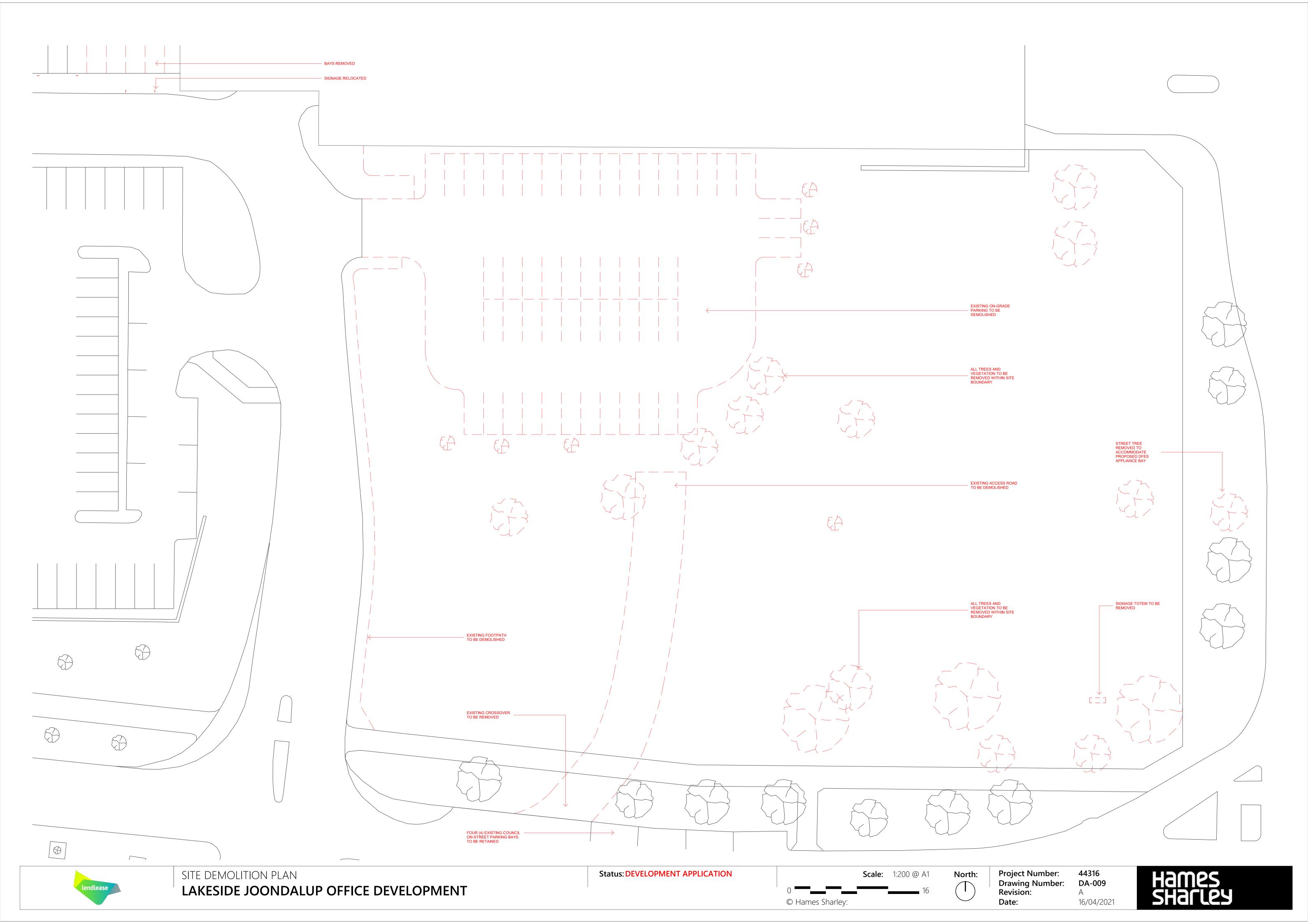
OFFICE DEVELOPMENT

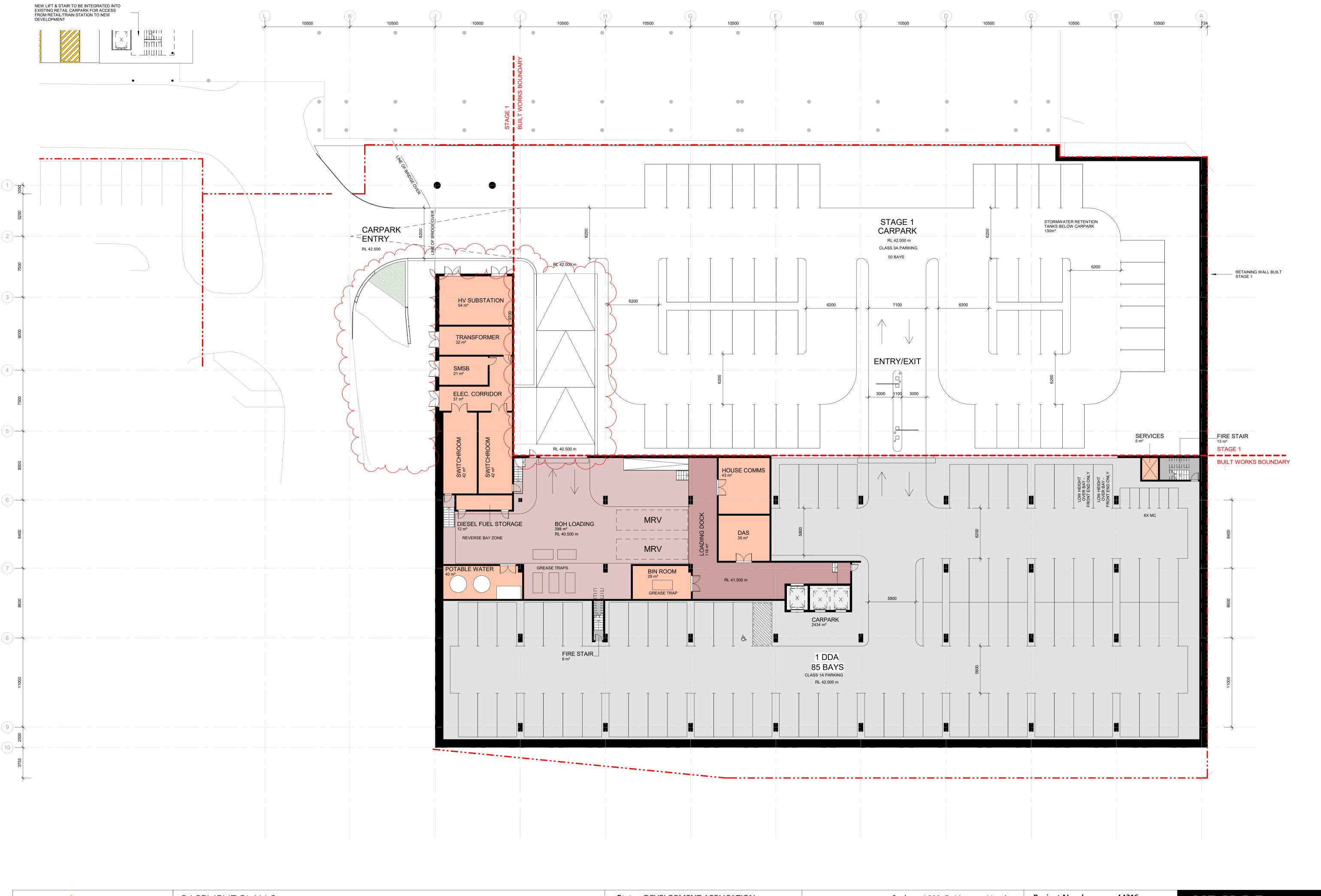


Status: DEVELOPMENT APPLICATION







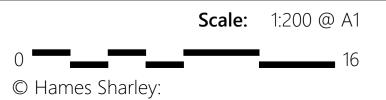


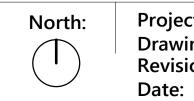


BASEMENT PLAN 2

LAKESIDE JOONDALUP OFFICE DEVELOPMENT

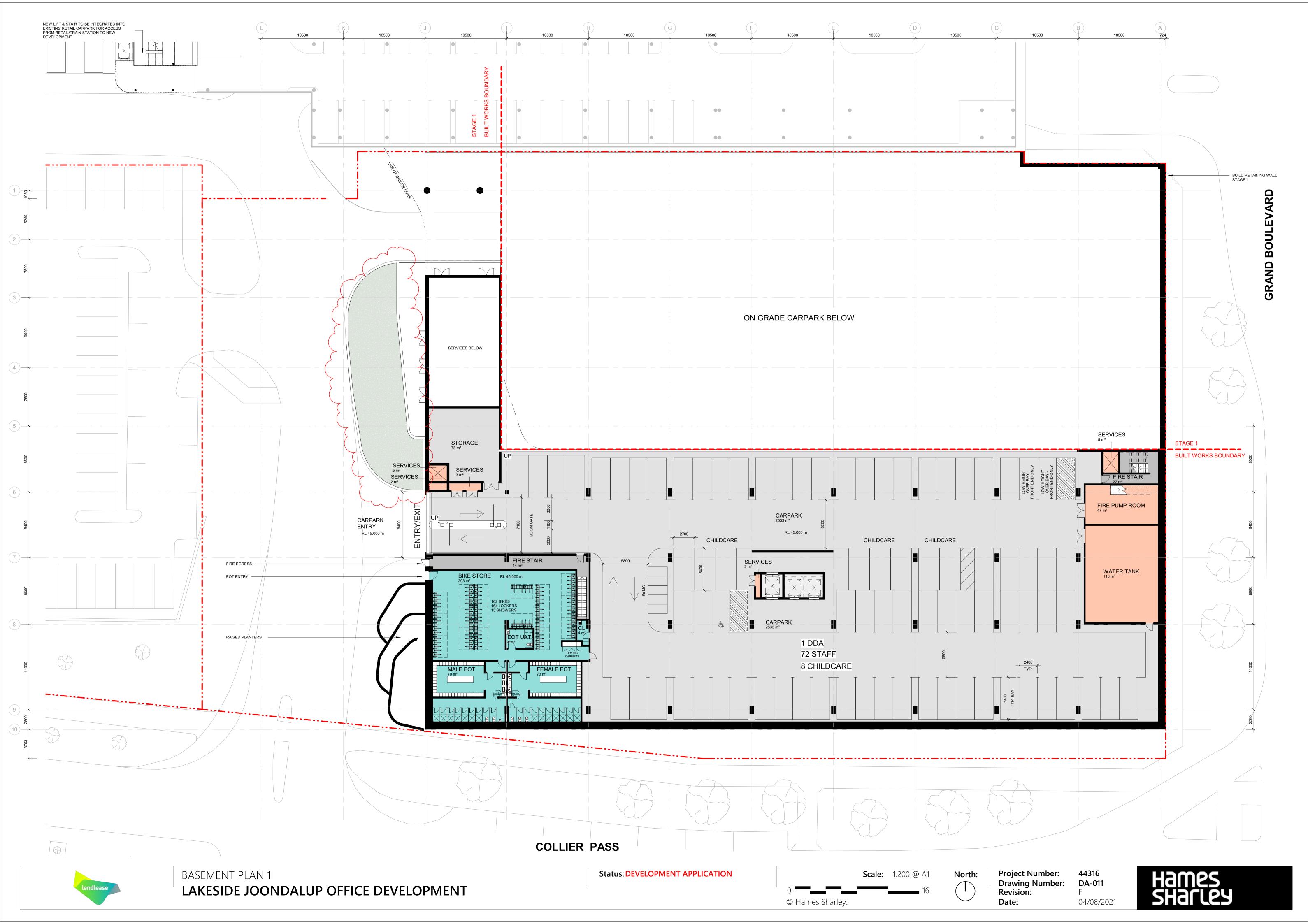


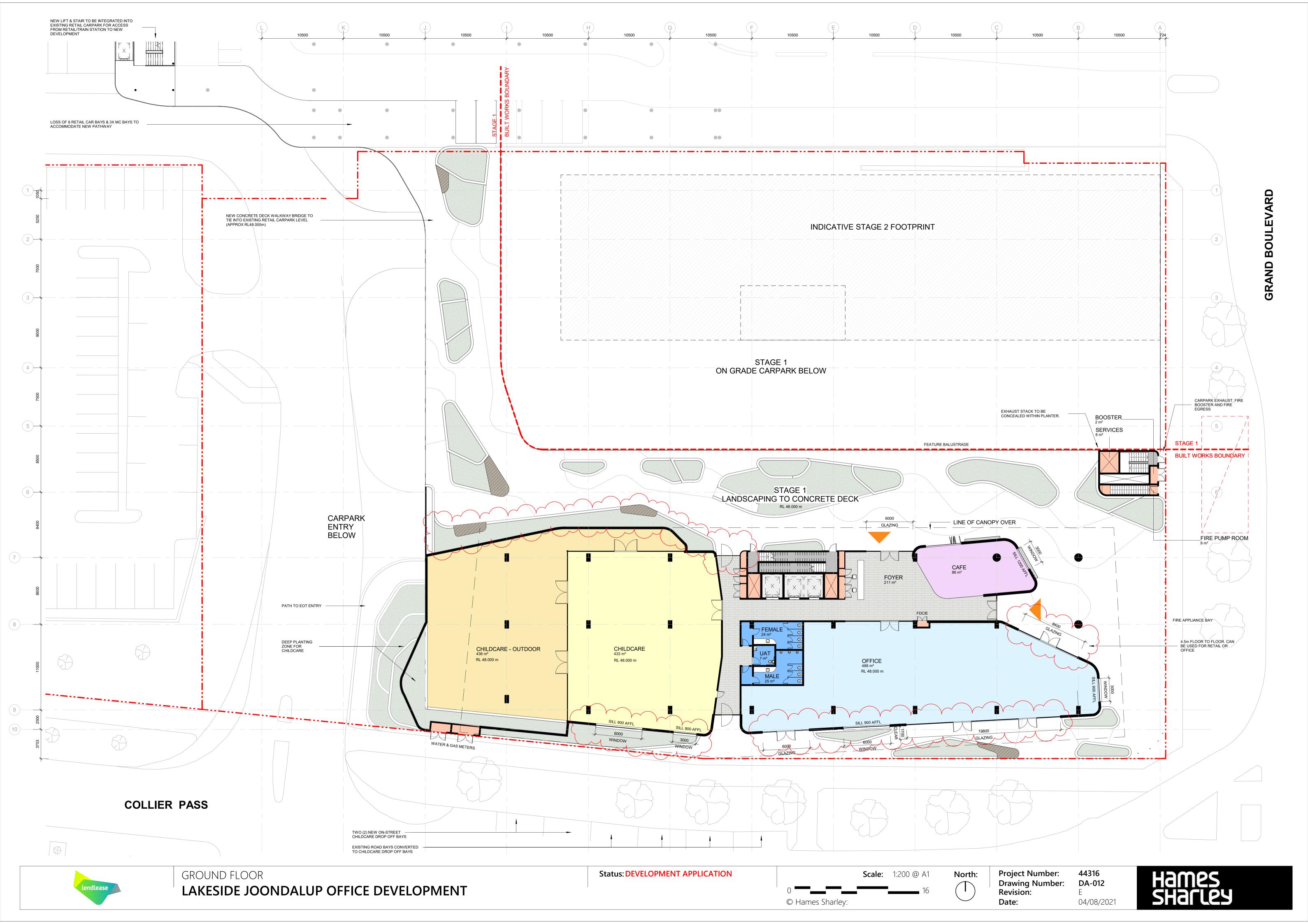


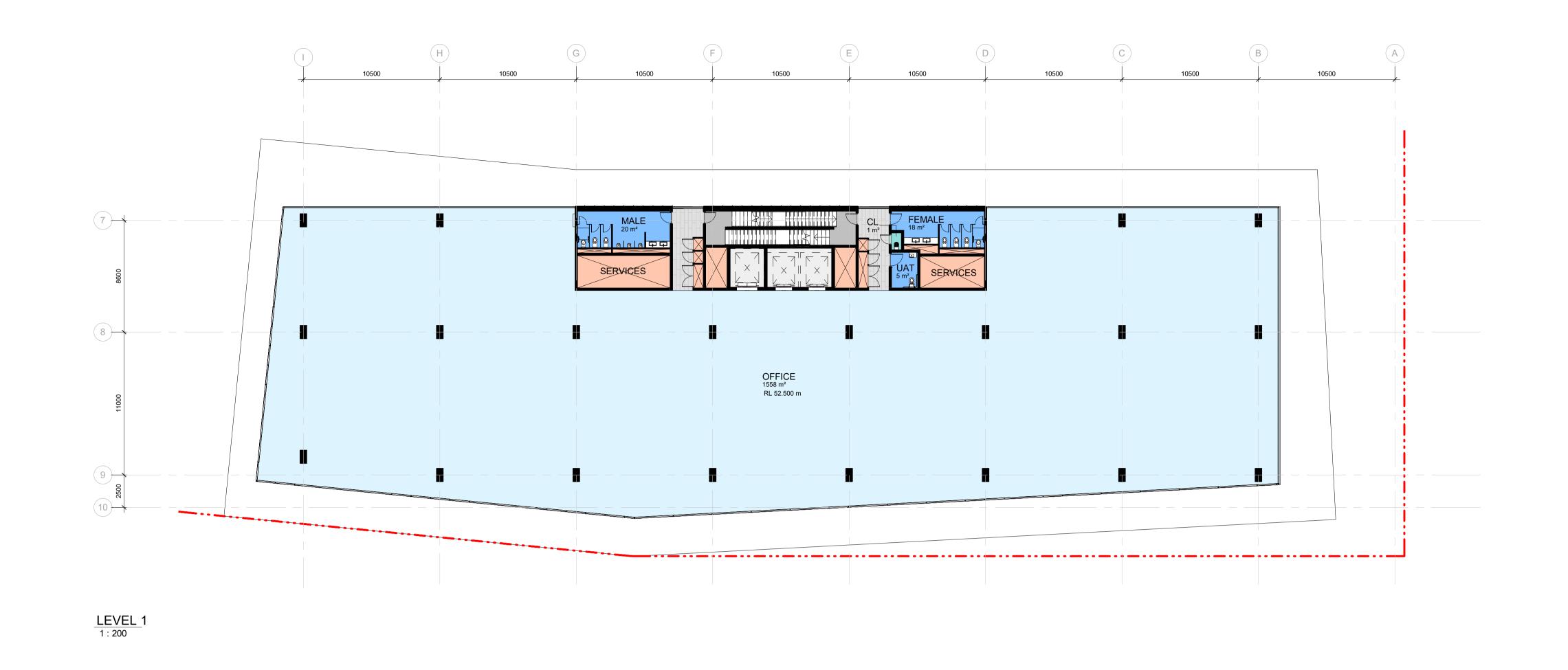


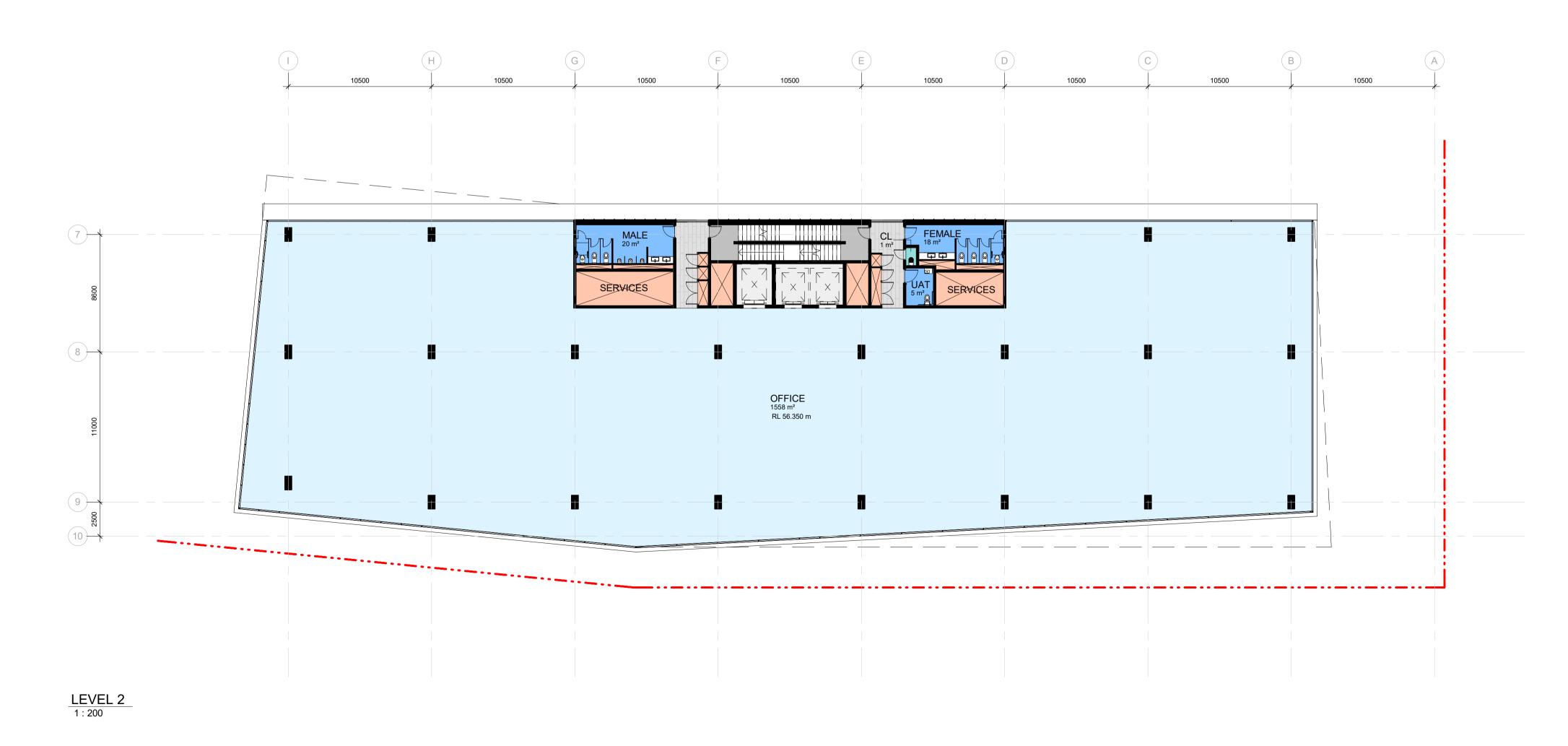
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Drawing Number: DA-010
Revision: F
Date: 04/08/2021



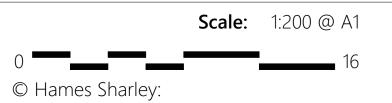








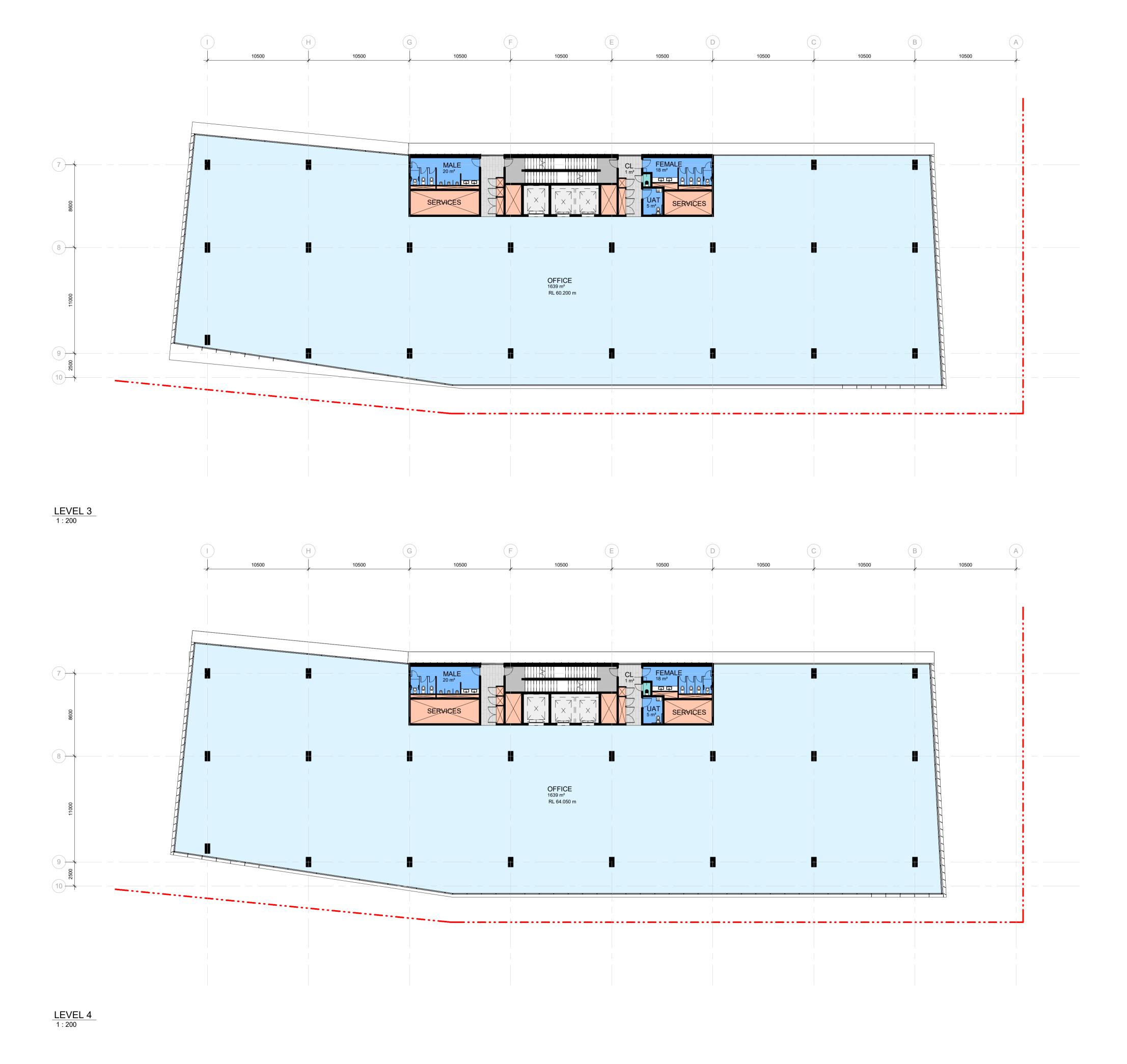




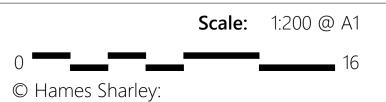


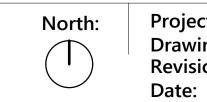
Project Number: 44316
Drawing Number: DA-013
Revision: D
Date: 16/04/2021

Ham SHar



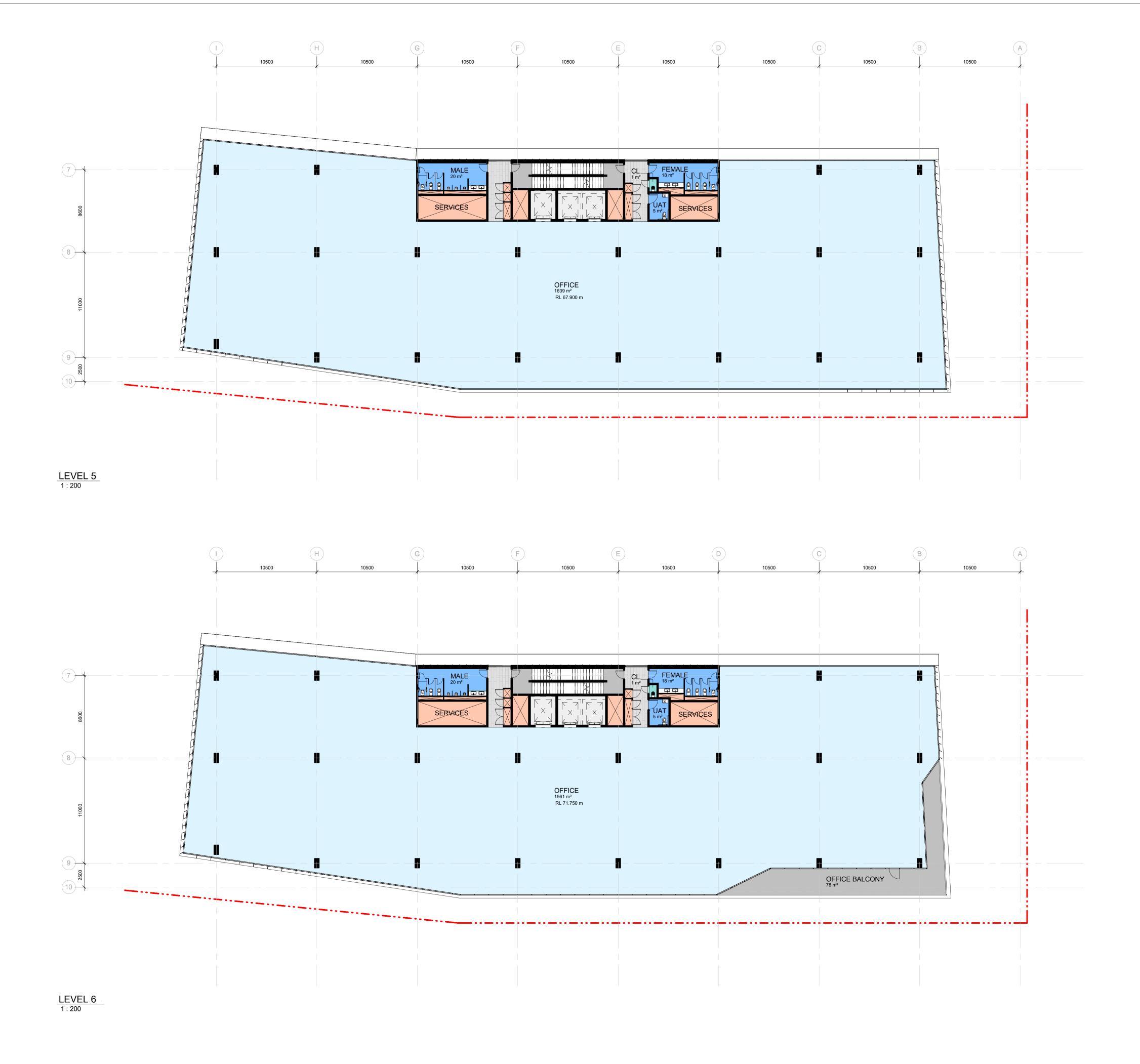




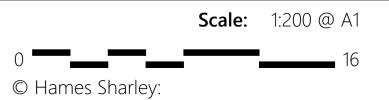


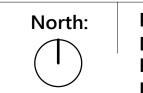
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Revision: E
Date: 16/04/2021





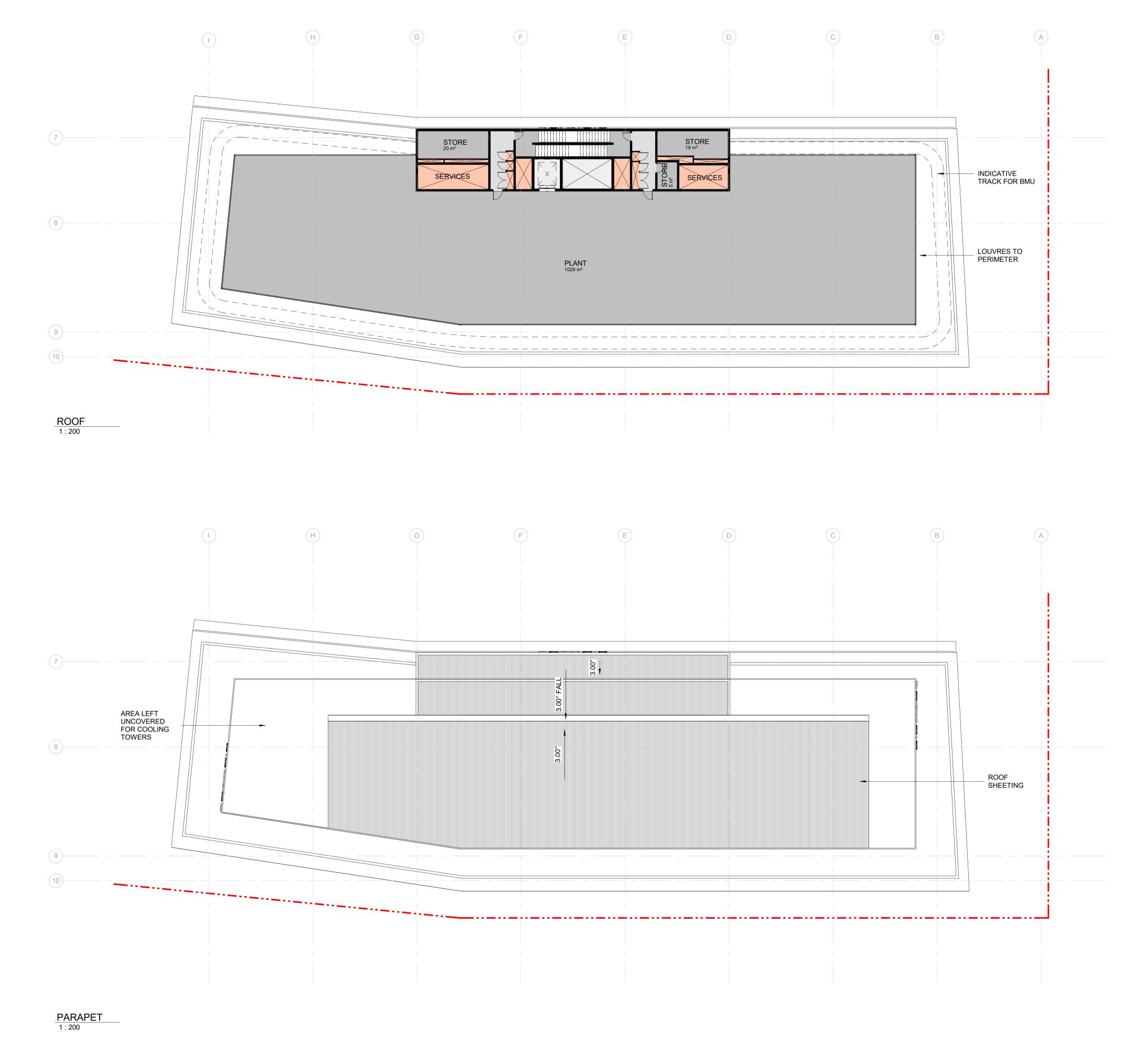




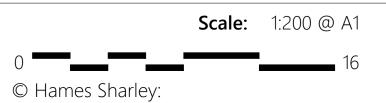


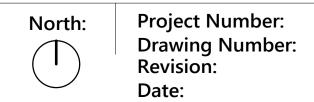
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Drawing Number: DA-015
Revision: D
Date: 16/04/2021





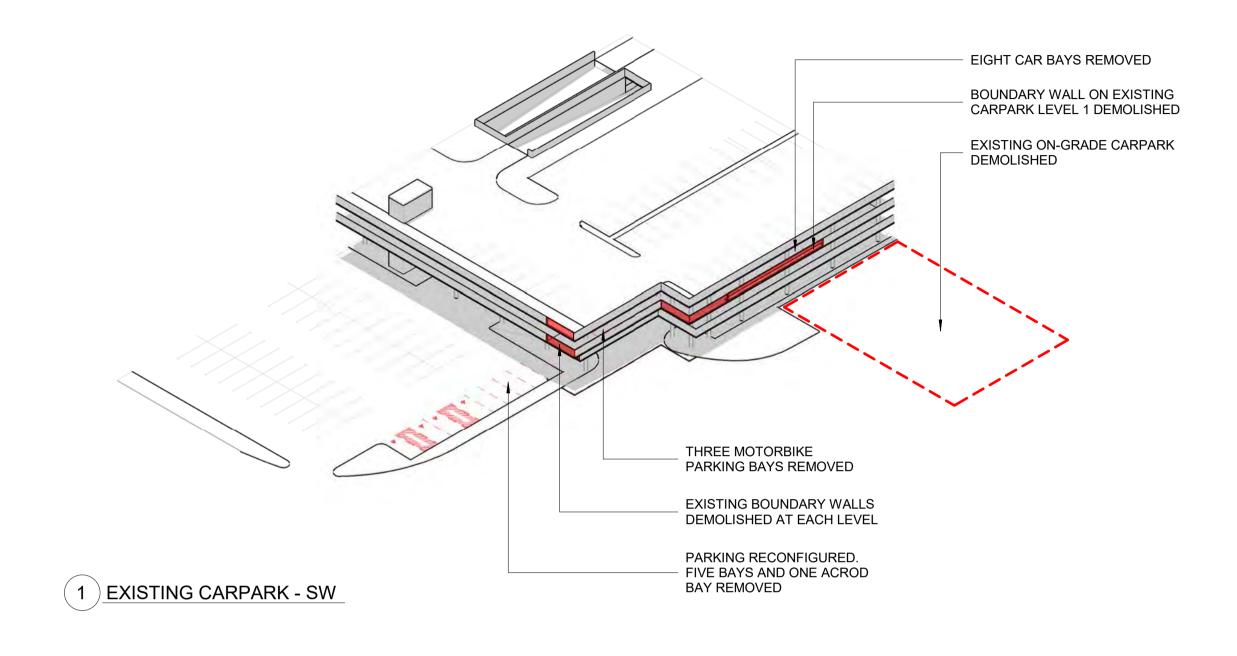


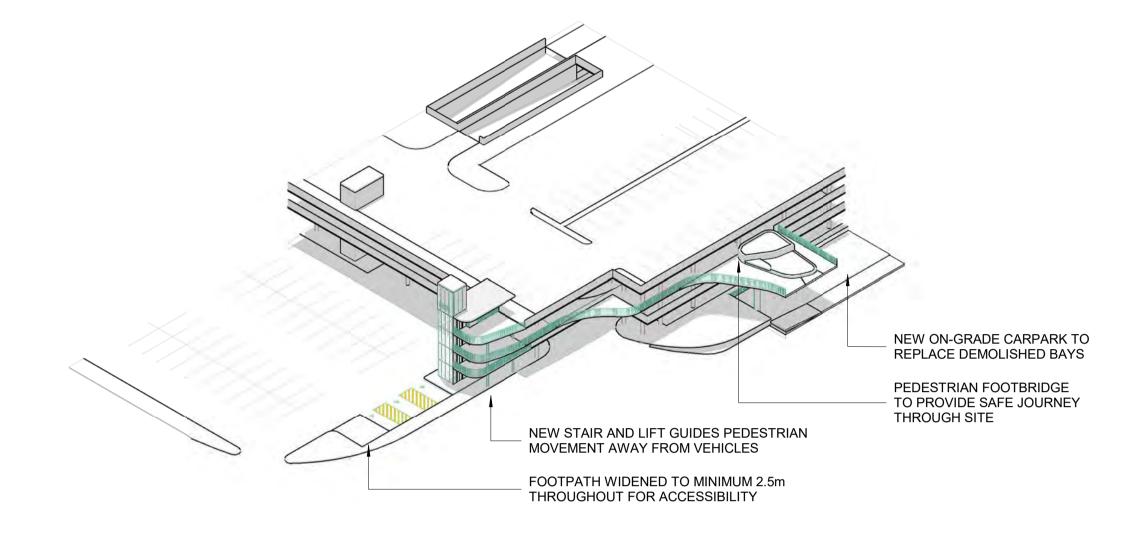




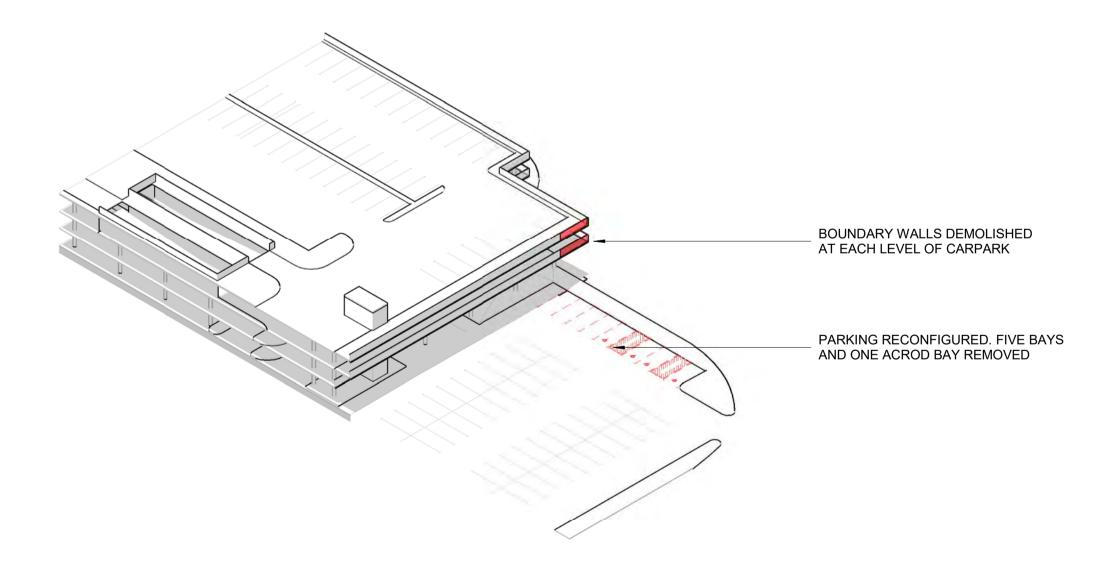
44316 DA-016 16/04/2021



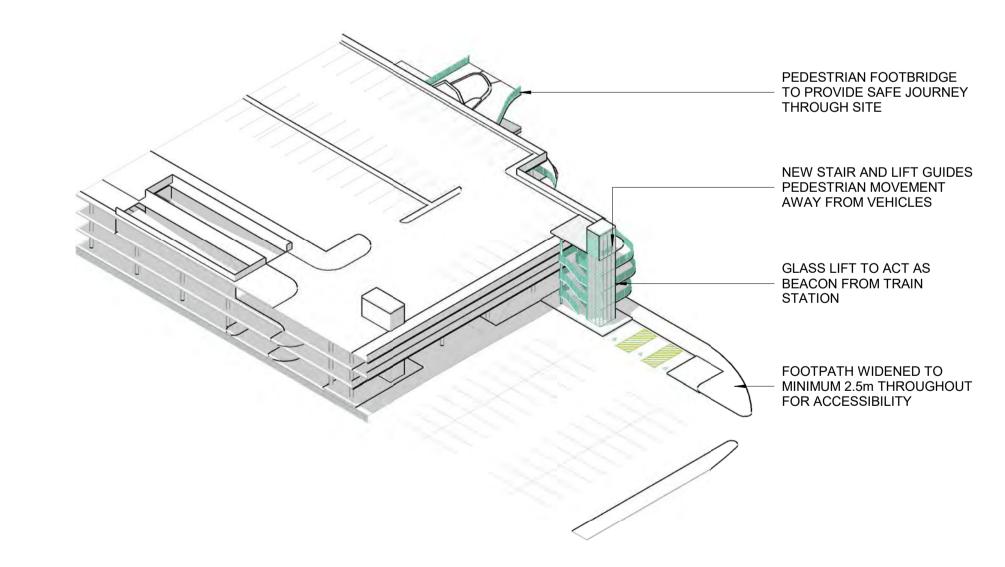


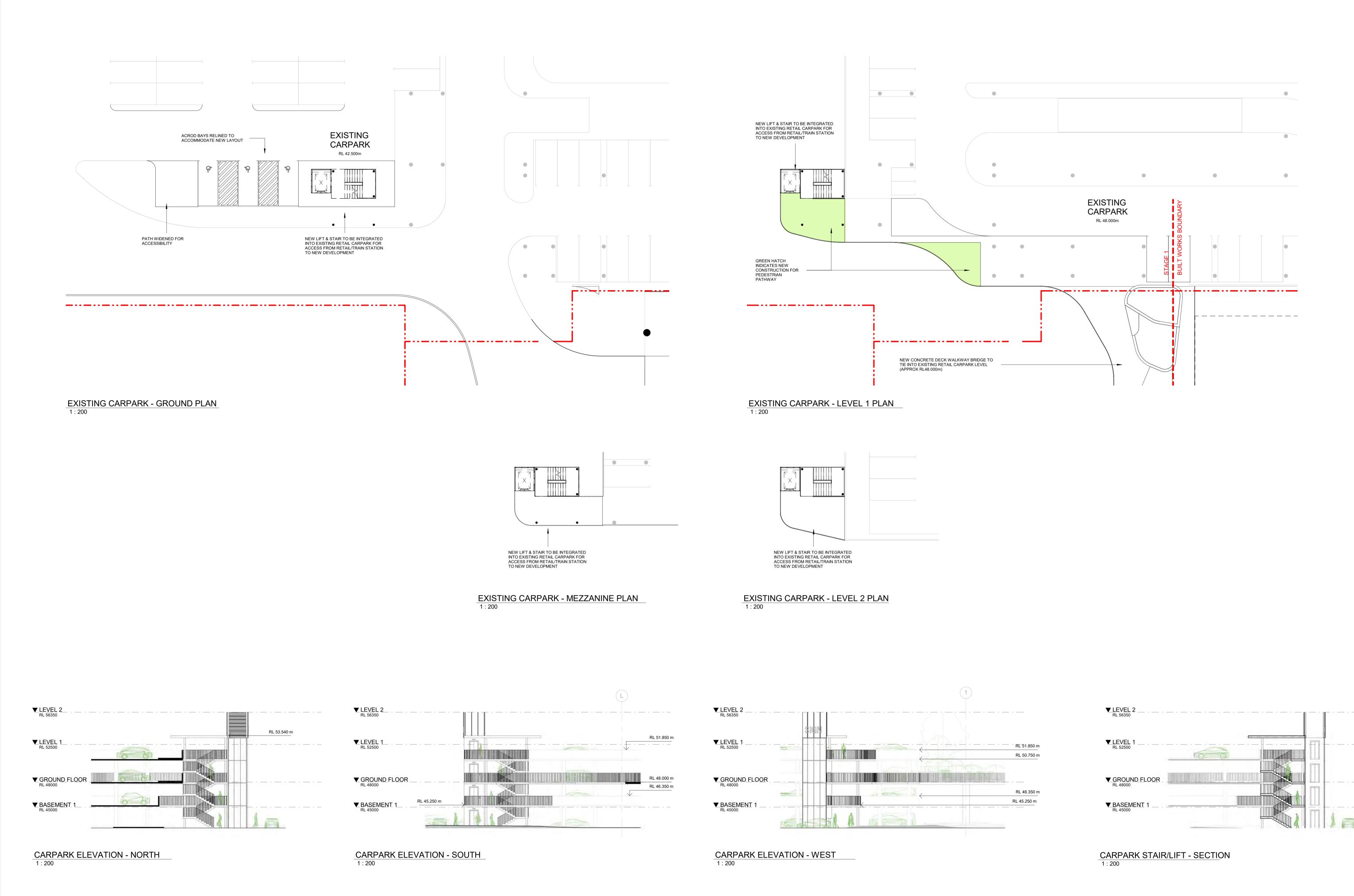


2 PROPOSED STAIR/LIFT - SW



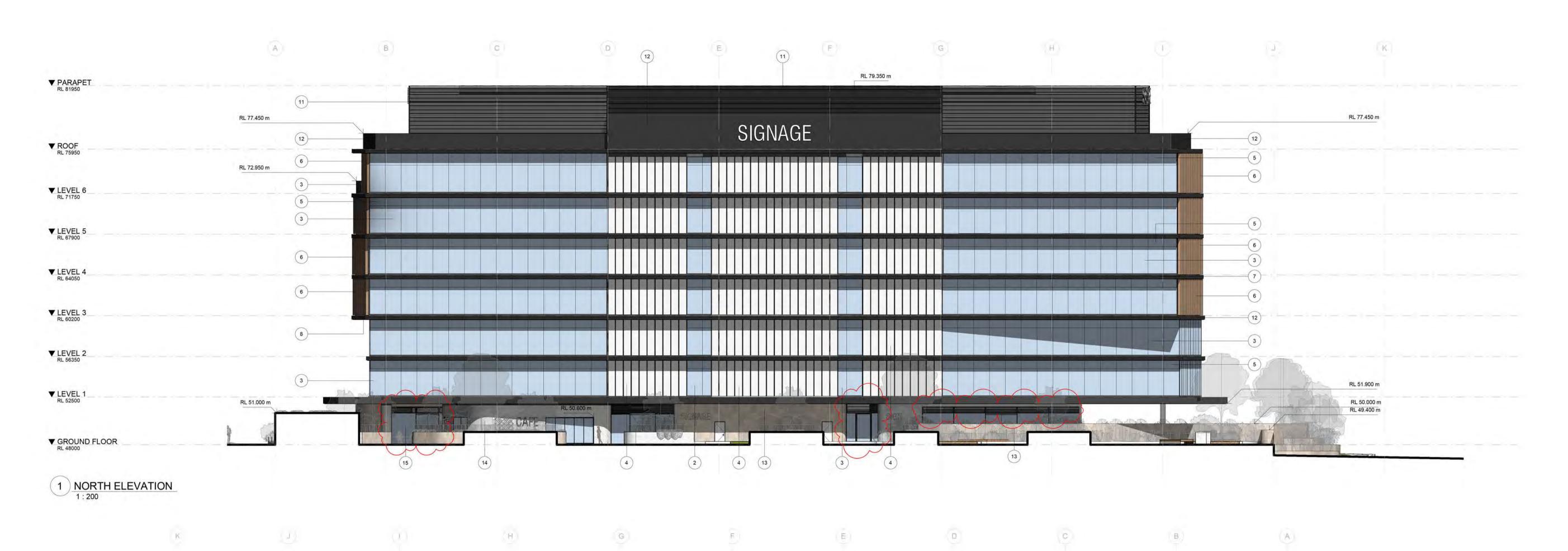
3 EXISTING CARPARK - NW

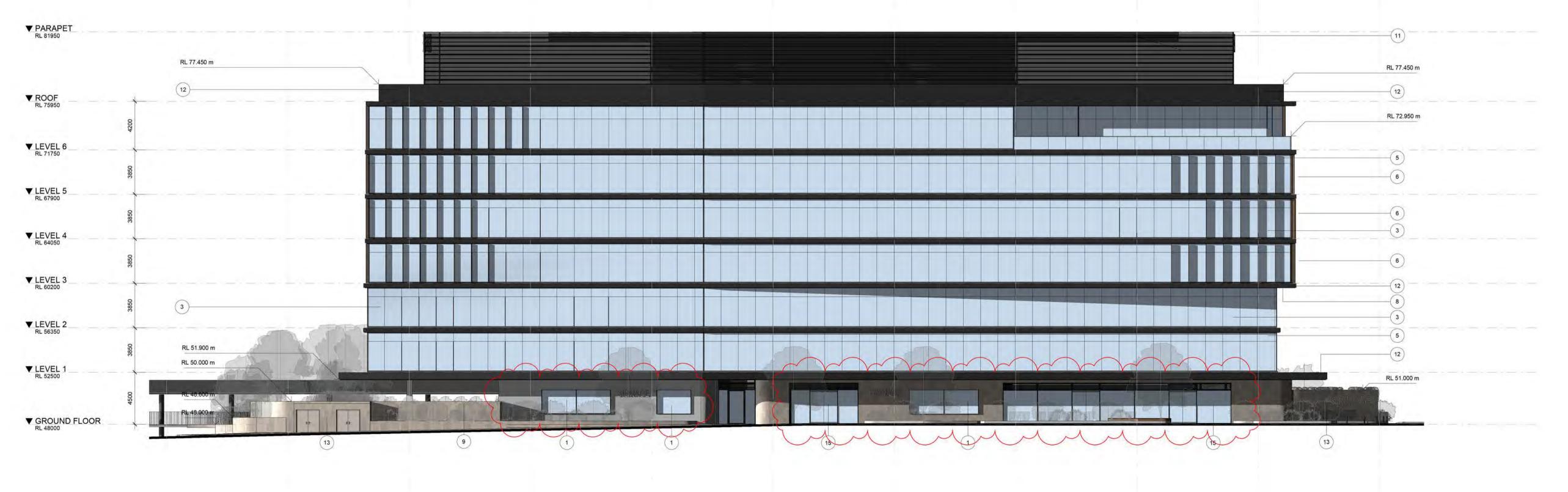












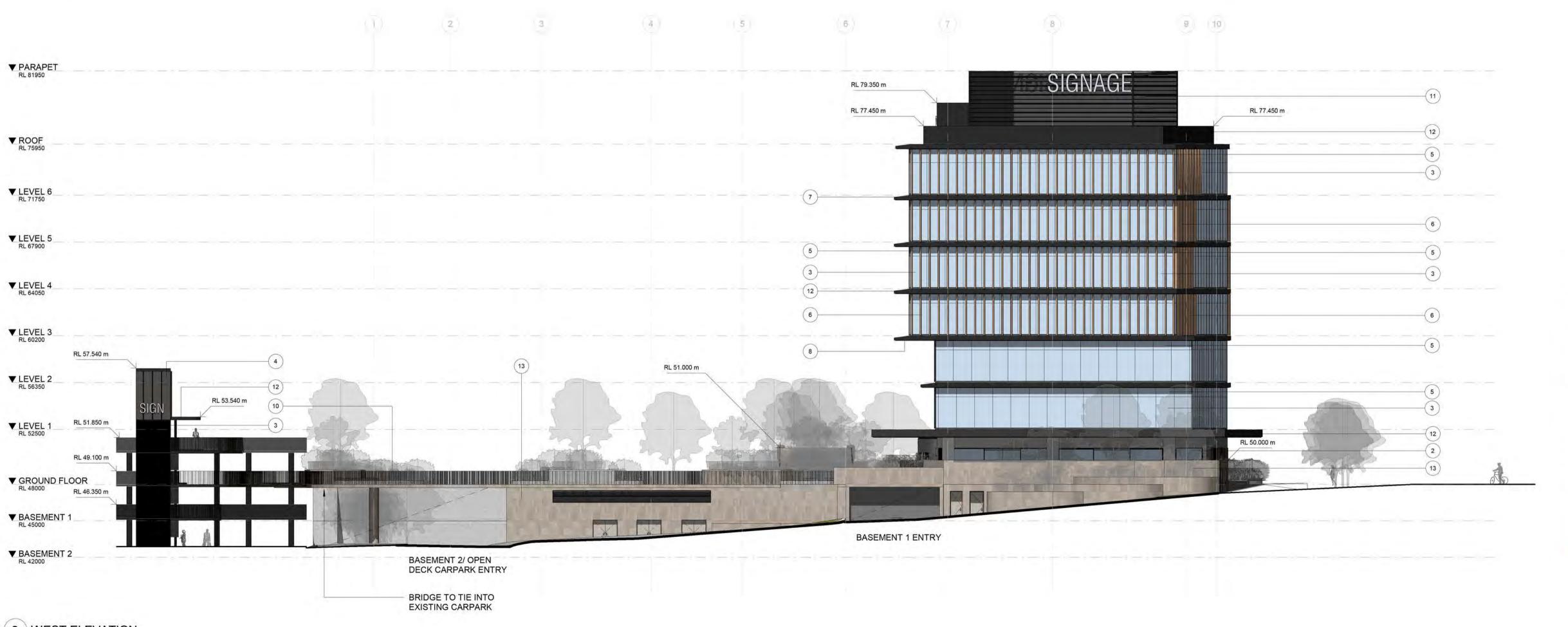
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1	LARGE FORMAT WINDOWS	
2	CHILDCARE GLAZING - TBC	
3	OFFICE GLAZING - 1500mm MODULE	
4	STAINLESS STEEL CLADDING - 750mm PANEL	
5	SHADOW BOX SPANDREL PANEL	
6	SHADING FINS - POWDERCOATED ALUMINIUM	
7	HORIZONTAL SHADING DEVICES	
8	BRONZE ANODISED ALUMINIUM SOFFIT	
9	CONCRETE PLANTERS W/ TIMBER ACCENTS	
10	FEATURE BALUSTRADE	
11	ACOUSTIC PLANT LOUVRES - 2 STAGE WEATHERPROOF	
12	TEXTURE COAT PAINT TO CONCRETE	
13	LIMESTONE PANELLING	
14	FEATURE CLADDING	
15	RETAIL/OFFICE GLAZING	

2 SOUTH ELEVATION 1:200





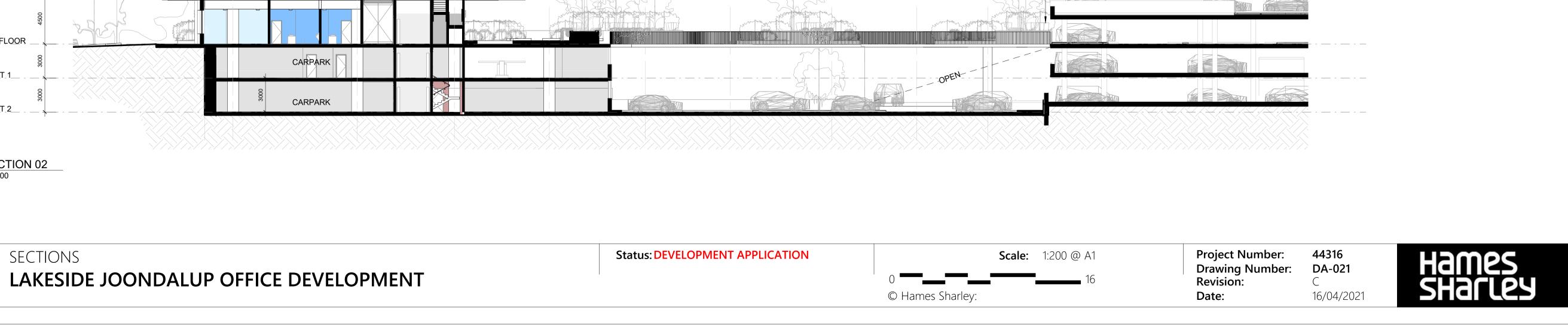
1 EAST ELEVATION 1:200

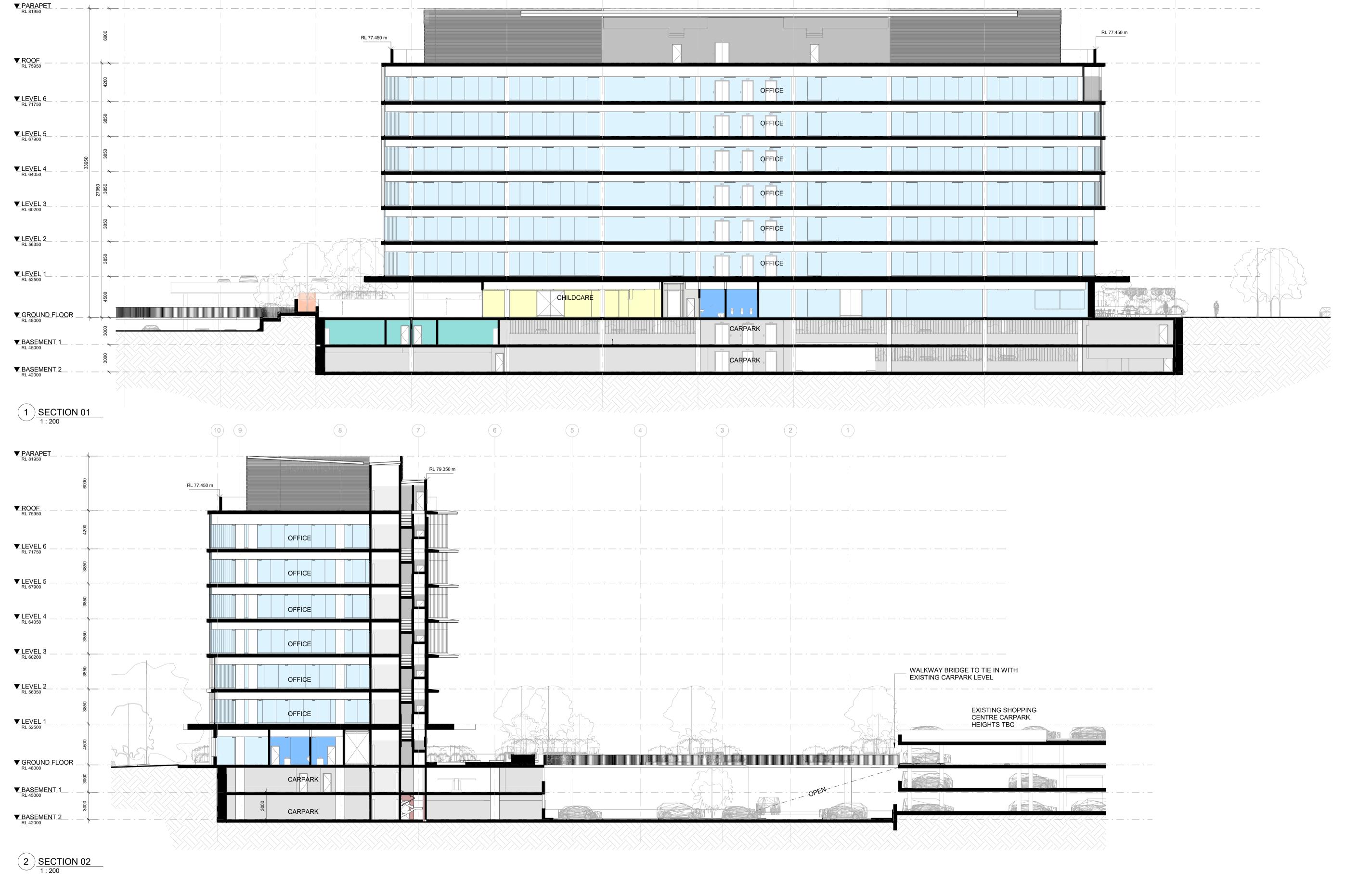


NUMBER	MATERIAL
1	LARGE FORMAT WINDOWS
2	CHILDCARE GLAZING - TBC
3	OFFICE GLAZING - 1500mm MODULE
4	STAINLESS STEEL CLADDING - 750mm PANEL
5	SHADOW BOX SPANDREL PANEL
6	SHADING FINS - POWDERCOATED ALUMINIUM
7	HORIZONTAL SHADING DEVICES
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9	CONCRETE PLANTERS W/ TIMBER ACCENTS
10	FEATURE BALUSTRADE
11	ACOUSTIC PLANT LOUVRES - 2 STAGE WEATHERPRO
12	TEXTURE COAT PAINT TO CONCRETE
13	LIMESTONE PANELLING
14	FEATURE CLADDING
15	RETAIL/ OFFICE GLAZING

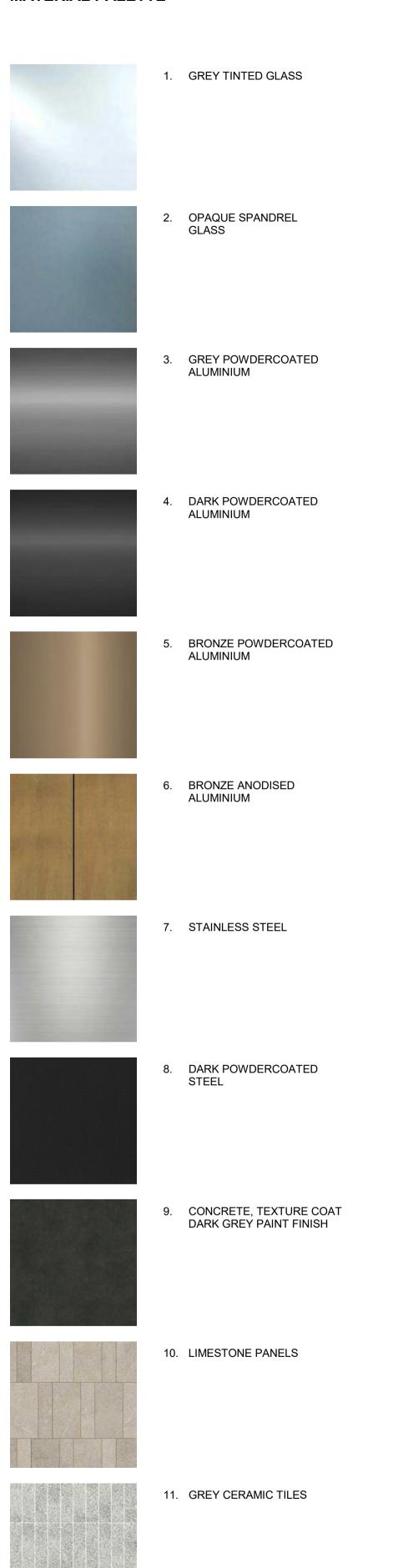
2 WEST ELEVATION 1:200

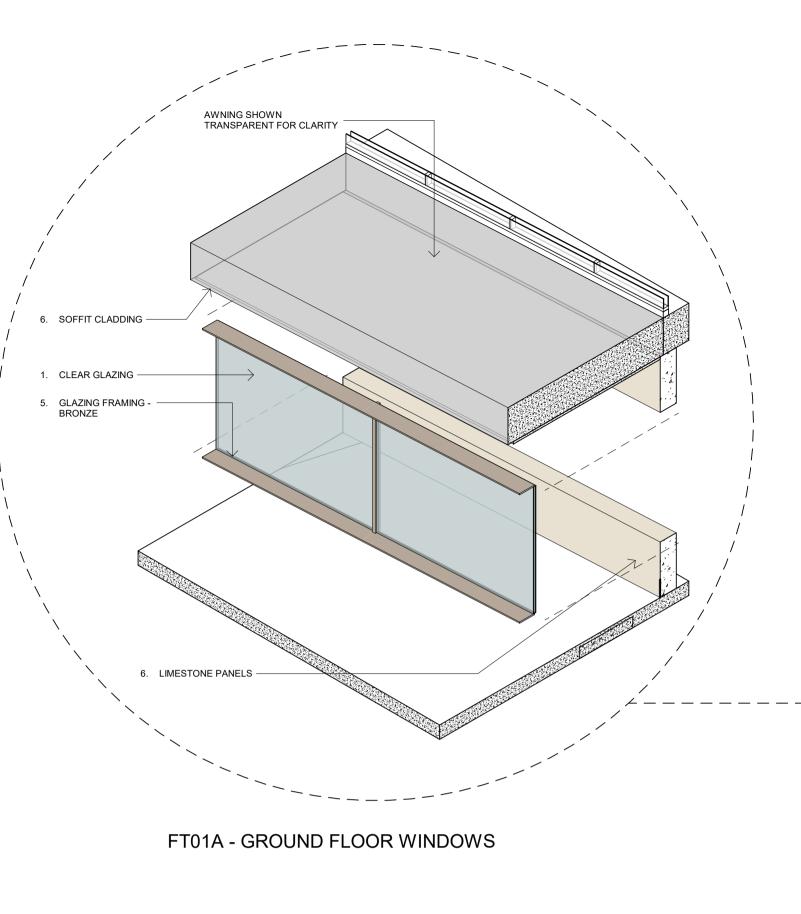




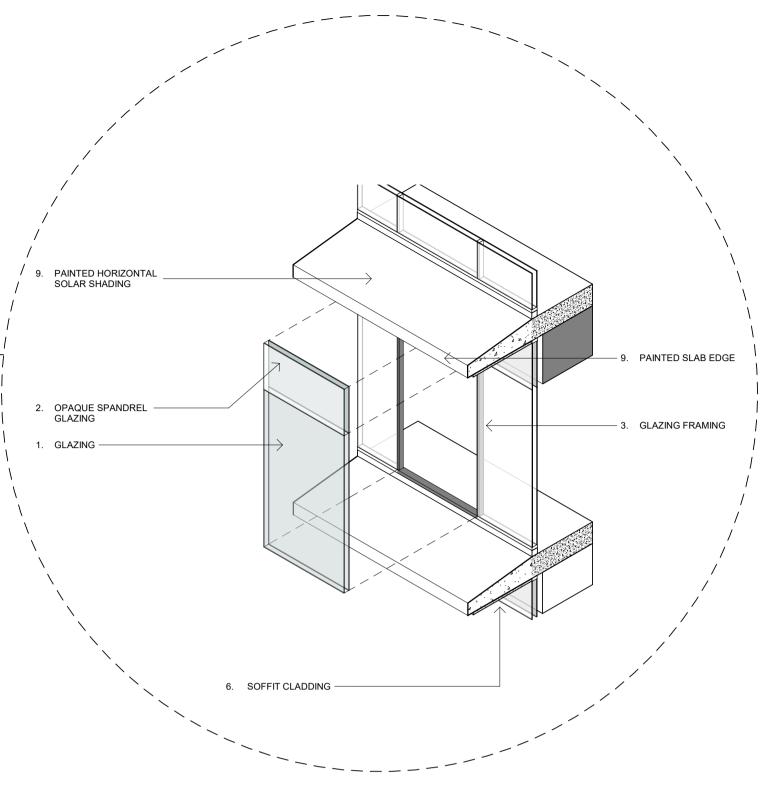


MATERIAL PALETTE

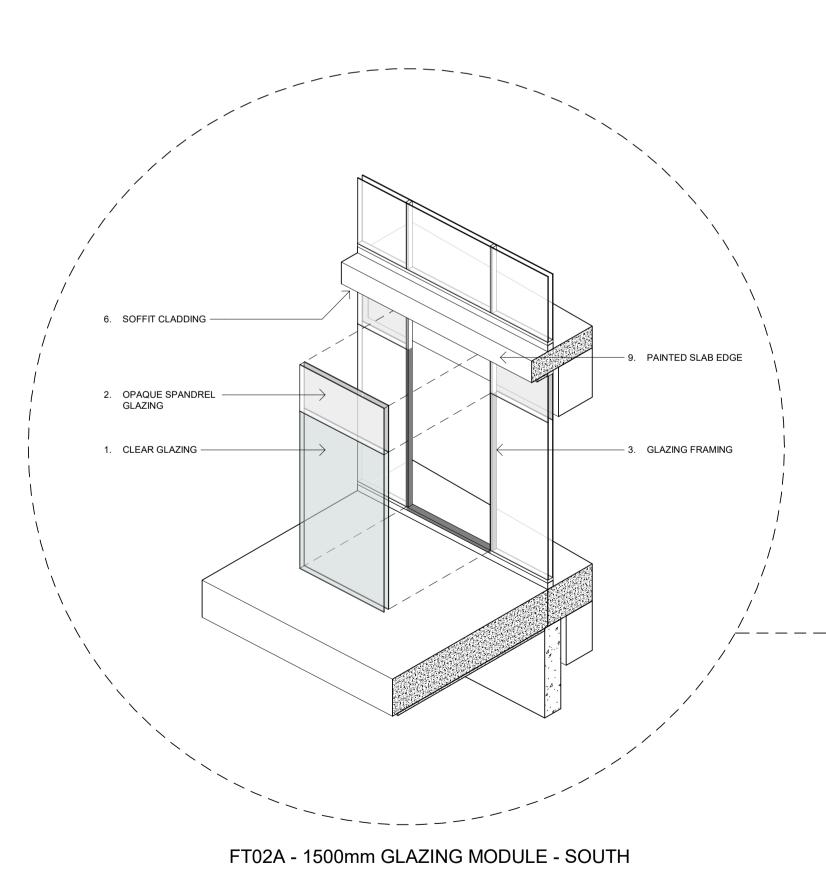


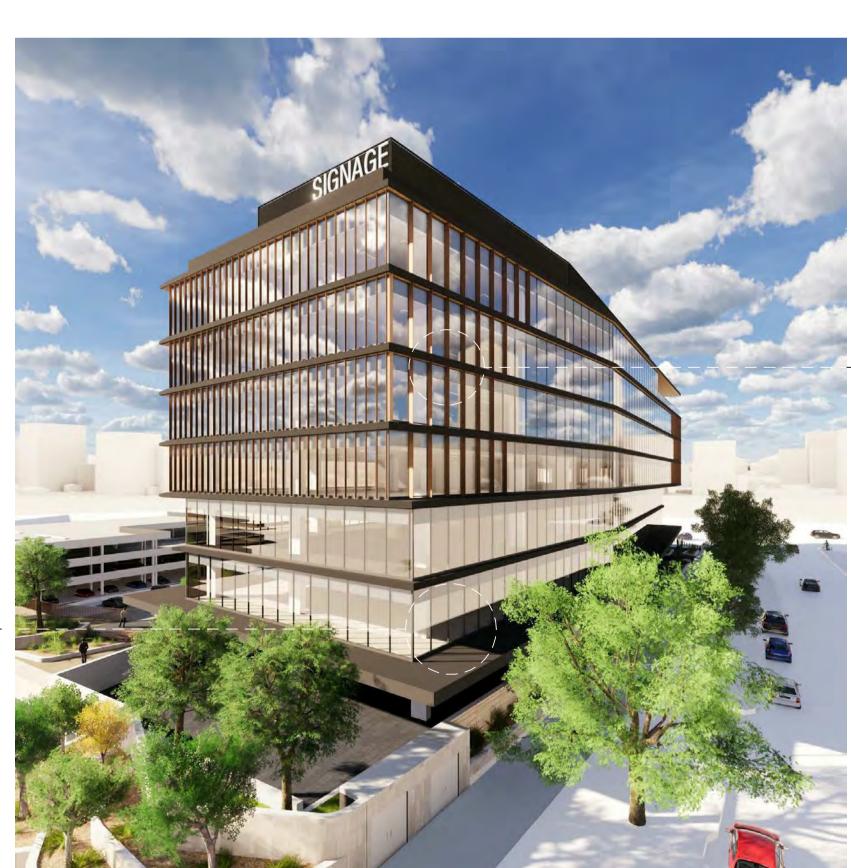


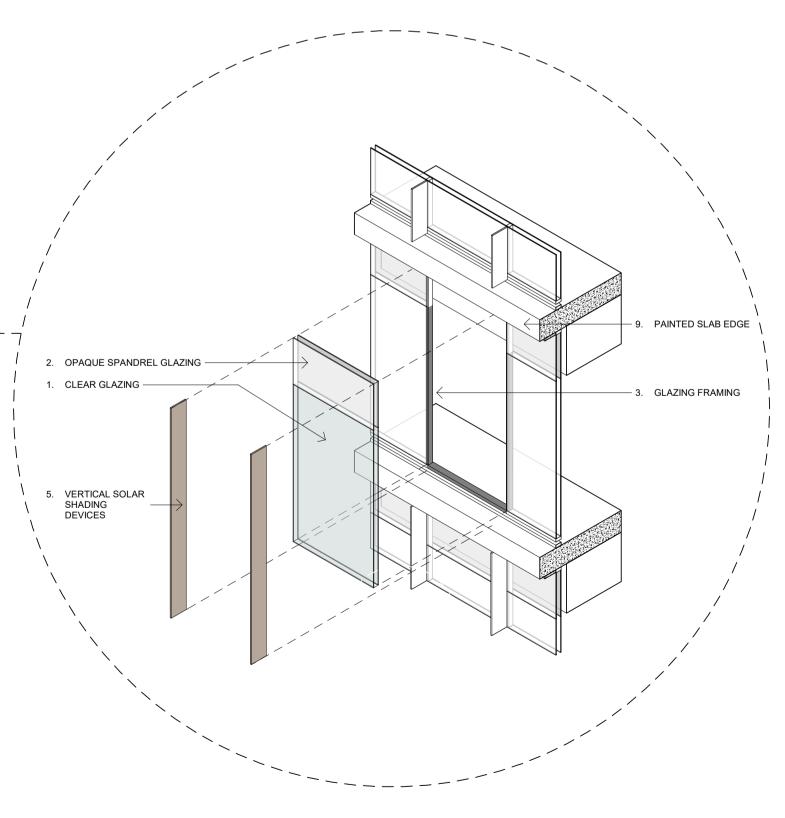












FT02B - 1500mm MODULE W/ FINS - SOUTH



FACADE TYPES

Status: DEVELOPMENT APPLICATION

Scale: NTS

Project Number: 44
Drawing Number: DA
Revision: B

Date:

44316 DA-022B
16/04/2021



MATERIAL PALETTE





FT04 - ROOF PARAPET & PLANT ENCLOSURE

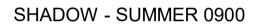
- 6. SOFFIT CLADDING

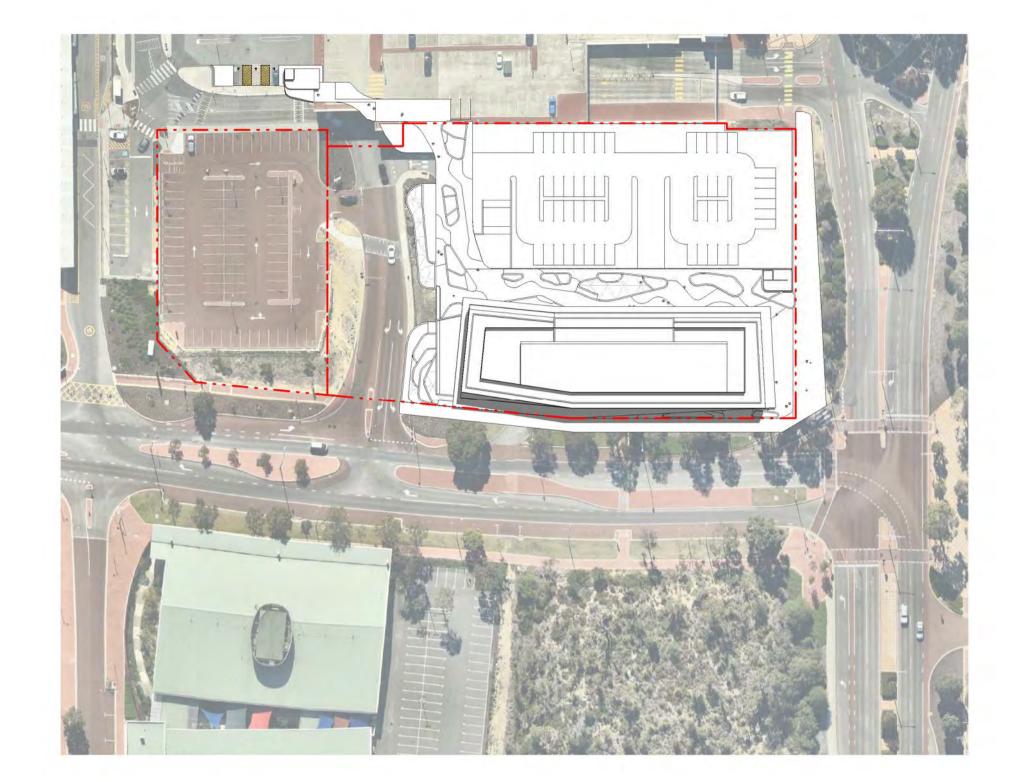
— 1. BIFOLD CAFE DOORS

— 8. BIFOLD DOOR FRAMING

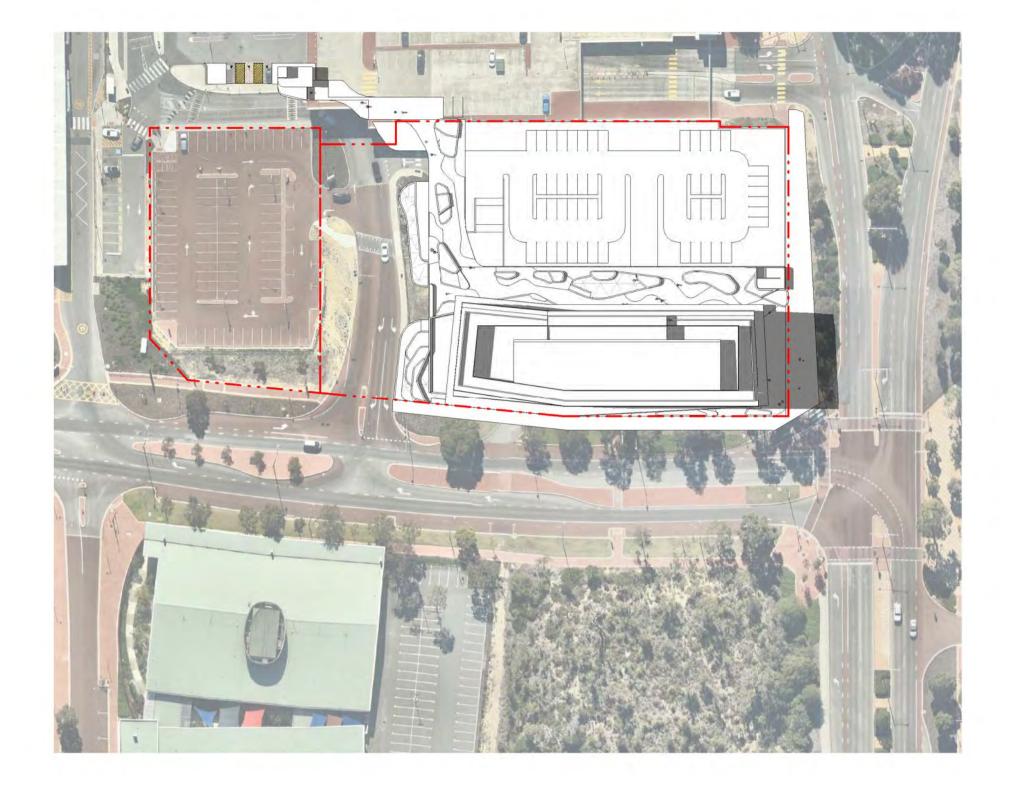
FT01B - GROUND FLOOR CAFE



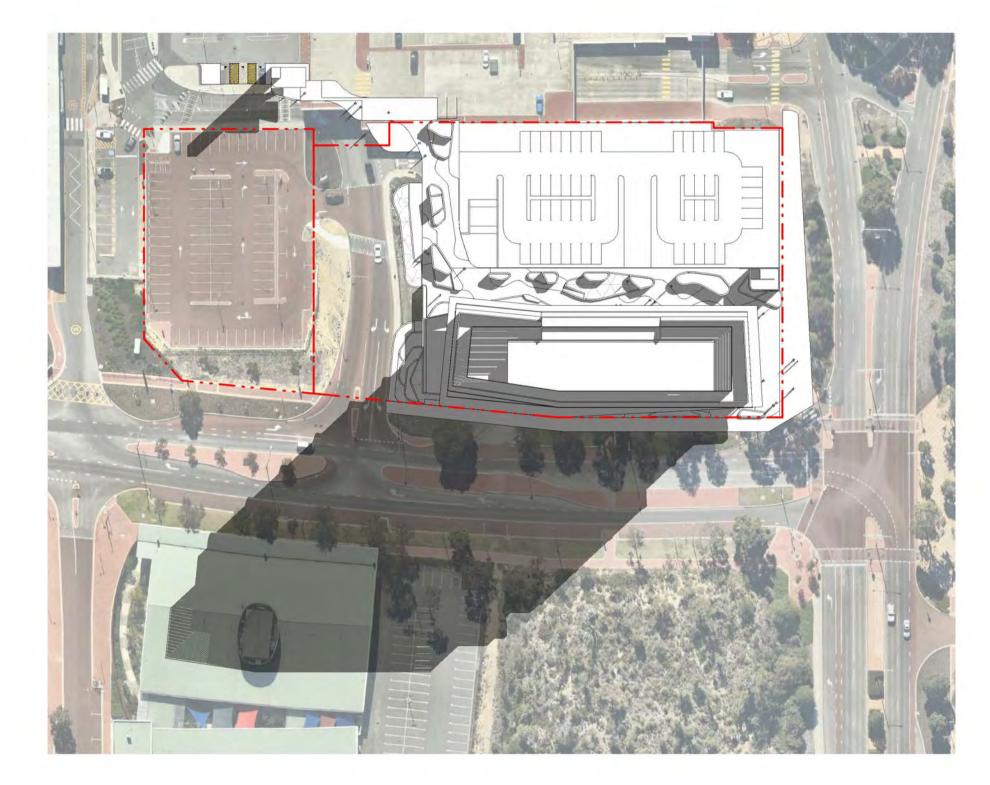




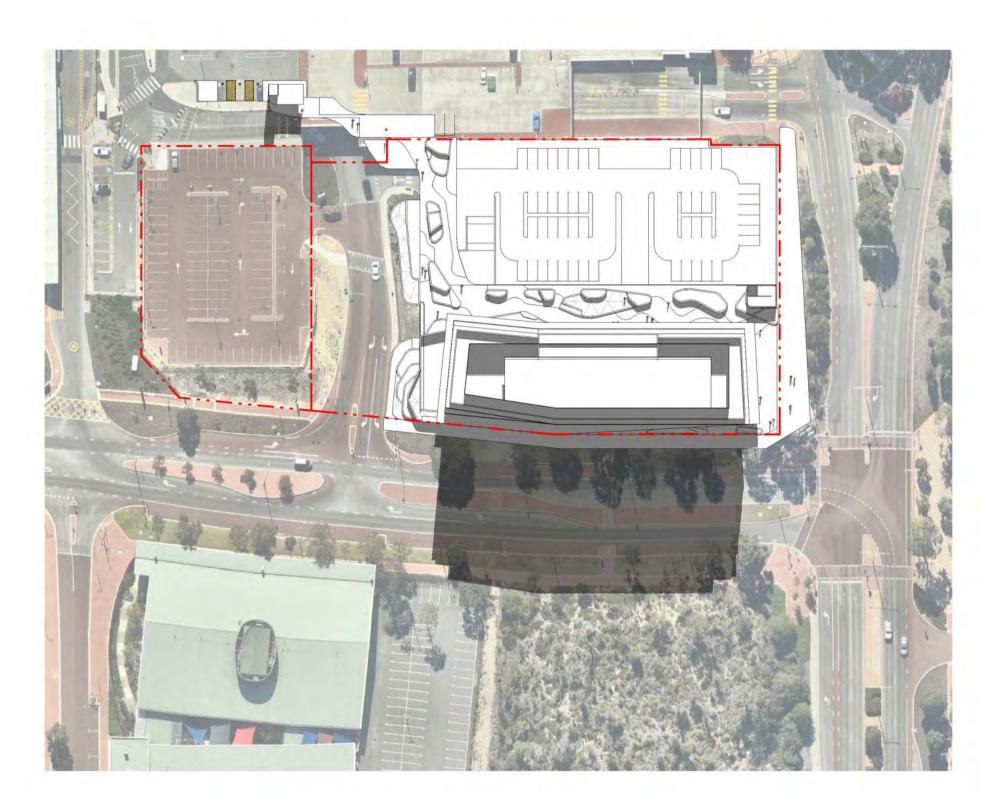
SHADOW - SUMMER 1200



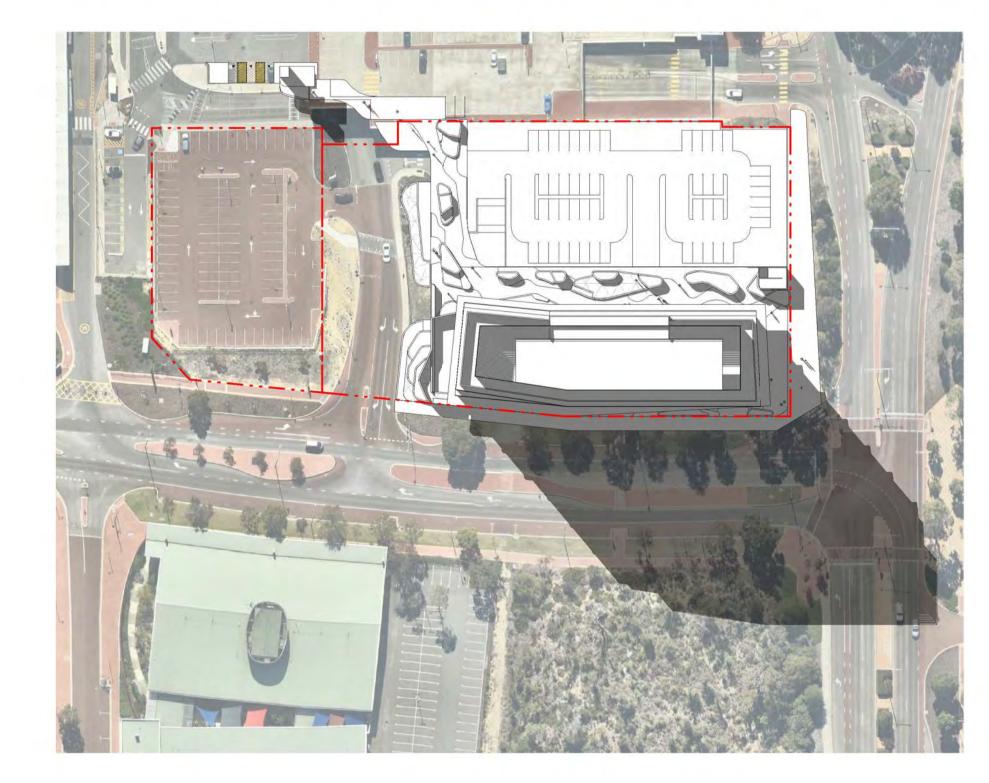
SHADOW - SUMMER 1500



SHADOW - WINTER 0900

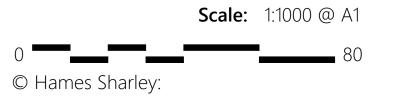


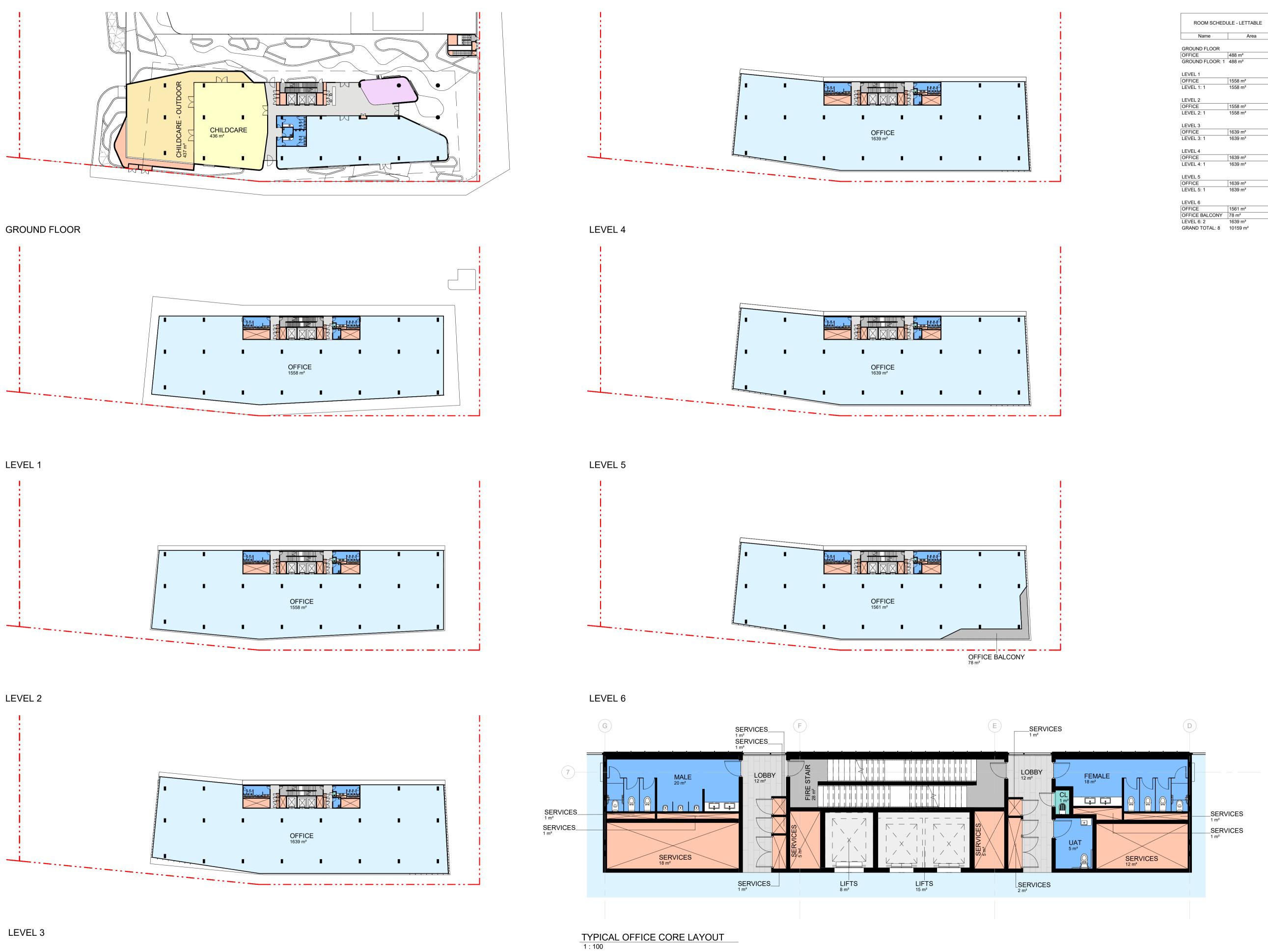
SHADOW - WINTER 1200



SHADOW - WINTER 1500







LEVEL 2 LEVEL 4 FIRE STAIR FIRE STAIR OFFICE BALCONY SERVICES UAT ROOF CORRIDOR FIRE STAIR 20367 m² Grand total: 225 44316 DA-025 16/04/2021

ROOM SCHEDULE - OVERALL

BIN ROOM

BOH LOADING

ELEC. CORRIDOR

HOUSE COMMS
HV SUBSTATION

LOADING DOCK
POTABLE WATER
SERVICES

SWITCHROOM TRANSFORMER BASEMENT 2: 19

BASEMENT 1 BIKE STORE

FEMALE EOT
FIRE PUMP ROOM
FIRE STAIR

SERVICES

BASEMENT 1: 18
GROUND FLOOR
BOOSTER
CAFE
CHILDCARE

FIRE PUMP ROOM

GROUND FLOOR: 27

CHILDCARE - OUTDOOR 437 m²

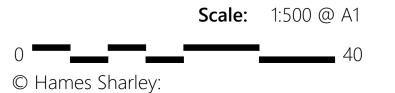
1872 m²

DIESEL FUEL STORAGE 12 m²











LAKESIDE JOONDALUP

OFFICE DEVELOPMENT



Status: DEVELOPMENT APPLICATION















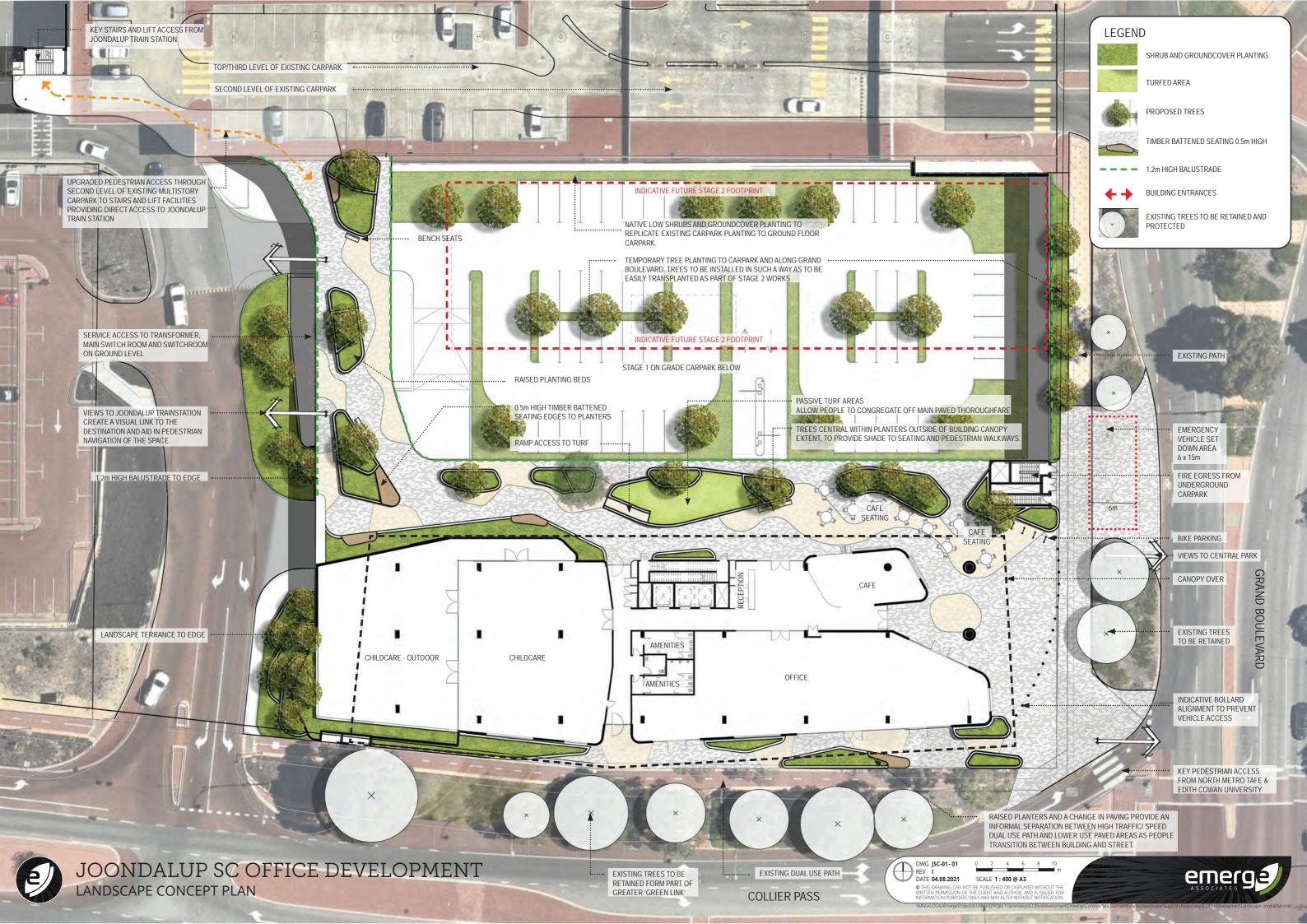






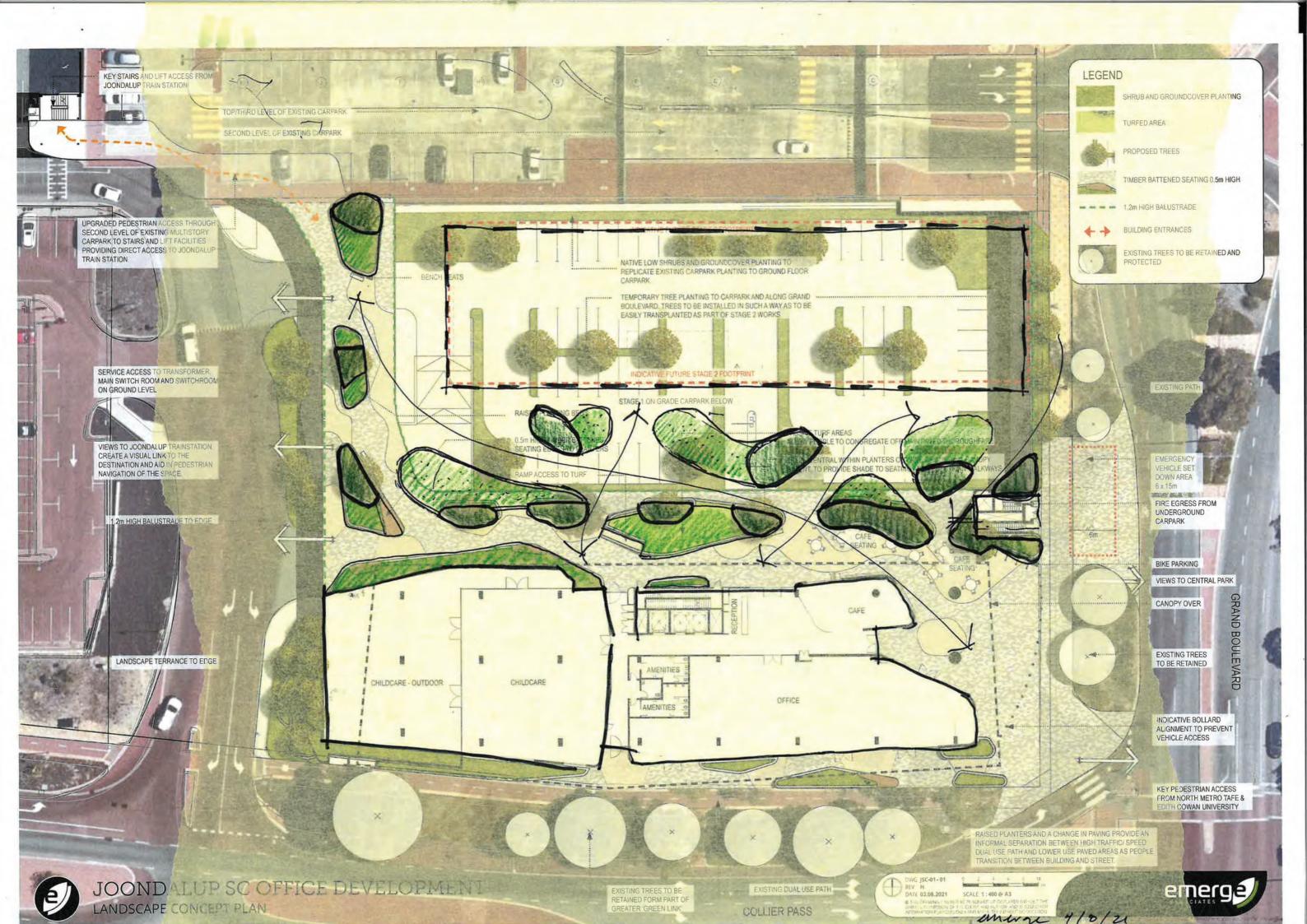


Scale: NTS









1. Introduction

This report has been prepared by **element**, in association with Hames Sharley Architects, and on behalf of Lendlease Funds Management Ltd as trustee of the Joondalup Trust (Lendlease), in support of a development application seeking approval for the construction of a seven (7) storey commercial office development to the southeast corner of Lot 708 (No. 420) Joondalup Drive, Joondalup (the subject site).

The proposed development represents the first stage of a planned redevelopment of a vacant portion of land within the Lakeside Joondalup Shopping City site, located to the northwest corner of the intersection of Grand Boulevard and Collier Pass. This 10,000m² office development will be the first of a planned campus style office precinct that accords with the aims and objectives of the Joondalup Activity Centre Plan (JACP).

The proposal represents an exciting opportunity to develop a landmark building that will activate a prominent corner site within the Joondalup City Centre. In doing so, the proposal will support economic development and employment self sufficiency in the north-west region of the Perth metropolitan area as part of the ongoing development of this important strategic metropolitan activity centre.

This report has been prepared to provide an overview of the subject site and the proposed development, as well as a detailed assessment against relevant planning requirements and an examination of the planning merits of the proposal. This report is also accompanied by a detailed architectural package prepared by Hames Sharley Architects and enclosed as Appendix A, as well as supporting technical reports prepared by the following consultants:

- Landscape Emerge Associates
- Traffic GTA Consultants
- Waste Foresight Environmental
- Acoustics and Sustainability Floth Sustainable Building Consultants
- Bushfire Emerge Associates

Refer to Appendix A - Development Plans

1.1 Planning Approvals Required

The proposed development has an estimated construction cost in excess of \$10 million and therefore falls within the mandatory Development Assessment Panel threshold. Accordingly, this development application requires determination by the Metro Outer Joint Development Assessment Panel (JDAP), based on a report and recommendation prepared by the City of Joondalup (the City).

1.2 Preliminary Consultation

Prior to lodging this development application, the project team has met with both the City's officers and the City's nominated Design Reference Panel (DRP), to obtain feedback and assist in refining the design of the proposed development. A high level of support for the project was indicated by both the City and the DRP, and a response to the DRP meeting minutes has been provided within this report.



2. Subject Site

2.1 Property Description and Tenure

The subject site comprises Lot 708 (No. 420) Joondalup Drive, Joondalup and is located within the City of Joondalup local government area.

Refer to Figure 1 - Location Plan

The subject site has a total land area of 23.782 hectares and contains the existing Lakeside Joondalup Shopping City, which is an established major shopping centre that is operated by Lendlease and services a large subregional catchment.

The proposed office development is located to the southeast of the subject site, on a largely vacant portion of land at the intersection of Grand Boulevard to the east and Collier Pass to the south. This portion of the subject site is located adjacent an existing crossover to Collier Pass, and contains an existing at-grade parking facility and a redundant service access driveway. The existing at-grade parking facility is periodically utilised by staff of Lakeside Joondalup Shopping City and provides a total of 50 car parking bays, with access via the aforementioned crossover to Collier Pass. The Collier Pass crossover also provides access to additional shopping centre parking to the north, and the existing City of Joondalup managed car parking facility immediately to the west of the proposed development site.

Refer to Figure 2 - Aerial Plan

There is a significant change in level across the proposed development site, sloping from a high point of approximately 47.5 metres AHD at the corner of Grand Boulevard and Collier Pass to a low point of approximately 42.3 metres AHD in the northwest corner of the proposed development site.

The Certificate of Title details for the subject site are summarised in Table 1, below. Copies of the Certificate of Title and associated Deposited Plan are enclosed as Appendix B.

Table 1 - Certificate of Title Details

Lot	Survey	Volume	Folio	Area	Registered Proprietor
708	DP75161	2813	189	23.782 ha	Lendlease Funds Management Ltd

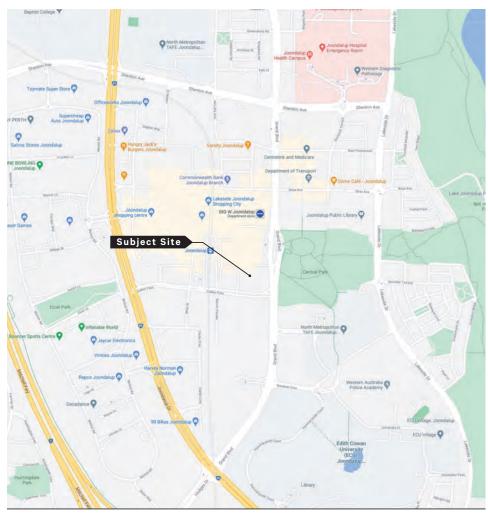
Refer to Figure 3 – Cadastral Plan

There are a number of easements and encumbrances listed on the Certificate of Title for the subject site. However, the majority of these relate to portions of the subject site that are far removed from the area of the proposed works, with the exception of:

- M117005, being an easement for 'installation purposes' in favour of the adjoining Lot 709 (containing the Joondalup Railway Station) and created under Section 136C of the *Transfer of Land Act 1893*.
- M117007, being an access easement in favour of the adjoining Lot 709 (containing the Joondalup Railway Station) and created under Section 136C of the Transfer of Land Act 1893.
- M117008, being a public access easement in favour of the City and the public at large.

However, the aforementioned easements all run along the alignment of the existing access road connecting through to Collier Pass, the alignment and treatment of which will remain essentially unaltered as a result of the proposed works. As such, the aforementioned easements do not inhibit the undertaking of the works for which approval is sought via this development application.

Refer to Appendix B - Certificate of Title and Diagram of Survey





4

Figure 1. Location Plan Figure 2. Aerial Plan

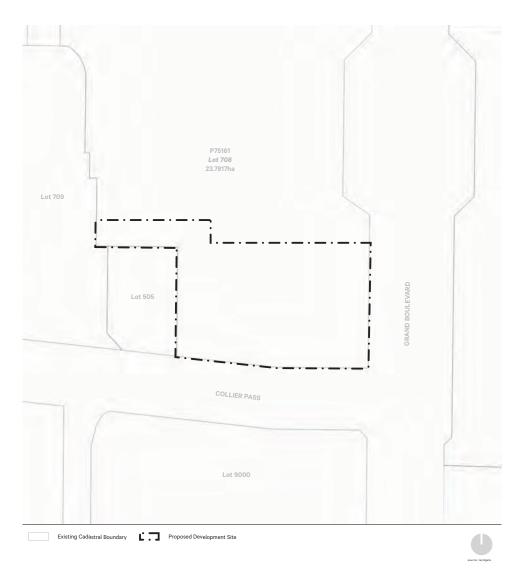


Figure 3. Cadastral Plan

2.2 Site Context

The subject site is located within the Joondalup City Centre, to the northwest corner of the intersection of Grand Boulevard and Collier Pass. The City Centre location provides access to a diverse range of local amenities including cafés and shopping facilities, and regional recreation, education and health facilities.

To the north and west of the proposed development site lies the balance of the Lakeside Joondalup Shopping City site, along with Joondalup Railway Station and an associated public parking facility immediately to the west.

To the east of the subject site, on the opposite side of Grand Boulevard, is the Joondalup Central Park, whilst the land to the south, on the opposite side of Collier Pass, comprises an existing commercial development and vacant land owned by Edith Cowan University that has been identified as a future 'city square' under the JACP. The Joondalup Health Campus is also located to the northeast of the subject site, with the North Metropolitan TAFE Campus, WA Police Academy and Edith Cowan University Campus to the southeast.

The proposed development site benefits from access to a range of high frequency public transport services, being within 150 metres of the Joondalup Railway Station and associated bus interchange to the west, and within close proximity of existing bus services operating Collier Pass and Grand Boulevard. The subject site is also well serviced by the existing road network, based primarily around Grand Boulevard, Collier Pass, Joondalup Drive and Shenton Avenue, which provide access to the Mitchell Freeway and the broader Perth metropolitan region. These factors will make the proposed development site highly accessible for employees of, and visitors to, the proposed commercial development.

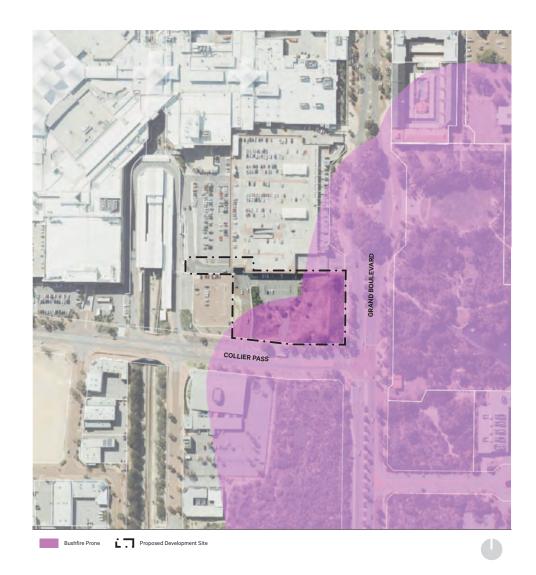


Figure 4. Extract of State Map of Bush Fire Prone Areas

2.3 Environmental and Heritage Considerations

A desktop search of the Australian Heritage Database, the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System, the Heritage Council's State Register of Heritage Places and the City's Statutory Heritage List indicates that there are no listings of local, state, national or Aboriginal heritage significance at the subject site.

A desktop search of relevant environmental factors also indicates that the subject site:

- Is not a registered contaminated site under the Department of Water and Environmental Regulation's (DWER) Contaminated Sites Database; and
- Is not identified as having any risk of acid sulphate soils occurring within 3 metres of the natural soil surface.

However, it is noted that a portion of the proposed development site is located within a bushfire prone area under the State Map of Bush Fire Prone Areas, as indicated in Figure 4. As such, this application is supported by a Bushfire Attack Level (BAL) Contour Map and Bushfire Management Plan (BMP) prepared by Emerge Associates, copies of which are enclosed at Appendix C. The findings of the BMP are also discussed in the following sections of this report.

Refer to Figure 4 – Extract of State Map of Bush Fire Prone Areas

Refer to Appendix C – Bushfire Attack Level Assessment and Bushfire Management Plan

3. Proposed Development

3.1 Development Overview

This development application seeks approval from the Metro Outer JDAP for the construction of a landmark commercial office development, situated at the prominent corner of Grand Boulevard and Collier Pass. The proposed development comprises a seven (7) storey office development, with supporting café and childcare facilities at the ground floor, as indicated in the plans at Appendix A.

Refer to Appendix A - Development Plans

At the ground floor, the proposed development comprises a mix of office, childcare and café land uses, with the main office entry oriented towards the corner of Grand Boulevard and Collier Pass, adjacent the proposed café and associated alfresco dining area. Both the café and the proposed childcare facility are intended primarily for use by staff of the proposed office development. However, the café will be open to all members of the public and the childcare facility may be made available to the general public subject to operational demand and the requirements of the ultimate childcare operator. The ground floor level also features extensive landscaping areas that assist in softening the street interface and pedestrian zones in and around the proposed development.

Above the podium, the development comprises six levels of commercial office floorspace totalling 9,594m², along with associated amenities on each office floor that are arranged around a centralised building core along the northern edge of the building. The rooftop level then features a fully screened plant enclosure and a building maintenance unit to enhance serviceability.

All car parking and end of trip facilities for the proposed commercial building are to be located within two basement levels, which sit below the established ground level at Grand Boulevard and Collier Pass, to ensure that car parking

and associated servicing areas are appropriately screened from view from the street and surrounding buildings. This achieved by extrapolating the established ground levels at Grand Boulevard and Collier Pass into a new open plaza around the proposed office development that will serve as the new ground level in this area, with car parking below. These levels will then be reflected in the planned future Stage 2 office development directly to the north of the proposed building, which will tie in with the basement and ground floor levels of the proposed development.

In addition, this application seeks approval for a temporary open air car park to the north of the proposed commercial development, along with additional public realm works to enhance the existing connections between the Joondalup Railway Station, the proposed development and the surrounding streets. This is achieved by constructing a new lift and stair core that connects the current ground level pedestrian environment adjacent the railway station with the new open plaza level of the proposed commercial office development, via a new lift and stair core. This lift and stair core is located to the southwest of the existing multi-storey car park to the north of the proposed new office development, enabling a link through the existing car park to the new development. This new pedestrian link will reduce conflict between pedestrians and vehicles associated with the Collier Park access driveway for the existing shopping centre, providing a secure, grade separated alternative that will include appropriate lighting and high quality landscaping as detailed in the accompanying landscape plans at Appendix D. This will provide an enhanced level of amenity for pedestrians moving to and from the Joondalup Railway Station, including movements relating to the development itself, and the many community, cultural and educational facilities to the northeast and southeast of the proposed development site.

Refer to Appendix A – Development Plans

Refer to Appendix D - Landscape Plans

3.2 Design Approach

The adopted design approach recognises the proposed development site's role as a prominent corner site at the intersection of two major roads, being one of the main entry points into the Joondalup City Centre. This is reflected in a design approach that is intended to be set apart from the general fabric of the City Centre and serve as a prominent corner landmark in the locality, as envisaged under the JACP. This is achieved by foregoing the typical podium and tower built form typology identified under the JACP, in favour of a bespoke built form outcome that maintains a consistent setback for the full height of the development to provide a strong statement at the intersection of Grand Boulevard and Collier Pass. This includes the provision of a setback to all site boundaries to enhance retained view corridors through the subject site, with a particular focus on maintaining the potential for desirable south-easterly view corridors from the future Stage 2 office development to the north. Portions of the proposed building envelope have also been modulated at the ground floor and through the use of upper level balconies and cantilevered elements to provide visual interest and deliver a design that contributes positively to the streetscape and the local skyline.

The materiality of the proposed development is characterised by a high quality glazed façade and bronze coloured aluminium detailing, with the glazed façade designed to capture reflections in a manner that is inspired by the reflections created by the lake within the adjoining Joondalup Central Park. At the ground floor, the development proposes a more tactile experience that includes a mix of glazed openings, limestone and tile clad solid elements, complemented by high quality landscaping at the street frontage and within the new raised pedestrian pathways around the proposed office development.

In addition, the proposed development is targeting a 5 Star Green Star Design and As Built Certification, as part of the project's commitment to delivering a high standard of environmental sustainability. This is discussed in further detail throughout this report.

3.3 Parking and Access

As noted above, parking facilities for the proposed development are contained within two (2) basement levels, which respond to the significant change in level across the subject site and sit below the street level of both Collier Pass and Grand Boulevard. The proposed basement levels comprise a mix of commercial car and motorcycle bays, bicycle parking and end-of-trip facilities, loading and waste collection areas, and building services infrastructure.

A separate open air parking area is also provided on the site of the planned future Stage 2 development immediately to the north of the proposed office tower. This car park will ultimately be enclosed as a Basement 2 level for the Stage 2 office development, which will unify the two buildings and provide an active interface to the balance of Grand Boulevard. In the interim, it is proposed to install non-climbable fencing along the boundaries of the at-grade car park, which sits well below both the Grand Boulevard street level and the internal pedestrian paths proposed as part of this development application. This is an important interim safety measure until such time as the Stage 2 development proceeds and will be softened by existing landscaping at the Grand Boulevard frontage to minimise streetscape impact.

Separate access is provided to each of the proposed basement levels, with Basement 1 accessed directly off the internal shopping centre access road, in close proximity to Collier Pass, and Basement 2 accessed via the Stage 2 at-grade car park. No new crossovers are proposed to Collier Pass or Grand Boulevard, and a controlled access arrangement will be implemented to ensure that the car parking bays provided within the two basement levels are available to commercial tenants and childcare patrons only.

It is also noted that the new pedestrian link between the proposed development and the Joondalup Railway Station will result in the net loss of twelve (12) car parking bays and three (3) motorcycle bays within the existing multi-storey shopping centre car park to the north. This has been addressed in the accompanying Transport Impact Assessment at Appendix E.

Refer to Appendix E - Transport Impact Assessment

3.4 Signage

Indicative signage zones have also been shown on the proposed development plans, including both street level signage and illuminated upper level signage that is proposed to be affixed to the screened rooftop plant area. However, the signage shown is indicative only and will be further refined through the preparation of a comprehensive signage at the detailed design stage. It is considered that this can be appropriately dealt with via a condition requiring the preparation of a detailed signage strategy for endorsement by the City prior to the installation of any signage associated with the proposed development.

3.5 Development Summary Table

The particulars of the proposed development are summarised in Table 2, below.

Table 2 - Development Summary

Building Level	Proposed	
Basement 2	86 commercial car parking bays, including one (1) universal access bay;	
	Six (6) motorcycle bays;	
	Loading dock and bin collection areas;	
	Building services infrastructure; and	
	An additional 50 at-grade car parking bays to the north of the proposed building, on the site of the planned Stage 2 development.	
Basement 1	81 commercial car parking bays, including eight (8) childcare drop-off bays and one (1) universal access bay;	
	Five (5) motorcycle bays;	
	Bicycle parking and end-of-trip facilities, comprising a total of 102 bicycle parking spaces, 164 lockers and 15 showers; and	
	Building services infrastructure.	

Building Level	Proposed
Ground	Commercial entry lobby and lifts;
	One (1) 86m² café tenancy and associated alfresco seating areas;
	488m² of office floor space;
	436m² childcare centre with 437m² of associated outdoor space;
	Associated amenities and building services infrastructure; and
	Landscaping and pedestrian paths, connecting to surrounding streets, the Joondalup Railway Station and the balance of the Lakeside Joondalup site.
Level 1	1,558m² of office floorspace; and
	Associated office amenities.
Level 2	1,558m ² of office floorspace; and
	Associated office amenities.
Level 3	1,639m² of office floorspace; and
	Associated office amenities.
Level 4	1,639m² of office floorspace; and
	Associated office amenities.
Level 5	1,639m² of office floorspace; and
	Associated office amenities.
Level 6	1,561m² of office floorspace with an associated 78m² balcony subject to tenant negotiation; and
	Associated office amenities.
Roof	Screened rooftop plant infrastructure; and
	Building maintenance unit.

3.6 Works within the Road Reserve

In addition to the works forming part of this application for development approval, as detailed above, the proponent is also intending to pursue a number of minor modifications within the adjacent road reserves, comprising:

- Removal of the existing service crossover to Collier Pass and replacing this with two (2) additional on-street parking bays, to be allocated for childcare drop-off;
- Modifications to the existing parking restrictions for the four (4) existing
 on-street parking bays on Collier Pass directly abutting the proposed
 development site, to allocate these as 15 minute parking bays to support
 the proposed café and childcare facility during peak periods; and
- Modifications to a portion of the Grand Boulevard verge adjacent the subject site to accommodate a suitable location for DFES trucks accessing the proposed development site in the event of an emergency, which will involve the removal of one (1) small street tree as indicated in the landscape plans at Appendix D.

As these works are located outside the boundaries of the subject site and within the adjacent City managed road reserves, they do not form part of this application for planning approval and will require separate engineering approvals from the City. However, the works within the road reserve are shown indicatively in the plans at Appendix A, for context and completeness. The proponent will pursue these suggested modifications separately with the City and would be happy to engage further on this as part of the development application process.

element.

4. Architectural Statement

The following architectural design statement has been prepared by Hames Sharley Architects to articulate the design approach for the proposed development. The design statement includes a response to the ten principles of good design established under State Planning Policy 7.0 – Design of the Built Environment (SPP7.0) and to the DRP comments arising out of the prelodgement DRP meeting held on 17 March 2021.

LAKESIDE JOONDALUP

OFFICE DEVELOPMENT





LOCATION PLAN

- DEVELOPMENT SITE
 JOONDALUP TRAIN STATION
 LAKESIDE JOONDALUP SHOPPING CENTRE
- CENTRAL PARK
 NORTH METROPOLITAN TAFE
 JOONDALUP PUBLIC LIBRARY
- 7. ECU JOONDALUP CAMPUS 8. WA POLICE ACADEMY

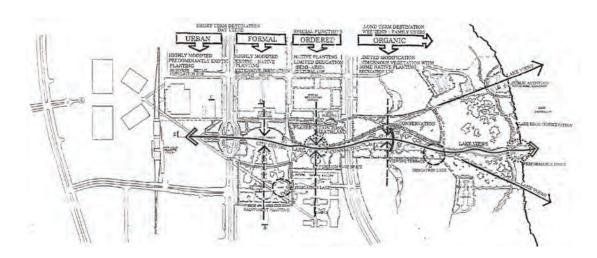


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ORIGINAL MASTER PLAN

THE ORIGINAL MASTER PLAN FOR JOONDALUP, PREPARED BY HAMES SHARLEY IN 1990, SHOWED A GREEN CORRIDOR THROUGH THE CENTRE OF THE CITY ALONG COLLIER PASS.

THE DEVELOPMENT IS LOCATED IN THE MIDDLE OF THIS CORRIDOR, AND HAS AN OPPORTUNITY TO RE-ESTABLISH THE LINK TO THE LAKE BY BRINGING LANDSCAPING BACK INTO THE SHOPPING CENTRE PRECINCT.





Scale: NTS

Project Number: Drawing Number: Revision:

44316

DA-001

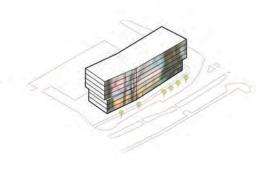
16/04/2021



LAKESIDE JOONDALUP OFFICE DEVELOPMENT

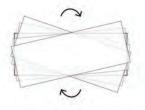




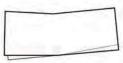












CONTEXT

THE ARCHITECTURAL LANGUAGE OF THE FACADE IS DERIVED FROM THE DYNAMIC NATURE OF THE NEARBY WATERS OF CENTRAL PARK. THE SURFACE OF THE LAKE RIPPLES AND FLOWS TO PROVIDE SUBTLE CHANGES IN REFLECTIONS.

REFLECTIONS

THE EXTERNAL ENVELOPE ESTABLISHES A DIALOGUE BETWEEN THE DEVELOPMENT SITE AND CENTRAL PARK BY PROJECTING THESE REFLECTIONS ONTO THE FACADE.

SHIFTING

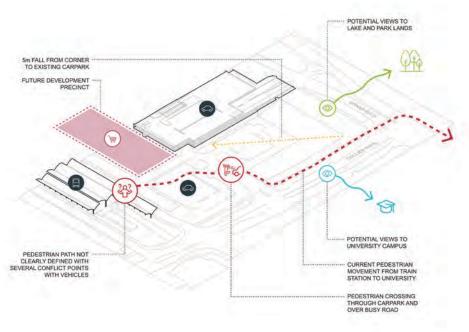
IN RESPONSE TO THE IMMEDIATE CONTEXT, GENTLE SHIFTING IN THE FLOOR PLATES PROVIDES THE GLAZED SOUTHERN FACADE WITH VARIABLE REFLECTIONS THROUGHOUT THE DAY.



Scale: NTS

Project Number: 44316 Drawing Number: DA-002

Revision:

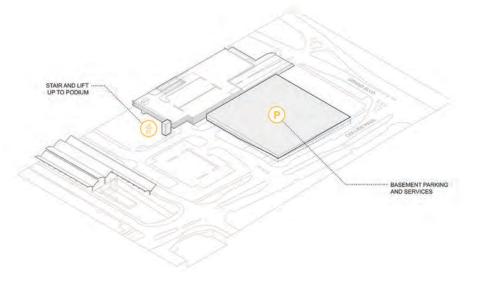


SITE CONSIDERATIONS

THE SITE IS SITUATED ON AN IMPORTANT CONNECTION PATHWAY FROM THE TRAIN STATION TO THE SOUTHERN HALF OF JOONDALUP - WITH THE UNIVERSITY CAMPUS THE MAIN DESTINATION.

VIEWS EAST ACROSS GRAND BOULEVARD TO CENTRAL PARK AND LAKE ARE POSSIBLE FROM STREET LEVEL, WITH VIEWS SOUTH TOWARD THE UNIVERSITY POSSIBLE FROM LEVEL 2 UPWARDS.

THIS LANDMARK CORNER SITE IMPLIES A CIVIC RESPONSIBILITY TO RESPOND TO THE IMMEDIATE CONTEXT, PROVIDE A LOGICAL GROUND PLANE AND CONSIDERED BUILDING FORM THAT SETS A NEW BENCHMARK FOR DEVELOPMENT IN THE



PODIUM

THE FALL AWAY FROM THE STREET CORNER PROVIDES THE OPPORTUNITY TO SLEEVE THE PARKING AND SERVICE REQUIREMENTS BELOW GRADE. THESE NECESSITIES WILL NOT PROVIDE ANY VISUAL AND PHYSICAL DETERRENTS TO THE SCHEME.

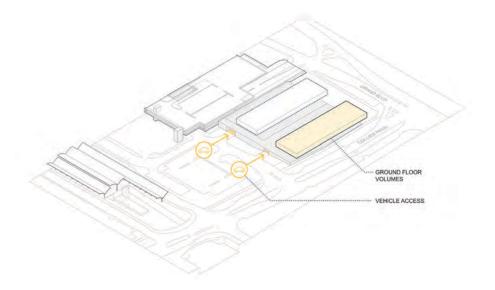
THIS PODIUM ELEMENT PROVIDES A NEW ELEVATED GROUND PLANE AT THE SAME LEVEL AS THE STREET THAT IS ACCESSED BY A NEW LIFT AND STAIR FROM THE TRAIN STATION CONCOURSE LEVEL.



Status: DEVELOPMENT APPLICATION



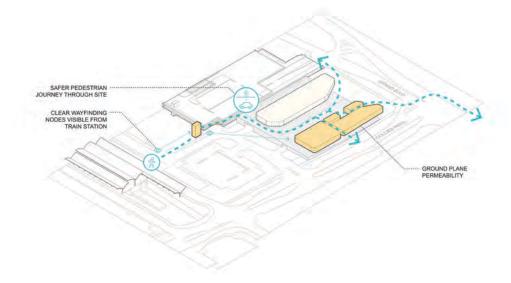
LAKESIDE JOONDALUP OFFICE DEVELOPMENT



BASEMENT PARKING

VEHICLE ACCESS POINTS ARE PROVIDED OFF INTERNAL ACCESS ROAD TO REDUCE TRAFFIC IMPACT TO COLLIER PASS AND GRAND BOULEVARD.

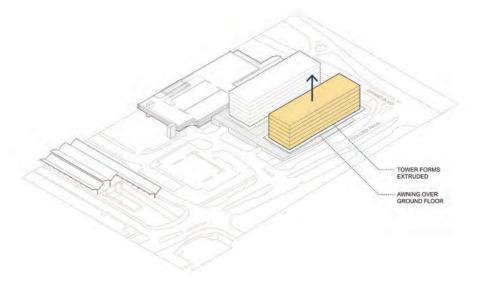
SIMPLE GROUND FLOOR VOLUMES THAT RESPOND TO PROGRAMME FOR STAGE 1 AND STAGE 2 SHOWN.



GROUND FLOOR PERMEABILITY

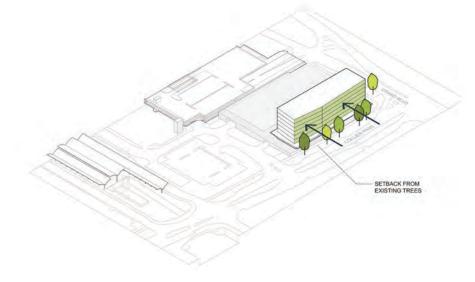
PENETRATIONS CARVED THROUGH THE GROUND PLANE CREATE SIGHTLINES THROUGH THE BUILDING FOR A CLEAR PATH FROM TRAIN STATION TO UNIVERSITY.





TOWER EXTRUSION

BUILDING FORM EXTRUDED TO MEET PROGRAMME REQUIREMENTS.
AWNING EXTENDS OUT TO SHELTER AN ACTIVE GROUND PLANE BELOW.



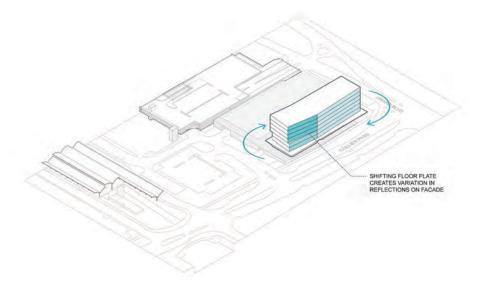
SETBACK

BUILDING FORM SETBACK FROM LOT BOUNDARY TO ALLOW EXISTING TREES SUFFICIENT SPACE TO REACH MATURITY WITH AN ORGANIC CANOPY.

SETBACK FROM GRAND BOULEVARD OPENS UP THE KEY PEDESTRIAN WAYFINDING DECISION POINT AS WELL AS MAINTAINING OPPORTUNITY FOR VIEWS TO THE LAKE AND UNIVERSITY FROM THE STAGE 2 FUTURE DEVELOPMENT.

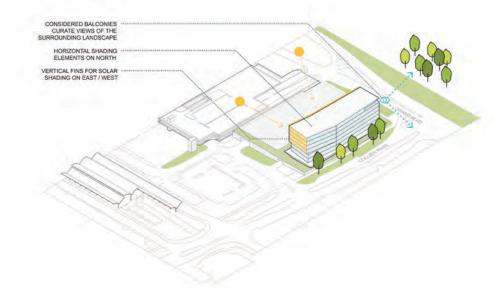


Status: DEVELOPMENT APPLICATION



SHIFTING

SHIFT IN THE FLOOR PLATES TO CREATE VARIABLE REFLECTIONS IN THE SOUTHERN FACADE, ESTABLISHING A DIALOGUE WITH THE NEARBY LAKES WHILST PROVIDING A DISTINCT AND BOLD FORM TO COLLIER PASS.



SHADING AND VIEWS

BALCONY PROVIDES CURATED VIEWS EAST TO CENTRAL PARK AND SOUTH TO THE UNIVERSITY CAMPUS. IT ALSO CREATES DEPTH TO THE FACADE AT THE MAIN CORNER SKYLINE.

SOLAR SHADING ELEMENTS PROVIDE PROTECTION FROM THE HARSH SUMMER SUN.



Status: DEVELOPMENT APPLICATION



EXISTING JOURNEY FROM TRAIN STATION



IMPROVED JOURNEY FROM TRAIN STATION 1:500



1. INADEQUATE WIDTH OF FOOTPATH



2. MULTIPLE CROSSWALKS SLOW TRAFFIC



3. LACK OF SUITABLE FOOTPATH THROUGH CARPARK

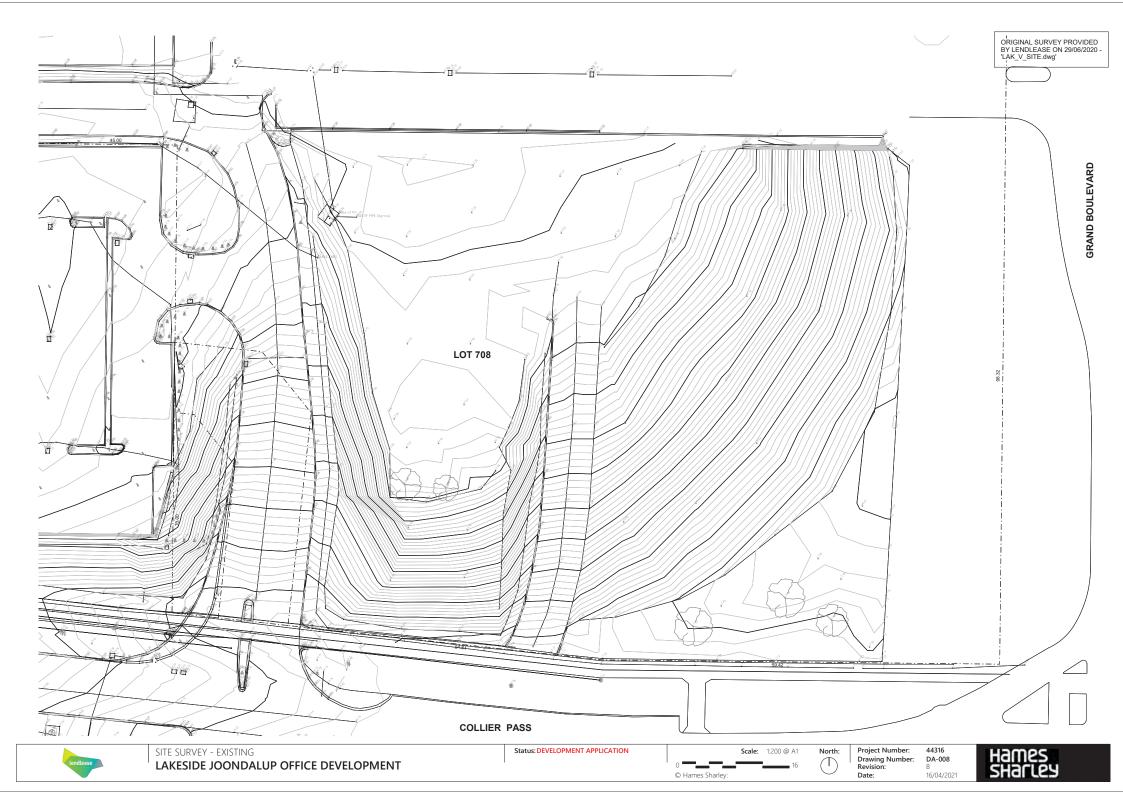


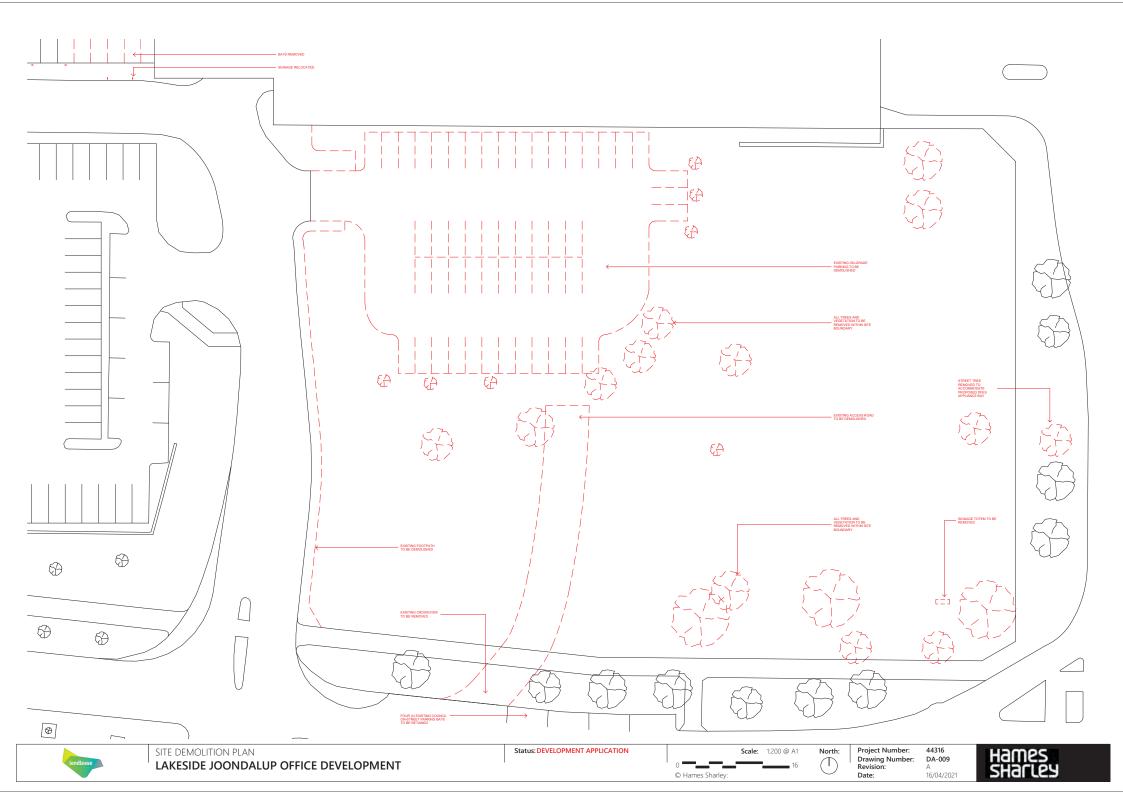
4. PEDESTRIAN CROSSING OVER BUSY ROAD

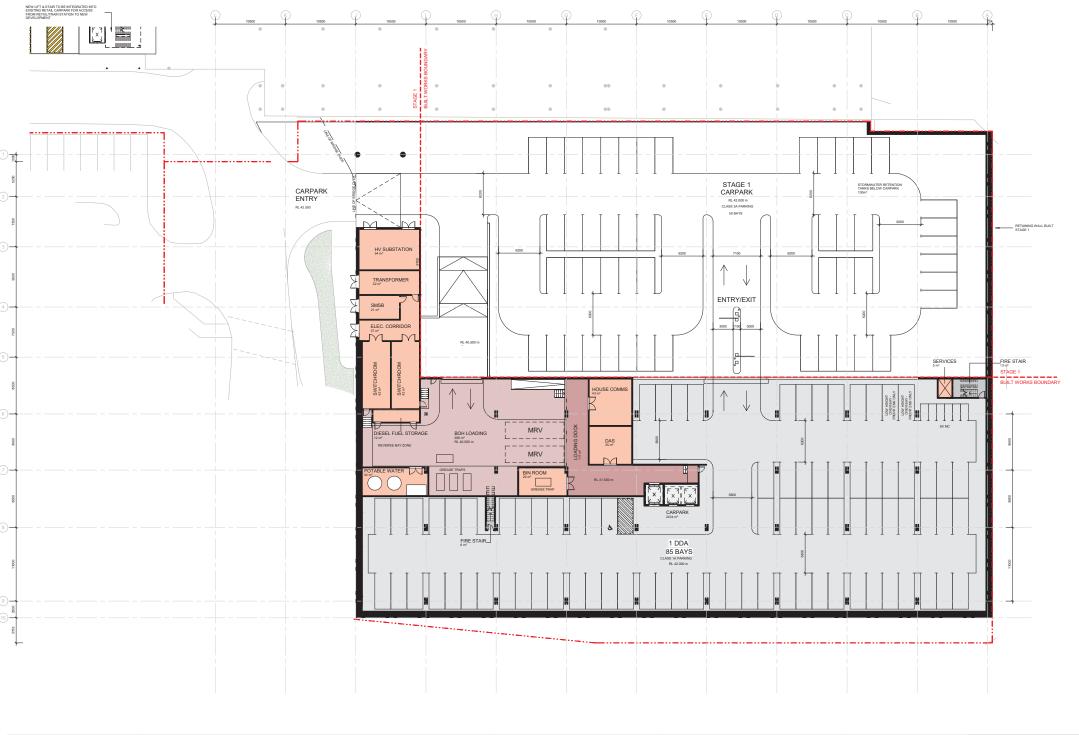


5. LACK OF CONNECTION THROUGH SITE FROM STATION

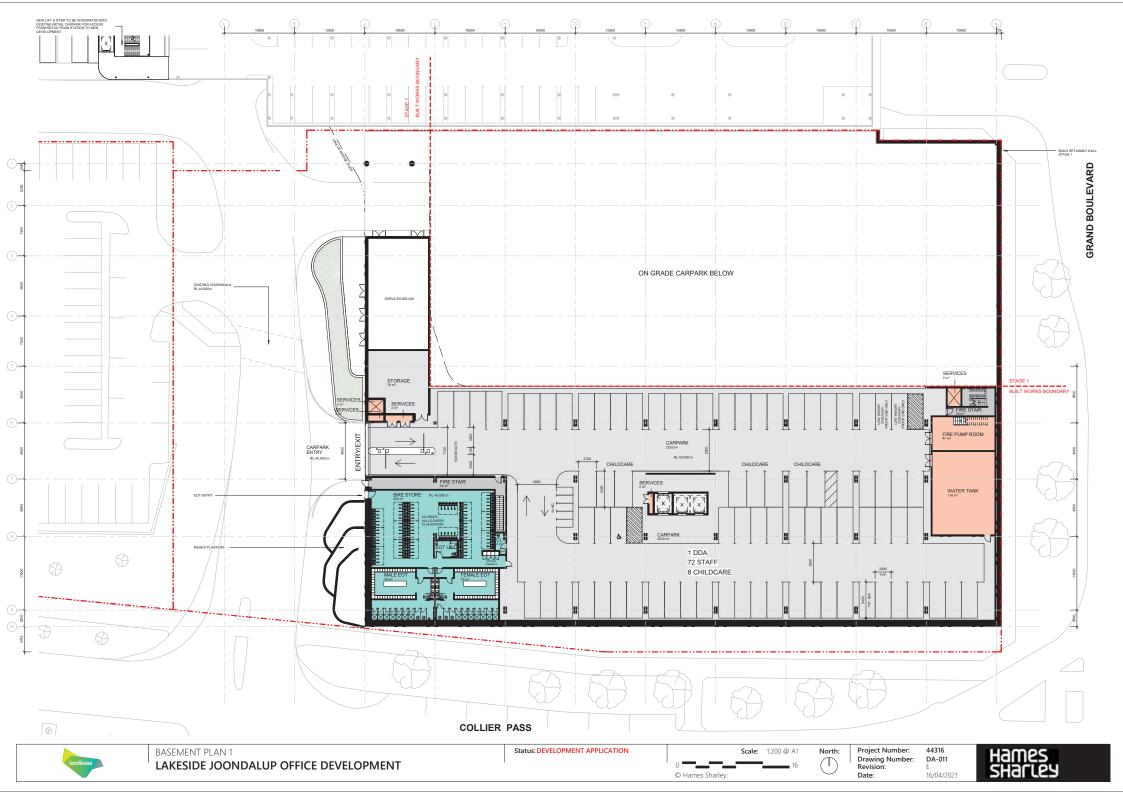


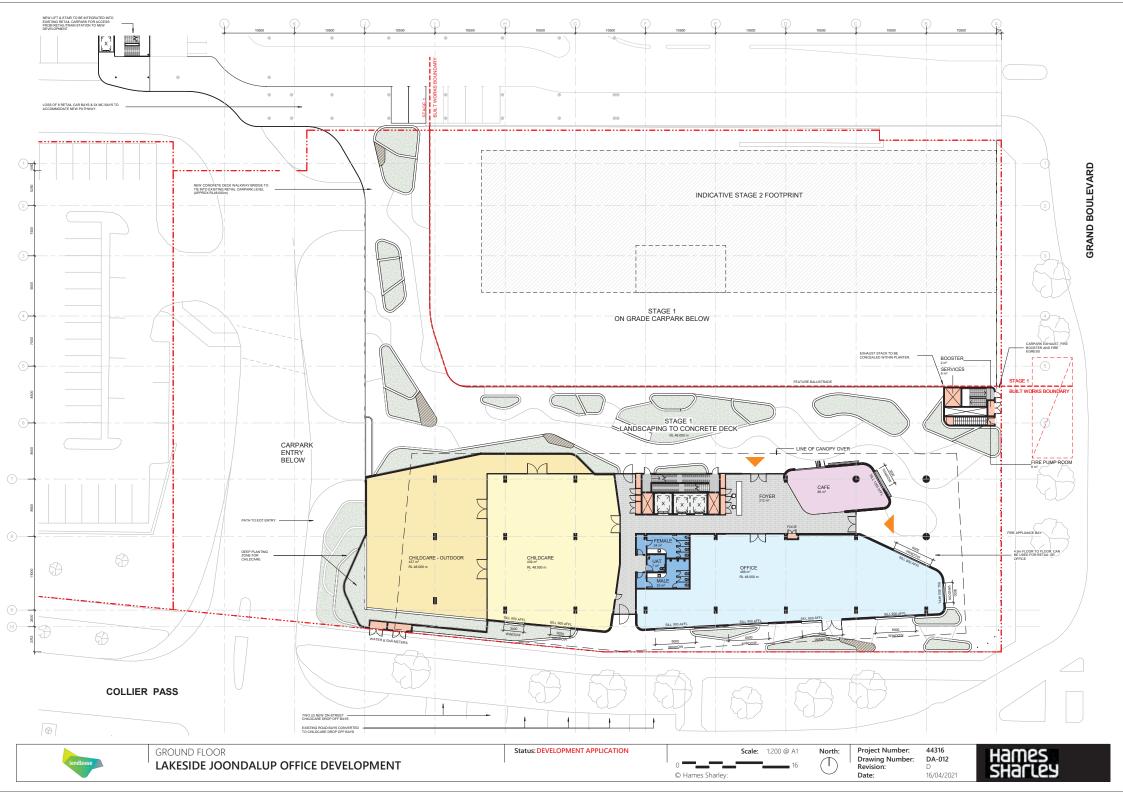


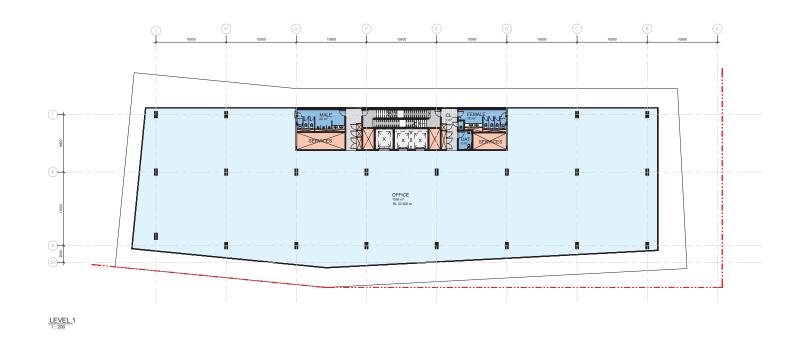


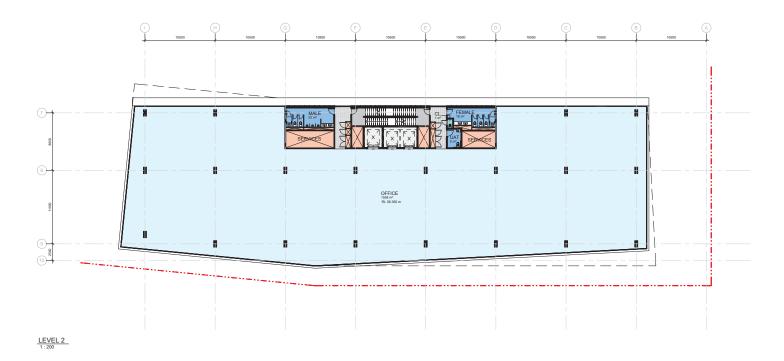


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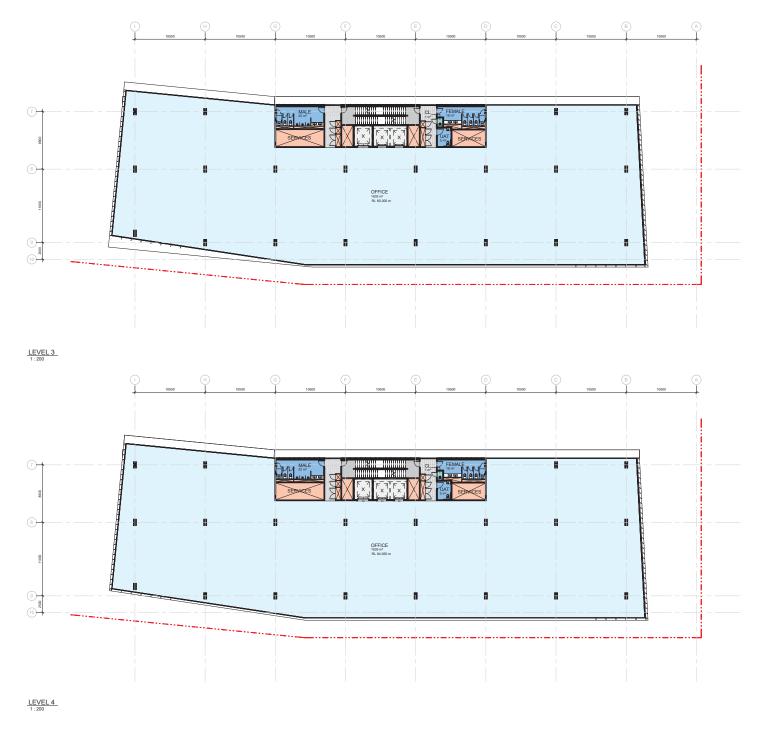


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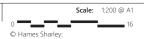
Project Number: 44316
Drawing Number: DA-013
Revision: D
Date: 16/04/2021







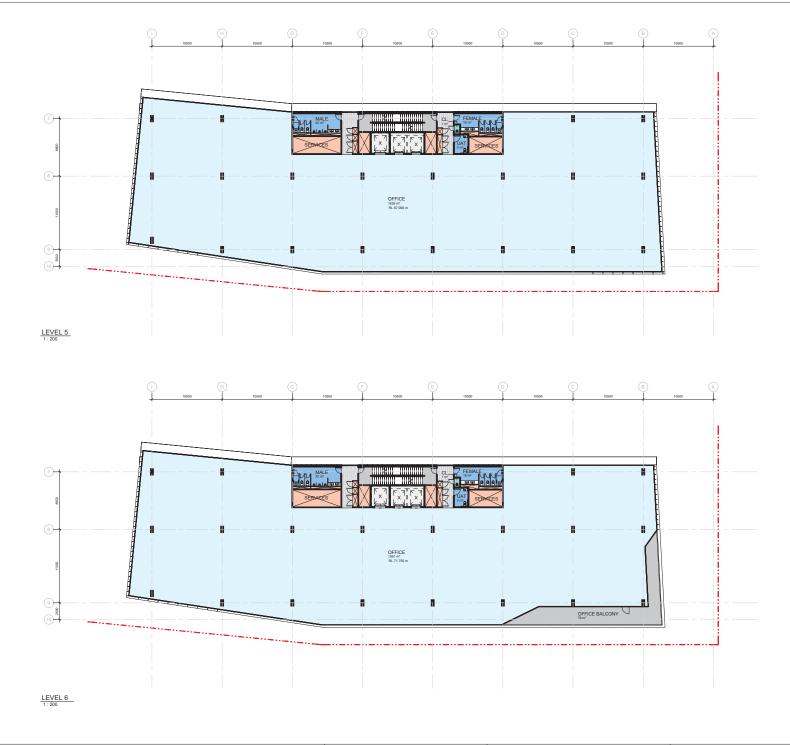
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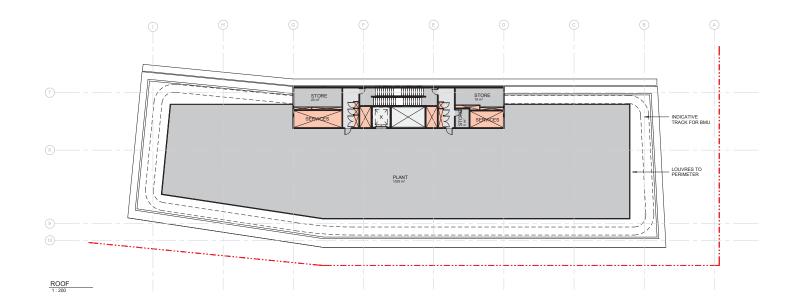
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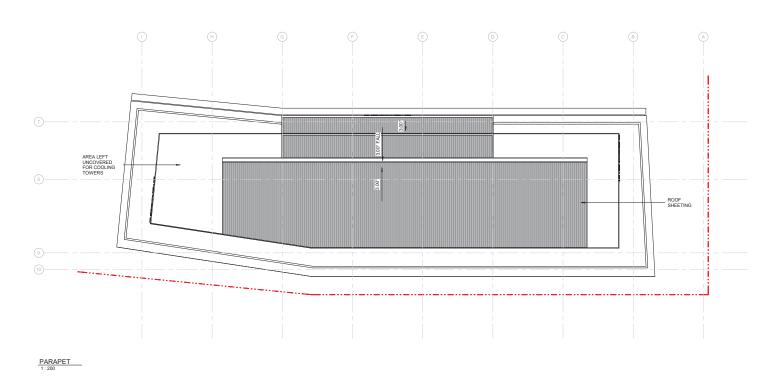
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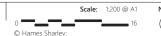






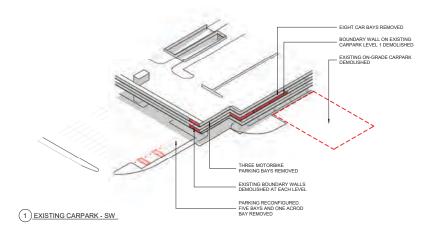


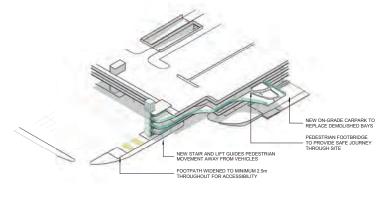
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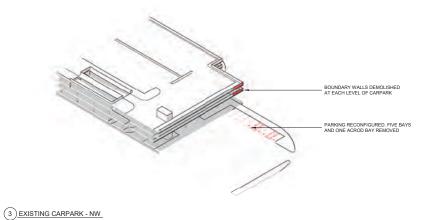
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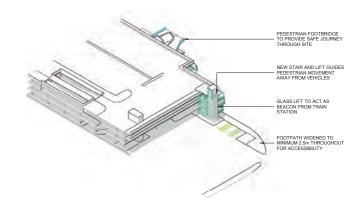






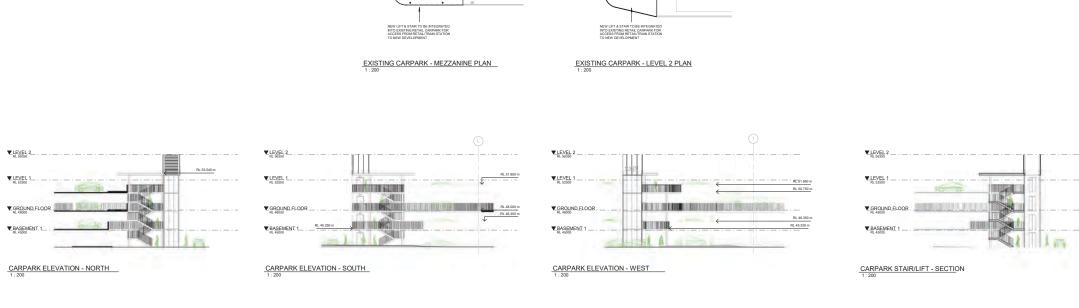
2 PROPOSED STAIR/LIFT - SW

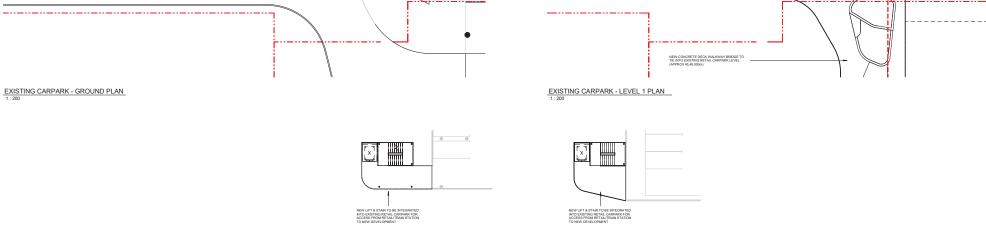




4 PROPOSED STAIR/LIFT - NW







EXISTING CARPARK RL 48.000m

EXISTING CARPARK RL 42.500m

SPP 7.0 APPLICANT RESPONSE

SPP 7.0

State Planning Policy 7.0 (SPP 7.0) sets out 10 design principles to promote the importance of design quality throughout the built environment in Western Australia.

The Policy applies to all forms of development which include higher order planning such as ACP to Subdivision and Development Applications. The policy sets out design principles which pertain to: context and character, landscaping quality, built form and scale, functionality and build quality, sustainability, amenity, legibility, safety, community and aesthetics.

These principles have underpinned the design response to the development and broader context.



CONTEXT & CHARACTER

Objective: Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.

- The architectural language of the facade is derived from the dynamic nature of the water surfaces of the lake in Central Park and Lake Joondalup.
- The design incorporates to the natural features & materials
 of Joondalup the lake reflections in the glass, limestone, and
 natural tones from the green link bushland.
- Cognizant that this development plays important in creating a safe pedestrian linkage from the train station to TAFE & University.
- Enhance and reinforce the 'Green Link' as outlined in the Activity Centre plan
- Bold & distinctive form acknowledges the City's desire for a landmark building.



LANDSCAPE QUALITY

Objective: Good design recognises that together landscape and buildings operate as an integrated and sustainable system, with a broader ecological context.

- The landscape has been designed to be an integral part of the overall campus design.
- Retain mature street trees where practical to maintain an attractive pedestrian connection.
- Provide a public alfresco seating area within the campus precinct area with extensive hard and soft landscaping element to optimise areas of recreation and reprieve for users.
- Enhance the desired 'Green link' connection from Lake Joondalup, thorough Central Park and along Collier Pass.
- Planting proposed is native, enhancing identity of place and sustainability.
- Weather protection has been provided in the form of awning and tree canopies.



BUILT FORM & SCALE

Objective: Good design ensures the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.

- Built form set back form street boundary to give space for mature street tree roots to grow
- Building orientated to maximise natural daylight with the long facades facing north & south
- Tactile and human-scale elements & materials incorporated to ground floor to further enhance the campus feel
- Dramatic floor shift in the building provides a strong and bold aesthetic appropriate of a landmark building.
- The form of the building has been carefully considered to provide a landmark building that responds to the current context of Joondalup but also to its future.



FUNCTIONALITY & BUILD QUALITY

Objective: Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full-life cycle.

- Ground floor height is adaptable for future retail or showroom conversion.
- Proposed design enhances the connection from the train station by providing new pedestrian linkages that minimises vehicle crossover points.
- · Finishes proposed are resilient and of commercial quality.
- Shading devices have been implemented into the design to reduce the heat gain on the glass and reduce glare.
- . Design is targeting 5 Star Green Star accreditation.









 Project Number:
 44316

 Drawing Number:
 DA-032

 Revision:
 A

 Date:
 16/04/2021



LAKESIDE JOONDALUP OFFICE DEVELOPMENT

SPP 7.0 | APPLICANT RESPONSE



SUSTAINABILITY

Objective: Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.

- . Shading devices have been integrated into the design to reduce the heat gain on the glass and reduce glare
- · Rain water retained on site for reuse
- . Electric charging points provided for EV cars
- . Targeting 5 Star Green Star accreditation.
- . Long facades places north/south, with the short sides east/west to maximise natural daylighting and minimise heat load.
- · Planting proposed is of native species.



AMENITY

Objective: Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and

- End of trip facility provided to reduce reliance on motor vehicles and encourage alternate means of transport.
- · Public ground floor café
- . The development will link the development with Central Park. Tafe and University, solidifying the green link as outlined in the Activity Center plan.
- · Childcare proposed on ground floor.
- . Design encourages views out over the Lake and Central Park, whilst also providing solar protection.



LEGIBILITY

Objective: Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.

- . Clear, legible connection shave been proposed throughout the development. A high level of analysis has considered where the existing pedestrian linkages are and how they can be better integrated with the centre.
- . Way finding techniques have been proposed through the public realm, in the form of paving, landscaping, and signage.
- . Ground floor plan has been arranged to encourage both tenants and the public to engage with the development.
- · Pedestrian canopy has been proposed to provide shade and weather protection year-round. The trees proposed in the landscape will provide seasonal protection.



SAFETY

Objective: Good design optimises safety and security. minimising the risk of personal harm and supporting safe behavior and use.

- . The proposed design will contribute to passive surveillance both of the existing centre, train station linkage, and Collier Pass.
- . CCTV & 24 hour lighting has been proposed through the landscape and development.
- The improvements to the train station connection provide a safer route for pedestrians, reducing the amount of crossovers they need to navigate.
- . Planters have been set a sufficient distance from balustrades to minimise the risk of climbing.
- . BMU has been proposed for cleaning of facades



COMMUNITY

Objective: Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social

- · A large emphasis has been placed on creating a campus that supports the community needs and provides spaces for relaxation & entertainment.
- · Child care has been proposed for ground floor.
- . CCTV & 24 hour lighting has been proposed through the landscape and development,
- · Mix of elements proposed in the landscape design provides additional amenity to users



AESTHETICS

Objective: Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.

- . The form of the building has been carefully considered to provide a landmark building that responds to the current context of Joondalup but also to its future.
- Distinct differences in material and form between ground floor and office above provide visual separation and a clear identity for the public and office portions of the building.
- . Ground floor materials are of a smaller, tactile, human scale to create a more intimate, inviting environment for users.
- . Large glazed facade to the south has been designed to reference the ever-shifting nature of the water surface on the lake. reflecting the street trees along the facade and emphasising the dramatic floor plate shift of the office.
- . The implementation of vertical fins provides a dynamic facade experience as you move around the building, providing visual interest not only to pedestrians but also those in vehicles moving past at speed.
- . Angular elements respond to the existing Lakeside Joondalup Shopping Centre aesthetic, creating a common language between the two developments.









Project Number: 44316 Drawing Number: DA-033 16/04/2021



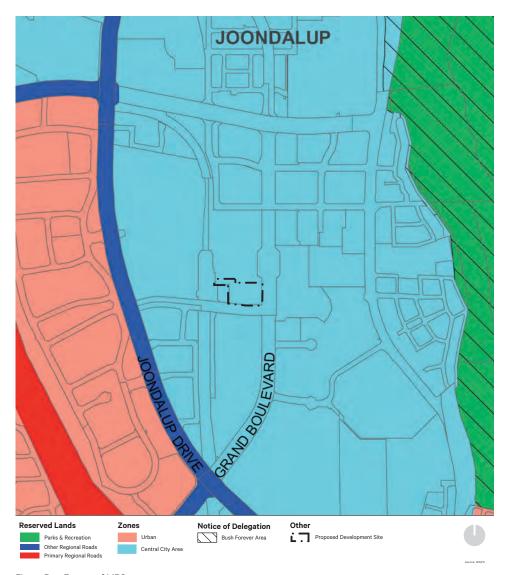


Figure 5. Extract of MRS

5. Planning Assessment

5.1 State Planning Framework

Metropolitan Region Scheme

The Metropolitan Region Scheme (MRS) provides the legal basis for controls on the development and use of land at the regional level.

The subject site is zoned 'Central City Area' under the MRS and abuts the Joondalup Drive 'Other Regional Roads' reservation to the west. However, it is noted that the proposed development site is located to the southeast corner of the subject site, well away from the Joondalup Drive 'Other Regional Roads' reservation and no vehicle access is proposed from Joondalup Drive.

Refer to Figure 5 – Extract of MRS

The Central City Area zone is intended to support the development of strategic regional centres for major retail, commercial and office facilities, as well as residential and civic land uses. The proposed commercial office development is therefore entirely consistent with the applicable zoning under the MRS.

Perth and Peel @ 3.5 Million

The Perth and Peel @ 3.5 Million framework is the primary strategic plan for the Perth and Peel metropolitan regions, and builds on the vision established under Directions 2031. The framework seeks to achieve a more consolidated urban form and strengthen key activity centres and employment nodes as the Perth and Peel population grows to 3.5 million people by 2050. This intended distribution of employment nodes is a crucial component of achieving the key objective to provide employment options close to where people live, thereby reducing the need for people to commute long distances for work.

The Joondalup City Centre is identified as a strategic metropolitan activity centre under the framework, with the framework indicating that activity centres will play an increasingly crucial role in the development of the Perth and Peel regions by providing greater housing and employment opportunities, and creating a sense of place through increased social and business activity.

More specifically, the North-West Sub-Regional Planning Framework identifies the Joondalup City Centre as a key area for economic and employment growth, where the intensification of commercial land uses is to be encouraged, having regard to the proximity of the area to existing rail infrastructure.

Having due regard to the above, the proposed development is observed to be closely aligned with the aims and objectives of the Perth and Peel @ 3.5 Million framework, providing for the establishment of a major commercial office development within an identified strategic metropolitan activity centre. In doing so, the proposal will support increased employment self sufficiency in the north-west sub-region, with plans for future expansion into a campus style office precinct.

State Planning Policy 3.7: Planning in Bushfire Prone Areas

As noted previously, a portion of the subject site is identified as being within a bushfire prone area under the DFES State Map of Bushfire Prone Areas, which triggers the application of the requirements under State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP3.7) and the associated Guidelines for Planning in Bushfire Prone Areas (the Guidelines). Accordingly, this application is supported by a Bushfire Attack Level (BAL) Contour Map and Bushfire Management Plan (BMP) prepared by Emerge Associates, copies of which are enclosed at Appendix C.

Refer to Appendix C – Bushfire Attack Level Contour Map and Bushfire Management Plan.

The BMP identifies that the proposed development will be subject to a maximum BAL rating of BAL-12.5, with the bushfire risk arising primarily from the areas of unmanaged vegetation to the southeast and southwest of the proposed development site. This identified bushfire risk to the proposed development is relatively low and can be managed in full compliance with SPP3.7 and the associated Guidelines on the basis that:

- The entirety of the proposed development site will be maintained as an asset protection zone (APZ), with managed gardens and all areas kept free of weeds and the buildup of dead material;
- Collier Pass provides access to a minimum of two (2) separate destinations, in a manner that satisfies the vehicle access requirements of the Guidelines; and
- The proposed development site is located within an area with reticulated water supply, with at least three (3) water hydrants located on Collier Pass and Grand Boulevard, within 40 metres of the proposed development site.

As the proposed development includes a childcare centre, which is identified as a 'vulnerable land use' under SPP3.7, the accompanying BMP also includes a Bushfire Emergency Evacuation Plan, and it is understood that the supporting bushfire documents will be referred to DFES as part of the development application process.

For further details, please refer to the accompanying BMP at Appendix C.

State Planning Policy 4.2: Activity Centres for Perth and Peel

State Planning Policy 4.2 – Activity Centres for Perth and Peel (SPP4.2) sets out planning and development requirements for new and existing activity centres within the Perth and Peel metropolitan regions.

SPP4.2 identifies the subject site as being within the Joondalup strategic metropolitan activity centre. Strategic metropolitan activity centres are intended to develop as diverse mixed use community hubs, with a key focus on the provision of employment opportunities and major office developments, as proposed by this development application. As such, the proposed development is observed to be consistent with the intent of SPP4.2 in that it will contribute positively to the density and diversity of land uses within the Joondalup City Centre, consistent with the provisions of the JACP.

State Planning Policy 5.4 – Road and Rail Noise

State Planning Policy 5.4: Road and Rail Noise (SPP5.4) seeks to minimise the adverse impact of road and rail noise on noise-sensitive land uses within the specified trigger distance of major transport infrastructure. Due to the proximity to major road and rail transport infrastructure, this application is accompanied by a preliminary acoustic report prepared by Floth Sustainable Building Consultants and addressing the requirements under SPP5.4.

The preliminary acoustic report identifies that the proposed childcare facility is the only noise sensitive use within the proposed development that is subject to the provisions of SPP5.4. The external noise impacts on the proposed childcare centre and associated outdoor spaces have therefore been modelled and predicted using SoundPLAN software, having regard to the assigned noise levels under SPP5.4. This assessment concludes that full compliance with the assigned indoor and outdoor noise levels can be achieved subject to appropriate building envelope treatments that will be adopted during detailed design.

For further details, please refer to the accompanying acoustic report that is enclosed as Appendix F. The findings of the acoustic report are also discussed in further detail in the following sections of this report.

Refer to Appendix F - Acoustic Report

5.2 Local Planning Framework

City of Joondalup Local Planning Strategy

The City of Joondalup Local Planning Strategy establishes the long-term planning direction for the City and has informed the preparation of the City's current Local Planning Scheme No. 3 and the JACP.

The Local Planning Strategy is based around eight key planning themes, culminating in a City-wide Strategic Plan Map that identifies the subject as being within the 'Joondalup Strategic Metropolitan Centre'.

The objectives of the Local Planning Strategy include:

- To develop and consolidate the City Centre as the Strategic Metropolitan Centre for the North-West sub region and aspire to achieve Primary Centre status.
- To develop attractive, successful commercial centres that are accessible and well-connected to residents.
- To achieve greater employment self sufficiency.
- To ensure existing transport routes are used to their full capability by locating intensive land uses with significant trip generating potential in close proximity to those routes, and adjacent to railway stations.
- To enhance cycling and pedestrian networks.

The above objectives are supported by a number of specific vision statements, strategies and actions for the Joondalup City Centre, including an intent to consolidate the area as the principal commercial and retail hub of the north-west sub region of Perth. This includes a specific focus on supporting major regional office developments that will enhance business activity and employment self sufficiency within the City Centre, with a considerable overall intensification of development in the area.

The proposed development is therefore entirely consistent with the aims and objectives of the Local Planning Strategy on the basis that it will deliver a major commercial office development that will support greater employment self sufficiency within the Joondalup City Centre, with plans for future expansion as part of the overall masterplan for the subject site. The proposed development will also enhance pedestrian connections through the subject site and capitalise on the proximity to the Joondalup Railway Station, in accordance with the objectives outlined above.

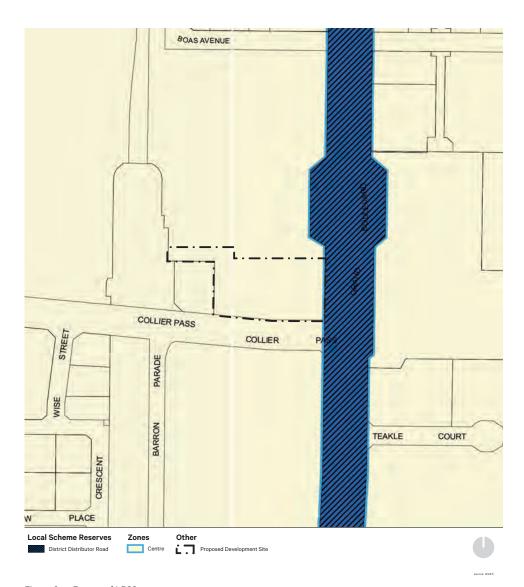


Figure 6. Extract of LPS3

City of Joondalup Local Planning Scheme No. 3.

The City of Joondalup Local Planning Scheme No. 3 (LPS3) is the primary statutory control on the development and use of land within the City of Joondalup.

The subject site is zoned 'Centre' under LPS3, as are the surrounding landholdings to the north, east, south and west.

Refer to Figure 6 – Extract of LPS3

The stated objectives for the Centre zone under LPS3 are as follows:

- To designate land for future development as an activity centre.
- To provide a basis for future detailed planning in accordance with the structure planning provisions of this Scheme or the Activity Centres State Planning Policy.

Accordingly, land use and development outcomes for the Centre zone are to be in accordance with an adopted Activity Centre Plan, with the JACP having been adopted to guide the development of the subject site and surrounds. An assessment against the JACP is therefore provided below.

However, LPS3 does provide controls on land use permissibility within the JACP area and in this regard, it is noted that:

- The proposed 'Office' and 'Restaurant/Café' land uses are identified as permitted ('P') uses for the subject site that are entirely consistent with the intent of the JACP; and
- The proposed 'Child Care Premises' land use is identified as a discretionary ('D') use and is considered to represent an entirely appropriate ancillary use for a major commercial office development of the type proposed.

As such, the proposed land uses are observed to be appropriate and consistent with the provisions of LPS3.

element.

Joondalup Activity Centre Plan

The Joondalup Activity Centre Plan (JACP) has been adopted by the City and the Western Australian Planning Commission (WAPC) to guide the development of the Joondalup City Centre, and is the primary statutory control on land use and development outcomes within the 'Centre' zone under LPS3. The JACP therefore effectively operates as the operative precinct plan for the area, as required under State Planning Policy 7.2 – Precinct Design and has the status of a document of 'due regard' in the assessment and determination of development applications, meaning that it can be varied at the discretion of the decision making authority.

The JACP supports the City's long held aspirations for the Joondalup City Centre to be recognised as the Central Business District (CBD) of the northwest corridor of the Perth metropolitan region, and envisages an increased urban intensity as part of the City's next era of development. One of the primary objectives of the JACP is to promote greater employment self-sufficiency, with a focus on knowledge intensive industry and land uses that generate high concentrations of workers in the city centre. The proposed development therefore provides an exciting opportunity to support this identified land use intent, through the delivery of a major commercial office development with plans for future expansion into a larger campus style office precinct. The objectives of the JACP also encourage the development of landmark buildings on key sites within the city centre and the enhancement of the existing public realm within the city centre, as proposed via this development application.

Under the JACP, the subject site is identified as a 'Landmark Site' and is located within the 'City Centre Precinct'. The JACP recognises that buildings on landmark sites are intended to be "set apart from the general urban fabric of the city and may not be required to comply with development standards such as setbacks", with this having been duly considered in the design of the proposed development. The JACP also requires a minimum building height of 20.5 metres, with no prescribed maximum building height.

Noting the relevant parameters identified above, a detailed assessment against the general and precinct-specific requirements applicable to development on the subject site under the JACP is provided in Table 4, below.

Table 4 - JACP Assessment

JACP Assessment – City Centre Pre	cinct			
Requirement Design Response				
Building Height				
Building heights shall be in accordance with Figure 4: Building Heights Plan.	The development proposes an overall height of 33.95 metres, as measured from the Grand Boulevard and Collier Pass footpath levels.	Complies.		
Minimum 20.5 metres, no maximum.	This exceeds the required minimum building height and has been recognised by the City's DRP as being an appropriate design response for an identified landmark site.			
Building Setbacks				
Street Frontage:	As noted previously, the proposed development is located on an identified landmark site under the JACP, where	Approval sought		
A nil setback is required at ground level to 75% of the building frontage (maximum setback 3m), with the exception of:	buildings are intended to be "set apart from the general urban fabric of the city and may not be required to comply with development standards such as setbacks". Accordingly, the proposed development foregoes the standard nil setback podium and tower built form under the JACP, in favour of an alternative design solution that will provide a prominent landmark at the corner of Grand Boulevard and Collier Pass. This is discussed in further detail below under the heading 'Building Setbacks Approach'.	for landmark site design solution, as encouraged under the JACP.		
A colonnade having a maximum depth of 4m;		Refer to detailed discussion		
Minor variations to accommodate an irregular shaped lot; or		below.		
Entry courtyards or similar open spaces.				
Minimum Side and Rear Setbacks:				
No openings or balconies – Nil.				
With openings and balconies – 4m.				
Tower Structure:				
Tower structures shall be stepped back a minimum of 6m from the street frontage, and side and rear lot boundaries.				
Street Interface - Active Frontages				
Street activation shall be provided at the ground floor.	The proposed development provides activation to both Grand Boulevard and Collier Pass at the ground floor, via the provision of glazed openings to the office, café and childcare facilities. The proposed café tenancy and associated alfresco seating areas have been located to provide a high level of activation at the key intersection of Grand Boulevard and Collier Pass, and to signal the main entry to the proposed development.	Complies.		

JACP Assessment – City Centre Precinct					
Requirement	Design Response				
Residential shall not be located on the street at ground floor except for common foyers and other communal spaces.	No residential dwellings are proposed.	Complies.			
Continuous pedestrian shelter of 2.5m minimum width and a minimum 3m and	Minimum 3 metre wide awnings over the ground floor pedestrian environment are provided around the full extent of the proposed building.	Complies.			
maximum 4m height clearance above the footpath shall be provided.	The proposed awnings are situated 4 metres above the adjacent pedestrian path levels.				
Primary building entries shall be visible from the public realm and shall be accessed directly onto the primary street frontage.	The primary building entry for commercial tenants and visitors is clearly defined and visible from Grand Boulevard, as the primary street frontage for the proposed development site.	Complies.			
Glazing shall be provided at ground floor to a minimum of 75% of the area of any street frontage and 50% to other frontages.	The proponent is cognisant of the risk of providing full glazing to the ground floor street interface for the office and childcare components, in terms of the likely desire for future tenants to install an opaque film or extensive blinds to areas of ground floor glazing, to create a greater balance between street activation and visual privacy. It is therefore proposed to create a more tactile ground floor interface that includes a mix of glazed openings, limestone and tile clad solid elements, and high quality landscaping. Whilst this adopted design approach falls short of the 75% street frontage glazing requirement, it ensures that the openings provided are realistic with respect to the nature of the intended use, so as to mitigate the risk of extensive areas of obscured glazing at ground level. This approach creates more meaningful activation and increased visual interest at ground level, and is an outcome that was supported by the City's appointed DRP.	Approval sought for alternative design solution.			
	The ground floor layout also concentrates the highest level of activation at the key corner of Grand Boulevard and Collier Pass, via the orientation of the main building entry and associated café.				
	For the reasons outlined above, the proposed ground floor interface is observed to be of a high quality and consistent with the intent of the JACP. It is therefore considered to represent an acceptable minor departure from the provisions of the JACP.				

JACP Assessment – City Centre Pred Requirement		Compliance		
	Design Response	Approval sough		
There shall be no fencing to any public road or public space.	No fencing is proposed around the Stage 1 office development. However, temporary, non-climbable fencing is proposed around the open air car parking facility on the site of the planned future Stage 2 development to the north of the Stage 1 building.			
	This fencing is proposed to both Grand Boulevard and the internal pedestrian paths proposed as part of this application for development approval, and is necessitated by the significant change in level between the proposed open air car park and the established ground level at Grand Boulevard, which has in turn dictated the ground levels around the proposed Stage 1 office development. This creates an interim safety issue that needs to be appropriately addressed until such time as the open air car parking facility is enclosed as part of an integrated basement level for the future Stage 2 office development. The proposed fencing is therefore considered acceptable, noting that this is an interim solution that is softened by areas of landscaping to all sides.			
	This temporary fencing will be removed as part of the future Stage 2 works.			
There shall be no on-site parking adjacent to any public road.	The proposed car parking facilities for the Stage 1 office tower are contained within two fully enclosed basement levels, which are concealed from view from both Grand Boulevard and Collier Pass.			
	However, as noted above, the proposed development includes an interim open air car park on the site of the future Stage 2 development site, which will ultimately be enclosed as an integrated basement for the Stage 2 office development.			
	Whilst the open air car parking is located adjacent to Grand Boulevard, this is an interim site condition only and the change in level between the street and the open air car parking facility will prevent any view of parked cars from the main road carriageway and pedestrian paths along Grand Boulevard, which are separated from the subject site via an area of existing landscaping. As such, the proposed open air car parking facility is considered acceptable, as a temporary departure from the provisions of the JACP.			
Floor Levels				
The ground floor level of a development should not be more than 1m above the existing pedestrian pavement level.	The ground floor level of the development matches into the adjoining footpath levels at the Collier Pass and Grand Boulevard frontages.	Complies.		
Adaptable Buildings				
Minimum floor to floor height of 4.5 metres at ground floor.	The proposed development provides a 4.5 metre floor to floor height at the ground floor. This provides an appropriate degree of flexibility for the ground floor level to adapt to potential changes in use over time.	Complies.		
Structure and core configurations, vehicle circulation and service	The centralised core location enables future subdivision of office tenancy spaces if required, which could be readily achieved via a small communal lobby on each office floor.	Complies.		
provision to enable future subdivision/ amalgamation of tenancy spaces and enable future uses (e.g. grease traps, metering provisions).	Grease traps are also provided to enable potential flexibility in the ground floor land use mix over time.			

JACP Assessment – City Centre Pre	cinct		
Requirement	Design Response	Compliance	
Open Space and Landscaping			
Non-Residential Development:	The proposed street setback areas are appropriately landscaped with a mix of hard and soft landscaping, as indicated in the accompanying landscape plans at Appendix D. Refer to Appendix D - Landscape Plans.		
Where a building is setback from the			
street, the front setback area is to be landscaped.			
Car Parking and Access			
Non-Residential Parking:	The proposed development comprises a total non-residential NLA of 10,604m², which requires a minimum of 142	Complies.	
One (1) bay per 75m² of NLA, with 10%	parking spaces to be provided.		
of the required bays to be replaced by two (2) motorcycle/scooter bays.	The proposed development meets and exceeds this requirement with a total of 167 car parking spaces and 11 motorcycle parking spaces provided to service the proposed development. This includes appropriate allocations for universal access bays and childcare drop-off bays, and additional parking facilities for servicing vehicles and waste collection vehicles.		
	The 50 bays within the open air parking facility on the site of the planned Stage 2 office tower are not intended to form part of the commercial parking allocation for Stage 1. These are instead provided to offset the removal of the 50 existing at-grade parking bays in this location, which are sporadically utilised by staff of the main shopping centre, and will ultimately be enclosed as an integrated basement level for the future Stage 2 office development.		
	Whilst it is acknowledged that the provision of motorcycle bays is slightly below the recommended provision under the JACP, this has been informed by Lendlease's extensive experience in developing other similar commercial office developments throughout Australia. The proposed provision of motorcycle bays is therefore considered appropriate and reflective of anticipated demand.		
Vehicle Access:	The proposed development affects access via the existing shopping centre access road off Collier Pass.	Complies.	
If a lot adjoins a laneway then vehicular access must only be provided from the laneway.	No new crossovers are proposed to Collier Pass or Grand Boulevard.		
A maximum of one vehicle crossover per lot is permitted.			

JACP Assessment - City Centre Pred		Compliance		
Requirement	rement Design Response			
At-Grade Parking:	As noted above, this development application seeks approval for a temporary open air car park, which will subsequently be enclosed as an integrated basement level for the future Stage 2 office development.			
Private off-street at-grade parking is discouraged and shall be located behind buildings.				
Uncovered car parking at ground level shall be provided with a minimum of one (1) shade tree per four (4) bays.				
City Squares				
N/A. The subject site does not contain ar	y identified city squares under the JACP.			
Landmark Sites				
Buildings and associated development on landmark sites should be designed to enhance way finding and identity of the city.	The form of the proposed development has been designed to be set apart from the general urban fabric of the City, as encouraged under the JACP.			
	In doing so, the proposed development will provide a prominent corner statement at the intersection of Grand Boulevard and Collier Pass, which will assist in enhancing the identity of the city centre and serve as a wayfinding landmark for visitors to the city centre.			
Development on landmark sites is intended to be set apart from the general urban fabric of the city and may not be required to comply with development standards such as setbacks. This has been duly considered in the design of the proposed development, as referenced above and discussion detail below under the heading 'Building Setbacks Approach'.		Complies.		
Development including architecture, landscape and signage should be of a very high standard and should contribute significantly to the surrounding streetscape.	dscape and signage should be comments provided by the City's DRP. The high quality built form and extensive landscaped pedestrian links will make a high quality contribution to the streetscape, skyline and the amenity of the locality. It is a comment provided by the City's DRP. The high quality built form and extensive landscaped pedestrian links will make a high quality contribution to the streetscape, skyline and the amenity of the locality.			
Materials used should be robust and consistently high quality.	The proposed development utilises robust, high quality materials, including high performance glazing, limestone cladding and contrasting powdercoated aluminium. These combine to produce a visually interesting design solution with a tactile ground plane and will result in an enduring design solution that minimises ongoing maintenance requirements.	Complies.		

Requirement	Design Response	Compliance		
Main Street - Boas Avenue				
N/A. The proposed development does no	t front Boas Avenue.			
Green Link – Collier Pass				
Frontages to the south side of Collier Pass should be well landscaped to create a pleasant environment for pedestrians and cyclists to traverse the city.	proposed awnings over the ground floor pedestrian environment, will greatly enhance the pedestrian experience along Collier Pass.			
Streetscape materials and details, plantings and public art should provide a seamless connection between green spaces and emphasis the primacy of the green link.				
Collier Pass southern frontages should be activated with priority for uses that generate pedestrian activity.	Collier Pass is appropriately activated via glazed openings and a secondary entrance for the proposed office and childcare facility, complemented by high quality landscaping that reflects the role of Collier Pass as an identified green link.	Complies.		
	The location of the main building entry and associated café tenancy also focuses a high level of activation at the key intersection of Grand Boulevard and Collier Pass.			
Bicycle Parking and End of Trip Facilit	ies			
Employee Bicycle Parking:	The proposed development provides a total of 10,082m² of internal office floor space, which generates a	Complies.		
Office: 1 space per 200m² NLA.	requirement for 50 employee bicycle parking spaces and ten (10) visitor bicycle parking spaces.			
Restaurant/Café: N/A.	The proposed development significantly exceeds this minimum requirement, proposing a total of 102 bicycle parking spaces within the secure end of trip facilities at Basement 1. This identified surplus of bicycle parking			
Child Care Premises: 1 space per 8 employees, as per the City's Child Care	spaces is more than sufficient to accommodate the one (1) space per eight (8) employees requirement for the proposed childcare facility, as per the City's Child Care Premises Local Planning Policy.			
Premises Local Planning Policy.	Five (5) double sided visitor bicycle parking racks are also proposed at the ground floor adjacent the proposed			
<u>Visitor Bicycle Parking:</u>	café tenancy, which is more than sufficient to meet the minimum requirements of the JACP based on the size and			
Office: 1 space per 1,000m ² NLA.	capacity of the proposed café tenancy.			
Restaurant/Café: 1 space per 50 patrons.				
Child Care Premises: N/A.				

JACP Assessment – City Centre Pre	cinct		
Requirement	Design Response	Complianc	
End of Trip Facilities:	The proposed development provides a total of 15 showers and 164 lockers within the secure end of trip facilities		
All developments that are required to provide six (6) or more employee	at Basement 1. This includes seven (7) male and seven (7) female showers, located in separate change rooms, and one (1) universally accessible shower.		
bicycle parking spaces are required to provided end of trip facilities in	This meets and exceeds the minimum end of trip facilities based on the required number of employee bicycle parking spaces under the JACP (50 spaces).		
accordance with the following criteria:	The end of trip facilities are located directly adjacent the main bike store at Basement 1.		
A minimum of one (1) male and one (1) female shower, located in separate change rooms, or a minimum of two (2) separate unisex showers and change rooms.			
Additional shower facilities to be provided at a rate of one (1) shower for every ten (10) additional bicycle spaces.			
A locker for every bicycle space provided.			
End of trip facilities are to be located as close as possible to the bicycle parking facilities.			
Screening of Equipment			
Air conditioner condensers and any other external building plant, lift	Required building services are contained primarily within the two basement levels, and the screened rooftop plant enclosure.	Complies.	
overruns, piping, ducting, water tanks, transformers, and fire booster cabinets shall be located so as to minimise any visual and noise impact on adjacent development and public spaces and shall be screened from view of the street.	Where street frontage services cabinets are required, these have been integrated into the design of the proposed development so as to minimise visual impact. This includes the integration of the street frontage car park exhaust, fire booster and fire egress as part of the proposed signage totem fronting Grand Boulevard.		

JACP Assessment - City Centre Precinct				
Requirement	Design Response	Compliance		
Service Areas				
A storage area for refuse and recyclable material must be provided on the land and the area must not be visible from any street.	A dedicated waste storage and collection area is provided at Basement 2, in a location that is screened from view from surrounding streets.	Complies.		
Facilities must be provided on the land for the loading and unloading of service and delivery vehicles.	A dedicated loading area is provided at Basement 2, in a location that is screened from view from surrounding streets.	Complies.		
Bushfire Management				
Development and subdivision shall be in accordance with the Bushfire	This application is supported by a Bushfire Attack Level Contour Map and Bushfire Management Plan prepared by Emerge Associates and included as Appendix C.	Complies.		
Management Plan produced by Bushfire Prone Planning dates October	Refer to Appendix C – Bushfire Attack Level Contour Map and Bushfire Management Plan.			
2016. The Bushfire Management Plan shall be updated with site specific Bushfire Attack Level Assessment to be submitted with any development or subdivision application within an area identified as Bushfire Prone, in accordance with State Planning Policy 3.7.	The findings of the Bushfire Attack Level Contour Map and Bushfire Management Plan have also been discussed above, in response to SPP3.7.			

Building Setbacks Approach:

As noted above, the proposed development is located on an identified landmark site under the JACP, where buildings are intended to be "set apart from the general urban fabric of the city and may not be required to comply with development standards such as setbacks". Accordingly, the proposed development foregoes the standard nil setback podium and tower built form under the JACP, in favour of an alternative design solution that will provide a prominent landmark at the corner of Grand Boulevard and Collier Pass. This is achieved by maintaining generally consistent setbacks for the full height of the development to both Collier Pass and Grand Boulevard, with landscaped pedestrian zones provided in the resultant setback areas. This includes the provision of a minimum 8.0 metre setback to Grand Boulevard to enable the provision of a prominent forecourt at the main entry to the proposed development and to retain view corridors through the subject site, with a particular focus on maintaining the potential for desirable south-easterly views for the future Stage 2 office development to the north.

Portions of the proposed building envelope have also been modulated at the ground floor and through the use of upper level balconies and cantilevered elements to provide visual interest and deliver a design that contributes positively to the local streetscape and skyline.

For these reasons, the proposed massing approach is considered to represent an appropriate response to the provisions of the JACP with respect to identified landmark sites, providing a prominent corner statement at a key entry point to the Joondalup City Centre.

It is also noted that this approach has been supported by the DRP, as reflected in the DRP comments arising out of the pre-lodgement meeting held on 17 March 2021. These comments noted that the overall scale and massing was an appropriate outcome for a landmark site, and that the proposal as a whole represents a good design outcome for the area.

City of Joondalup Child Care Premises Local Planning Policy

The City's Child Care Premises Local Planning Policy provides guidance on the location, siting and design of proposed childcare premises throughout the City, to ensure that their operation does not have an adverse impact on the amenity of surrounding areas, particularly residential areas.

The location of the proposed childcare centre within an identified city centre area and adjacent an existing shopping centre is consistent with the guidance provided by Section 5.1.1 of the Policy, with no existing residential properties in the vicinity of the proposed development site.

An assessment against the remaining provisions of the Child Care Premises Local Planning Policy is provided in Table 5, below.

Table 5 - Child Care Premises Local Planning Policy Assessment

Child Care Premises Local Planning Policy Asse	Child Care Premises Local Planning Policy Assessment				
Requirement	Design Response	Compliance			
Car Parking Standards					
1 bay per employee plus 8 bays based on the proposed childcare capacity of 64 children.	The provision of staff parking is considered to be appropriately dealt with by the car parking requirements of the JACP, as part of the overall commercial car parking allocations.	Complies.			
	However, an eight (8) bay childcare drop-off facility is also provided at Basement 1, as required under the Policy.				
Car Park Location and Design					
Car Park Location:	As noted above, the proposed development provides sufficient on-site parking to address the	Approval sough			
All car parking is to be provided on-site; verge parking is not permitted.	requirements under the Child Care Premises Policy. The proposed development is therefore not reliant on the related proposal to utilise the on-street bays along Collier Pass for additional childcare drop-off parking. The use of these on-street parking bays simply seeks to make	for basement car parking, with appropriate			
Car parks must be clearly visible from the street to encourage parking on-site instead of on the road verge.	efficient use of existing infrastructure and support the use of the Collier Pass entry for childcare patrons, as a response to the DRP comments around utilisation of this entry and activation of this elevation.				
	As part of a comprehensive mixed use development with fully screened basement car parking, the proposed childcare parking bays are not directly visible from the street. However, the entry point to the Basement 1 car parking area is observed to be clearly defined and visible from Collier Pass, and will be provided with appropriate signage to enhance legibility for users. This is considered appropriate, noting that the provision of basement parking will result in improved streetscape outcomes.				
Car Park Design:	All car parking facilities have been designed in accordance with relevant Australian Standards.	Complies.			
Car parks shall be designed in accordance with Australian Standards AS 2890.1 and/or AS 2890.2 as amended from time to time.					

The layout and design of childcare premises must

consider noise attenuation measures to reduce

the noise impact on adjacent properties. Noise-

generating activities such as outdoor play areas,

vehicle accessways, car parking areas and any plant

and equipment are to be located away from noise-

sensitive land uses (such as residences).

Requirement	Design Response	Compliance	
Vehicle Access:	The proposed development utilises an existing crossover to Collier Pass and provides two-way vehicle access throughout, thereby enabling vehicles to enter and exit the proposed development in a forward gear.		
Vehicle access should not be taken from District Distributor A Roads. Only under exceptional			
circumstances may vehicle access be considered from a District Distributor B or Access Road.	Collier Pass is not identified as a 'District Distributor Road' under LPS3.		
Vehicle access with separate entry and exit points is preferred (Type 1 on Figure 1). Alternatively, 'two-way' vehicle access (Type 2 on Figure 1) is required.			
Where practicable, existing vehicle access points should be utilised instead of proposing new access points.			
Vehicles are required to enter and exit the site in forward gear.			
Pedestrian Access:	Direct pedestrian access is provided between the basement car park levels and the childcare	Complies.	
A footpath must be provided from the car park and the street to the building entrance.	entry, via the main lift and stair core, and the internal corridors at the ground floor level.		
Bicycle Parking Standards			
The bicycle parking requirements under the Child Care and are assessed as compliant.	e Premises Local Planning Policy have been addressed in the preceding assessment against the prov	isions of the JAC	
Building Height			
N/A. The proposed childcare facility forms part of a larg the JACP are observed to supersede those of the Child	ger mixed use development, to which the built form provisions of the JACP apply. The building height d Care Premises Local Planning Policy.	t requirements c	
Building Setbacks			
	ger mixed use development, to which the built form provisions of the JACP apply. The building setbac d Care Premises Local Planning Policy, which apply to childcare centres in 'Residential' zones only.	ck requirements	
Noise Attenuation			

uses in close proximity to the proposed development site.

Refer to Appendix F – Acoustic Report

The accompanying acoustic report at Appendix F identifies that noise associated with the

proposed childcare facility will achieve full compliance with the applicable noise criteria at

surrounding commercial and noise sensitive receivers, noting that there are no residential land

Complies.

Child Care Premises Local Planning Policy Asses	sment		
Requirement	Design Response As noted previously, the preliminary acoustic report that accompanies this development application has modelled the external noise impacts on the proposed childcare centre and associated outdoor spaces using SoundPLAN software, having regard to the assigned noise levels under SPP5.4. This assessment concludes that full compliance with the assigned indoor and outdoor noise levels can be achieved subject to appropriate building envelope treatments that will be adopted during detailed design. Refer to Appendix F – Acoustic Report		
The design and construction of child care premises must also consider measures to reduce the impacts of noise from external sources, to achieve acceptable indoor noise limits. These measures should include consideration of the size and placement of windows and doors, the use of double-glazing, fencing, landscaping and the location of vehicle accessways, car parking areas and any plant and equipment.			
An acoustic report prepared by a suitably qualified person must be submitted with the application for development approval. A noise management plan is	As noted above, this application is accompanied by an acoustic report prepared by Floth Sustainable Building Consultants and included as Appendix F.	Complies.	
also required where identified by the acoustic report.	Refer to Appendix F – Acoustic Report		
Landscaping			
N/A. The proposed childcare facility forms part of an ir responds to the city centre location and the nature of	ntegrated mixed use development, where landscaping has been provided throughout the development the proposed land uses.	nt in a manner th	
Hours of Operation			
·	e Child Care Premises Local Planning Policy only apply to childcare centres that are located within or a common control of the immediately adjacent landholdings.	adjacent to the	
Applications for Development Approval			
In addition to the general requirements for an application for development approval, the following	This report is accompanied by a Transport Impact Assessment (TIA) and a preliminary acoustic report, copies of which are enclosed at Appendix E and Appendix F, respectively.	Complies.	
are required:	Refer to Appendix E – Transport Impact Assessment		
Traffic and Road Safety Impact Report	Refer to Appendix F – Acoustic Report		
Acoustic Report			

City of Joondalup Environmentally Sustainable Design Policy

The City's Environmentally Sustainable Design Policy encourages the integration of environmentally sustainable design principles in the siting, design and construction of new residential, commercial and mixed-use developments within the City.

In accordance with the intent of the Policy, the proposed development has been designed in a manner that encourages the efficient use of resources, with the development targeting a certified 5 star Green Star Design and As Built rating. This will include the incorporation of passive solar design principles, energy and water efficient fixtures and fittings, the use of native plant species in the proposed landscape design, and the provision of a high quality, insulated façade system.

The development also supports the use of alternative modes of transport, with extensive bicycle parking and end of trip facilities that exceed the recommended standards under the JACP.

For further details please refer to the preliminary sustainability report and accompanying Environmentally Sustainable Design Checklist at Appendix G.

Refer to Appendix G - Sustainability Report

6. Planning Merit

In addition to the detailed assessment and justification provided in the preceding sections of this report, the principles of orderly and proper planning require that new development represents a logical extension of existing development in the locality and is consistent with the planning vision for the area. The key points regarding the proposed development are summarised as follows:

- The proposal represents a significant investment in the Joondalup City Centre that will assist in delivering a robust and diverse economy in the region, contributing to increased employment self sufficiency in accordance with the vision established under the Perth and Peel @ 3.5 Million framework and the JACP;
- The provision of commercial land uses of the type proposed is entirely consistent with the established planning framework applicable to the subject site, as detailed throughout this report;
- The resultant influx of employees into the area will provide a significant economic boost for the Joondalup City Centre during and after working hours;
- The development provides for increased activation of the surrounding public realm through the provision of an active ground floor interface to both Grand Boulevard and Collier Pass:
- The development will greatly enhance pedestrian movement through the subject site, providing high amenity landscaped pedestrian links between the Joondalup Railway Station, Grand Boulevard and Collier Pass;

- The overall bulk and scale of the proposed development is appropriate with respect to the prominent corner site, with the proposed development exhibiting landmark qualities as envisaged under the JACP; and
- The proposed development will provide a high quality, architecturally designed built form that responds to the requirements of SPP7.0 and will greatly enhance the local streetscape and the amenity of the locality.

On the basis of the above, the proposed development represents an appropriate and desirable addition to the subject site, and therefore has significant planning merit.



7. Supporting Technical Reports

7.1 Acoustic Report

This application is supported by a preliminary acoustic report prepared by Floth Sustainable Building Consultants and included as Appendix E.

This acoustic report presents the findings of a preliminary noise impact assessment for the proposed development, undertaken in accordance with the *Environmental Protection (Noise) Regulations 1997*, State Planning Policy 5.4 – Road and Rail Noise, and relevant Australian Standards. This includes consideration of both:

- Noise intrusion from external sources, including road and rail noise, mechanical plant noise from surrounding buildings, and short-term noise events associated with the Lakeside Joondalup Shopping City car parking facilities; and
- Potential noise emissions, including from the proposed café and childcare facilities, and from mechanical plant and refuse collection.

The noise intrusion assessment identifies that the existing ambient noise environment is characterised by the typical city centre hum, with dominant noise sources including road traffic, rail and public transport noise, as well as carpark and mechanical noise associated with the adjacent shopping centre precinct. As a result of this assessment, a number of façade and mechanical ventilation specifications are provided to ensure appropriate internal noise environments for the proposed development. These have been duly considered by the project team and will be adopted during detailed design.

The dominant noise emission source from the proposed development is expected to be from the proposed mechanical plant and equipment.

The mechanical plant design and selections has not been finalised at this stage of the design process. However, the mechanical plant will be designed to comply with the environmental noise limits nominated in the accompanying acoustic report, with further detailed noise assessments to be conducted during the design phases of the project to ensure compliance at the nearest noise sensitive receivers.

Similarly, an assessment of the proposed café and childcare facilities indicates that compliance with essential noise criteria can be readily achieved at surrounding commercial and noise sensitive receivers, provided that any associated music systems are fitted with noise limiters to control noise emissions.

In accordance with the above, the preliminary acoustic concludes that that the noise impacts both on and from the proposed development can be appropriately managed to ensure compliance with all applicable regulations.

For further details, please refer to the accompanying acoustic report at Appendix E.

7.2 Sustainability Report

This application is also supported by a preliminary sustainability report prepared by Floth Sustainable Building Consultants and included as Appendix G.

The preliminary sustainability report outlines the project's commitment to achieving a certified 5 star Green Star rating, representing 'Australian Excellence' in sustainability outcomes. This will include formal registration with the Green Building Council of Australia (GBCA) under the Green Star Design and As Built v1.3 Rating tool following receipt of development approval, and an 'As Built' certification within 12 months of the practical completion of the proposed development.

To assist the project team to achieve the 5 star Green Star rating, the sustainability report provides a list of targeted initiatives to achieve the required credit points. This list of initiatives will continue to be refined during detailed design and includes:

- Passive solar design principles, with sun shading devices proposed to the north, east and west:
- Insulated construction and high performance glazing systems that provided for an optimised solar heat gain coefficient;
- Energy efficient LED lighting and mechanical plant selections;
- Water efficient fixtures and fittings throughout the proposed development;
 and
- Use of native planting in the proposed landscape design.

The proponent also intends to explore the viability of installing rooftop solar panels to supply power for the proposed office development. However, the installation of rooftop solar panels does not form part of this development application and will be subject to a separate business case in consultation with prospective tenants.

For further details, please refer to the accompanying sustainability report at Appendix G.

7.3 Transport Impact Assessment

This application is also supported by a detailed Transport Impact Assessment (TIA) prepared by GTA Consultants and included as Appendix E.

The TIA has been prepared in accordance with the Western Australian Planning Commission (WAPC) Transport Assessment Guidelines, to assess the expected traffic impacts associated with the proposed development. This includes undertaking on-site traffic counts and detailed SIDRA analysis of surrounding intersections, to quantify the traffic impacts of the proposed development.

Based on the analysis and discussions presented within the TIA, the following conclusions are made:

- 1. The site is expected to generate up to 206 and 1,429 vehicle movements in any peak hour and daily respectively.
- 2. There is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.

- The proposed provision of 167 parking bays against a statutory requirement of 142 parking bays is considered sufficient for the development.
- 4. The development requires a reduction of 12 vehicle bays and 3 motorcycle bays from the Shopping Centre's existing carparks. These bays are situated away from centre entrances and are lower utilised bays. It is not anticipated this loss of bays will have a significant impact on the operations of Lakeside Joondalup Shopping Centre.
- 5. The construction of a new podium level pedestrian bridge will greatly improved pedestrian amenity to and from the train station.
- The priority controlled intersection of Collier Pass the and Shopping Centre Access Road is anticipated to continue to perform with an excellent level of service and minimal delays out to at least 2031.

As such, the proposed development is considered appropriate and will not unduly impact the operation of the surrounding road network.

For further details, please refer to the accompanying TIA at Appendix E.

7.4 Waste Management Plan

This application is also supported by a Waste Management Plan (WMP) prepared by Foresight Environmental and included as Appendix H.

The WMP provides an overview of the waste management methodology that will be implemented to support the sustainability objectives of the proposed development and enable the separate storage and collection of general waste and recyclables. This includes detailed waste generation calculations that have informed the size and layout of the proposed bin storage and collection area at Basement 2, as well as procedures for waste collection, which will occur on site within the Basement 2 loading dock and will be undertaken by a private contractor.

The storage and collection of waste will be overseen by building management, and the WMP confirms that the waste facilities provided in the proposed design adequately cater for projected waste generation rates at the completion of the proposed development.

For further details, please refer to the accompanying WMP at Appendix H.

8. Conclusion

This report has been prepared by **element**, on behalf of Lendlease, in support of a development application for a new commercial office development at Lot 708 (No. 420) Joondalup Drive, Joondalup.

The proposed development presents an exciting opportunity to activate a vacant landmark site at a primary entry point to the Joondalup City Centre, and will make a significant contribution to the economic and employment growth objectives of the JACP. This is achieved through the delivery of a high quality commercial office development that interacts with the surrounding public realm and provides a prominent corner statement at the key intersection of Grand Boulevard and Collier Pass. The development has been carefully designed to respond appropriately to the local context and enable future expansion as an integrated campus style office precinct, resulting in a high quality design outcome for this portion of the subject site.

Based on the detailed planning assessment presented in this report, it has been demonstrated that the proposed development is generally compliant with the relevant requirements under LPS3 and the JACP, with detailed justification for any proposed variations provided herein. The proposed development is also consistent with the principles of orderly and proper planning, and will make a positive overall contribution to the streetscape, skyline and the amenity of the locality through the high quality built form proposed.

In accordance with the above, the proposed development is observed to be closely aligned with the City's vision for the locality, as established under the JACP. As such, we respectfully request the City's support for this application, and the approval of the Metro Outer JDAP.



GTA consultants

Joondalup SC Office Development

420 Joondalup Drive, Joondalup Transport Impact Assessment

Client: Lendlease Development Pty Ltd

on 19/04/21

Reference: W198082

Issue #: B

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A-Dr	23/03/2021	Draft – Issued for client comment	Aaron MacNish	Tim Judd	Tim Judd	
Α	14/04/2021	Final	Aaron MacNish	Tim Judd	Tim Judd	
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1. INTRODUCTION







INTRODUCTION

1.1. Background

A Development Approval is currently being sought for a proposed office development on land located at 420 Joondalup Drive, Joondalup. The proposed development incorporates approximately 10,000m2 (NLA) Grade A office space as well as supporting café and childcare facility.

GTA Consultants has been commissioned by Lendlease Retail Development in December 2020 to undertake a transport impact assessment of the proposed development.

1.2. Purpose of this Report

Western Australian Planning Commission Transport Assessment Guidelines (WAPC Guidelines) provide direction on the level of assessment which is necessary to be carried out with respect to the likely traffic impact of a development proposal. Typically, any development which is expected to have a 'high' traffic impact, that is, generating more than 100 trips in the peak hour is satisfied by a TIA. Any development which is expected to generate less than 100 trips in the peak hour requires a Transport Impact Statement (TIS) to be undertaken. Both types of assessment consider the operation and layout of the site, but they differ in their assessment of external traffic impact.

In the context of this development, it is estimated there may be more than 100 trips generated in a given peak hour when applying 'typical' traffic generation rates. In this case a TIA is appropriate. This TIA briefly outlines the transport aspects surrounding the proposed development. The intent of a TIA, as per the WAPC Guidelines, is to provide the approving authority with sufficient transport information to confirm that the applicant has adequately considered the transport aspects of the development and that it would not have an adverse transport impact on the surrounding area. Of relevance is the accessibility of the development by non-car modes, in accordance with Government's sustainable development objectives, and its integration with the surrounding area.

In accordance with the WAPC Guidelines, this TIA outlines:

- Existing transport conditions proximate to the site
- Suitability of the proposed parking provision within the site
- The adequacy of the proposed site layout
- The traffic generating characteristics of the proposed development.
- The anticipated impact of the proposed development on the surrounding road network.

1.3. **References**

In preparing this report, reference has been made to the following:

- Local Planning Scheme No. 3
- Liveable Neighbourhoods Guidelines
- WAPC Transport Assessment Guidelines for Development: Volume 4 Individual Developments
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004

- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- plans for the proposed development prepared by Hames Sharley
- traffic and car parking surveys undertaken by GTA Consultants as referenced in the context of this
 report.
- various technical data as referenced in this report.
- an inspection of the site and its surrounds
- other documents as nominated.





2. EXISTING SITUATION

2.1. Subject Site

The subject site is located within the boundaries of the Lakeside Joondalup Shopping Centre in Joondalup. The development site of approximately 6,700m² has frontages of 90m to Collier Pass and 40m to Grand Boulevard.

The site is located within the "Centre" zone of the Joondalup Activity Centre Plan and is currently partially occupied by a carpark servicing the Shopping Centre.

The surrounding properties include a mix of commercial land uses. The notable exceptions being the bus and train station central to Lakeside Joondalup Shopping Centre.

The location of the subject site and the surrounding environs is shown in Figure 2.1, and the land zoning is shown in Figure 2.2.

Figure 2.1: Subject Site and its Environs



PhotoMap courtesy of NearMap Pty Ltd









2.2. Existing Movement Network

2.2.1. Local Road Network Information

Road Name	Joondalup Drive
Number of Lanes	Two way, two lanes, median divided with turn pockets
Road Reservation Width	60m
Road Pavement Width	28m incl on-road cycling lanes and 11m median
Road Classification	Distributor A – MRWA Functional Road Hierarchy
Speed Limit	70km/h
Bus Route	Yes, south of Grand Boulevard
On-Street Parking	No
Road Name	Collier Pass
Number of Lanes	Two way, single lane, median divided with turn pockets
Road Reservation Width	40m
Road Pavement Width	18m incl on-road cycling lanes and 11m median
Road Classification	Distributor B – MRWA Functional Road Hierarchy
Speed Limit	50km/h
Bus Route	Yes
On-Street Parking	Yes
Road Name	Grand Boulevard
Number of Lanes	Two way, two lanes, median divided
Road Reservation Width	55m
Road Pavement Width	21m incl on-road cycling lanes and 5m median
Road Classification	Distributor B – MRWA Functional Road Hierarchy
Speed Limit	50km/h
Bus Route	Yes
On-Street Parking	No

2.2.2. Surrounding Intersections

Intersections in the vicinity of the subject site include:

Figure 2.3: Collier Pass / Shopping Centre Access Road



Figure 2.4: Collier Pass / Grand Boulevard







EXISTING SITUATION

2.2.3. Traffic Volumes

Traffic counts were commissioned by GTA Consultants in January 2021 to cover a typical Thursday AM and PM peak and a Saturday mid-day peak hour. The counts were undertaken during January (normally a non-neutral month) due to fact that while local road networks tend to be quieter during the school holidays December – January is typically the peak times for Lakeside Joondalup Shopping Centre. After discussion with the centre operators January was agreed to provide a realistic representation of the intersections day-to-day operation.

The AM peak hour occurs at 7:30am – 8:30am while the PM peak hour occurs at 4:30 – 5:30pm

The peak hour for Saturdays is mid-day from 11:15am to 12:15pm.

The traffic volumes are presented below in Figure 2.5 - 2.7.

Figure 2.5: 2021 AM Peak Hour Volumes

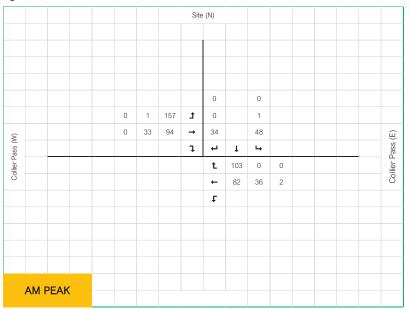


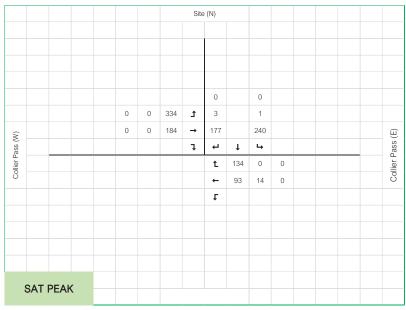
Figure 2.6: 2021 PM Peak Hour Volumes

							Site	(N)						
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								t						
	PM F	PEAK												





Figure 2.7: 2021 Saturday Peak Hour Volumes



2.2.4. Intersection Operation

The WAPC Transport Impact Assessment Guidelines suggest intersections where the development increases traffic volumes on any individual movement by greater than 20% or flows on any leg by 10% be assessed to determine their operational performance.

In the case of this development intersection flows are only increased by 20% or greater for the intersection of Collier Pass and the shopping centre access road, as such no other intersections have been assessed in this TIA.

The intersection of Collier Pass and the shopping centre access road has been assessed on its busiest weekday (Thursday) and a Saturday lunchtime peak hour for its current operation. As the intersection is a priority controlled t-intersection with the ability for a vehicle to store in the median the intersection has been modelled as a small network, as recommended in Main Roads WA Operational Modelling Guidelines.

This modelled intersection configuration produces results for "two" intersections which are labelled "Approach" and "Median". The results of the SIDRA analysis are presented in Tables 2.4 - 2.6.

Table 2.1: Collier Pass / Access Road 2021 AM Peak

ı	_ocation	Arm	DOS	LOS	Avrg Delay	95th %ile Q
		Median Storage	0.00	-	0s	0m
	Collier Pass / Site	Collier Pass (E)	0.10	-	7s	3m
((Approach) -	Site (N)	0.04	А	5s	1m
AN	BASE 2021 AM	Collier Pass (W)	0.09	-	3s	0m
		Intersection	0.10	-	4s	3m
		Collier Pass (E)	0.09	-	0s	0m
Site	Collier Pass / Site (Median) -	Median Storage	0.03	А	3s	1m
	BASE 2021 AM	Collier Pass (W)	0.00	-	0s	0m
		Intersection	0.09	-	1s	1m

Table 2.2: Collier Pass / Access Road 2021 PM Peak

Location	Arm	DOS	LOS	Avrg Delay	95 th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.10	-	7s	1m
Site (Approach) -	Site (N)	0.20	А	5s	3m
BASE 2021 PM	Collier Pass (W)	0.13	-	3s	0m
	Intersection	0.20	-	4s	3m
	Collier Pass (E)	0.11	-	0s	0m
Collier Pass /	Median Storage	0.13	А	3s	1m
Site (Median) - BASE 2021 PM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.13	-	1s	1m





Table 2.3: Collier Pass / Access Road 2021 Saturday Peak

Location	Arm	DOS	LOS	Avrg Delay	95 th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.17	-	8s	5m
Site (Approach) -	Site (N)	0.26	А	6s	9m
Base 2021 Sat	Collier Pass (W)	0.19	-	4s	0m
	Intersection	0.26	-	5s	9m
	Collier Pass (E)	0.07	-	0s	0m
Collier Pass /	Median Storage	0.15	А	3s	4m
Site (Median) - Base 2021 Sat	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.15	-	2s	4m

As demonstrated in the above tables and confirmed by on site operations the intersection, while busy, is still operating well within its capacity with minimal delay and queueing present.

2.2.5. Existing Pedestrian / Cycling Networks

There is an extensive path network adjacent the site and cycle lanes on both Collier Pass and Grand Boulevard. The site has a Walk Score® of 85¹ meaning most errands can be accomplished on foot.

While there is a well-connected path network the network is quite exposed to the elements with little cover from sun or rain.

2.2.6. Existing Public Transport Services

The site is very well serviced by public transport being less than 200m from the Joondalup Train Station. The site achieves a Transit Score® of 65¹ which means public transport is considered convenient for most trips.

2.2.7. Crash Data

There was a total of four crashes that occurred between 2016 and 2020 along Collier Pass adjacent to the development site. 1 Medical severity crash, 2 Project Damage Major Crashes and 1 Property Damage Minor Crash.

Three of the four crashes involved vehicles exiting the shopping centre access road turning right onto Collier Pass. The crashes appear to involve drivers exiting the shopping centre failing to judge an appropriate gap in traffic when entering Collier Pass. All three of these crashes occurred around the typical peak hour for the site between 2:30 – 3:30pm.

¹ Sourced from www.walkscore.com, www.walkscore.com/methodology.shtml





When considering the typical daily volume of this site and the frequency of crashes over a four year period coupled with the low severity of the crashes it does not appear there is an inherent safety issue at this location and would not be deemed a 'black spot'.

It is noted that Collier Pass is a very busy road environment with on-street parking, turning pockets, buses and on-road cycling lanes. This road environment does encourage drivers to be constantly aware of their surroundings but also requires them to keep an eye on a lot of different movements. Collier Pass should continue to be monitored for safety and performance as development continues adjacent to the road corridor.

3. DEVELOPMENT PROPOSAL

3.1. Land Uses

The proposal includes the construction of seven storey office building with a childcare centre and cafe located on the ground floor, as summarised in Table 3.1.

Table 3.1: Development Schedule

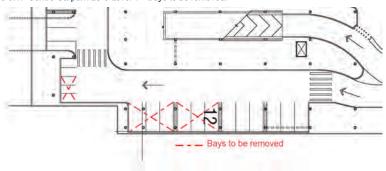
Use	Size
Office	10,159m² NLA
Childcare	436m ² GFA (internal) + 437m ² outdoor play space
Cafe	86m²

3.2. Car Parking

The office building is to be developed on the site of the Lakeside Joondalup Shopping Centre. To facilitate development of the office building, the current at-grade carparking to the north of the site needs to be reconstructed. The development plans include construction of a new at-grade car park consisting of 50 Class 3A bays as a direct replacement for the existing at-grade carpark, these bays are not utilised by the development and remain in use by Lakeside Joondalup Shopping Centre.

Lakeside Joondalup Shopping Centre currently has an agreed 4,706 bays for their centre of 100,966.6m² NLA equating to a parking rate of 4.66 bays per 100m² NLA. In order to facilitate a new pedestrian bridge, stairs and lift (discussed later in this TIA) the development proposes a reduction in the centres carparking numbers of 12 regular vehicles bays and 3 motorcycle bays the bays proposed to be removed are shown in Figure 3.1 and Figure 3.2. This would result in the centre's parking rate dropping marginally to 4.65 bays per 100m² NLA and would be expected to have negligible impact on the operation of the site. Figure 3.3 and Figure 3.4 show the proposed modifications to two existing parking areas to accommodate the new pedestrian bridge, lift and stairs.

Figure 3.1: Centre Carpark E3-6 Level 1 - Bays to be removed.



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Drive, Joondalup

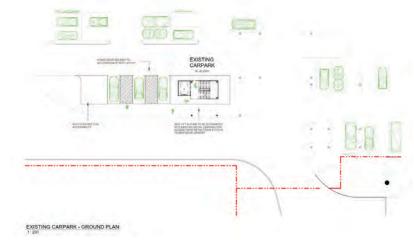
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Joondalup SC Office Development, 420 Joondalup





Figure 3.3: Proposed Modification Ground Floor Parking

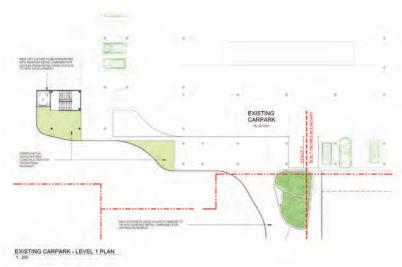


Source: Hames Sharley Drawing Number DA-018, April 2021





Figure 3.4: Proposed Modification Level 1 Parking



Source: Hames Sharley Drawing Number DA-018, April 2021

The development falls within *Precinct 1 – City Centre* of the Joondalup Activity Centre Plan as such carparking bays must be provided at a rate of 1 bay per 75m2 of NLA for Non-residential development.

The office development inclusive of the Childcare facility and cafe is therefore required to provide a total of 142 parking bays (10% of which should be motorcycle bays) to meet statutory requirements.

The development proposes the following parking bays split over two basement levels:

- 165 regular vehicle bays
- 2 universal access bays
- 11 motorcycle bays

In this particular location there has not been specific parking set aside for the café element of the development. This café will predominantly cater for employees and users of the office building as well as pass-by foot traffic on their way to / from the train station. There is sufficient parking provided for employees of the café with excellent public transport / walking and cycling options available as alternative means of transport also.

The basement carparking consists of predominately class 1A parking for office workers with minimum 5.8m aisle widths and $5.4m \times 2.4m$ parking bays. Basement 1 does allow for eight Class 3A bays of $2.7m \times 5.4m$ which have the potential to cater for childcare drop off & pickup if required.

In addition to works forming part of this development the proponent is also attending to pursue a number of minor modifications within the adjacent Collier Pass road reserve, comprising:

 Removal of existing service crossover to Collier Pass and replacing this to two (2) additional on-street parking bays, to be allocated to childcare drop-off;



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Modifications to the existing parking restrictions for the four (4) existing on-street parking bays on Collier
Pass directly abutting the proposed development site, to allocate these as 15 minute parking bays to
support the proposed café and childcare facility during peak periods.

It is important to note that the development meets all the statutory requirements for supply of parking bays internally within the site, the proposal for modification of the existing on-street bays is simply a more appropriate use for existing bays along Collier Pass given the requirement of the Joondalup Activity Centre Plan for activation of ground floor buildings.

3.3. Vehicle Access

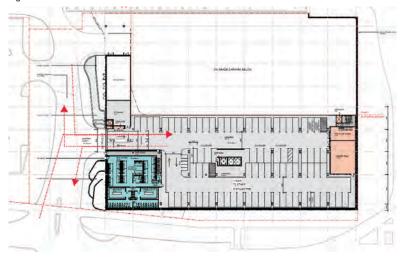
Vehicle access will be from the shopping centre internal access road with no direct access onto Collier Pass or Grand Boulevard permitted for this development.

The development is serviced with two basement carparks, employees and users of the building's facilities have separate entrances to the service vehicles. Service vehicles access the loading dock in Basement 2, Basement 1 is solely for use by tenants with no provision for service vehicles.

Both basement carparks are accessed via the existing shopping centre internal access road as shown below in Figure 3.5 and Figure 3.6.

Parking for the development is proposed to be controlled via boom gates to ensure parking is available only for employees and users of the office building (including allowance for Childcare drop off and pickup).

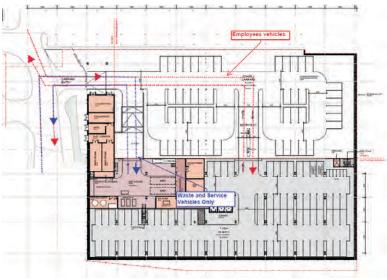
Figure 3.5: Basement 1 Vehicle Access



Source: base plan from Hames Sharley, modified by GTA 14/04/2021



Figure 3.6: Basement 2 Vehicle Access



Source: base plan from Hames Sharley, modified by GTA 14/04/2021

3.4. Bicycle Facilities

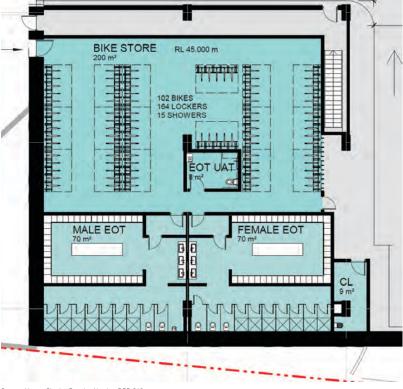
The City of Joondalup bicycle parking and end of trip facility requirements are outlined in Table 3.2 below:

Table 3.2: Joondalup Activity Centre Plan – Bicycle Parking Requirements.

Use Class	Employee Bicycle Parking	Visitor Bicycle Parking
Office	1 per 200m2 NLA	1 per 1000m2 NLA
Childcare	N/A	N/A
Cafe	N/A	1 per 50 people accommodated

For non-residential developments, the City requires a minimum of 12 showers for a development of this size, the development proposes a total of 15 showers, seven in the male change room, seven in the female change room and one universal access shower. The development end of trip facilities also provide 164 lockers, above the one locker per bike rack requirement in the Joondalup ACP.





Source: Hames Sharley Drawing Number DRP-010

3.5. Pedestrian Facilities

The development provides a great improvement in the pedestrian network particularly for trips between Collier Pass / Grand Boulevard and the train station. Figure 3.4 demonstrates the existing journey to and from the train station adjacent to the site. This journey involves pedestrians effectively walking through a car park to access the train station after crossing the shopping centre access road.





Figure 3.8: Existing Pedestrian Movements



Source: Hames Sharley Pedestrian Journey Plan, 2021

The development provides an opportunity for a greatly improved pedestrian journey to the train station providing a bridge crossing to a proposed lift and stairs that will direct pedestrians onto an existing path and zebra crossing point into the station. This movement is shown in Figure 3.5.

Figure 3.9: Improved Pedestrian Journey



Source: Hames Sharley Pedestrian Journey Plan, 2021

3.6. **Loading Areas**

The back-of-house loading area is located in basement 2 and is accessed by a dedicated service access separated from tenant traffic. The loading dock has been designed to accommodate a typical refuse vehicle represented in Figure 3.6 below.

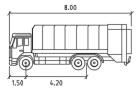
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Figure 3.10:Refuse Vehicle Auto Turn Template



SITA Rear Lift 8m

	m	ierers
/idth		2.50
rack	:	2.50
ock to Lock Time	:	6.0
teering Angle	:	23.0

Swept paths are included in Appendix C to demonstrate access and egress of a typical waste vehicle in and out of the loading dock. As the shopping centre access road is already designed and caters for articulated vehicles up to 19m in length it is not necessary to provide any additional checks for the waste vehicle turning to / from Collier Pass onto the access road.





4. INTEGRATION WITH **SURROUNDING AREAS**

Surrounding Attractors

4.1.1. Existing trip generators

The development is within the land holdings of the Lakeside Joondalup Shopping Centre which is a major trip attractor and generator in the area.

Other trip generators in the area include the ECU Joondalup University Campus, TAFE and the Joondalup Medical Precinct.

The development proposes to create increased safety and amenity for pedestrians travelling from the train station to east of Grand Boulevard and integrates well with the existing Lakeside Joondalup Shopping Centre.

Committed developments and Transport Proposals

The Yanchep Rail Extension will deliver the last proposed section of the Joondalup Line from Butler, 14.5km north to Yanchep to help support ongoing growth in the area and reduce congestion.

The project will help develop activity centres by stimulating new employment opportunities in the Alkimos secondary centre, Eglinton district centre and Yanchep Strategic Metropolitan Centre and supporting higher density land use for residential and commercial purposes.

The METRONET project is likely to have little effect on the proposed development except for perhaps increased patronage on the Joondalup Train Line and potentially a larger university catchment of students for ECU / TAFE leading to an increase in foot traffic past the site.

4.3. Adequacy and Deficiencies of Existing Transport Networks

The public transport, walking and cycling network adjacent to the proposed development is considered adequate to cater for existing demand and the increased demand from the proposed development.

The desire lines and walking path for pedestrians which travels across the busy access road and PTA carpark to access the station from Collier Pass are functional but could be improved particularly in terms of pedestrian amenity and safety.

This has been addressed by the proposed development as discussed early in this impact assessment with the development providing an improved pedestrian thoroughfare for access to / from the shopping centre and train station.

5. TRAFFIC ASSESSMENT

Vehicle Types

The majority of vehicle trips to and from the development will be passenger vehicles. The only exception will be waste and servicing vehicles represented by an 8.0m refuse truck.

Traffic Generation and Traffic Impact

Trip generation rates for this development were sourced from the Institute of Transport Engineers (ITE), converted to SI units (from trips per 1000 square feet to trips per 100m²)

The vehicle trip rates for this development are shown in Table 5.1 below and note the café use is not provided as the traffic associated with this café is limited to staff movements and would have a negligible impact of traffic operations.

Table 5.1: Vehicle Trip Generation Rates

		Trip Ra	te (m2)						
Land Use	Units	Daily Trip	AM Trip	AM In	AM Out	PM Rate	PM In	PM Out	Source
General Office	100 m2	11.87	1.68	88%	12%	1.58	17%	83%	ITE 9th Edition General Office 710
Child Care	Child	4.38	0.8	53%	47%	0.81	47%	53%	ITE 9th Edition Daycare Centre 565

Based on the quantum of land use discussed in chapter 1 the development results in the following trip generation shown in Table 5.2, 206 trips in the AM peak, 193 trips in the PM peak and 1,429 trips per day.

Table 5.2: Development Traffic

Land Use	Yield		AM		PM	РМ	
Land Ose			In	Out	In	Out	Daily
General Office	98.25	100 m2	145.2	19.8	26.4	129.0	1166
Child Care	60	Child	25.4	14.9	22.8	14.9	263
TOTAL			170.62	34.74	49	144	1429

The assessment must assume the opening year for the purpose of assessing the development impact. As such it has been assumed that the development opens in 2022 and produces the full trip generation in its





opening year. In reality office buildings can often have a more gradual increase in traffic volume as the office space get taken up based on market demand.

As per the WAPC Guidelines an assessment for 10 years post development has also been completed in the year 2032. After analysis of historical traffic data along Collier Pass a conservative 2% per annum growth factor was applied to the existing traffic volumes resulting an in 20% increase in current traffic volumes along Collier Pass and the shopping centre access road in the year 2032.

5.3. **Trip Distribution**

The trip distribution for the proposed development has been based on existing traffic directional movements along Collier Pass and Grand Boulevard.

The catchment for employees (the predominant vehicle user for the office development) will be similar to the catchment that exists for both employees and patrons of the Lakeside Joondalup shopping centre.

The above results in the following trip distribution:

AM Peak Hour

- In West 61%
- In East 39%
- Out West 41%
- Out East 59%

PM Peak Hour

- In West 65%
- In East 35%
- Out West 50%
- Out East 50%

The assumed distribution results in the development traffic volumes shown in Figure 5.1 and 5.2 below.

Figure 5.1: Development AM Peak

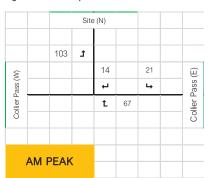
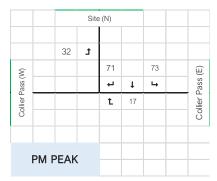


Figure 5.2: Development PM Peak



Traffic Impact of Development

The traffic impact of this development was assessed in SIDRA Intersection 8.0 to determine the future operational performance of the Collier Pass and shopping centre access road under development conditions and for a period of 10 year post development.

As explained previously in this TIA the intersection was modelled as a small network to account for the ability of a vehicle to stack in the median while waiting to make a right turn at Collier Pass.

Table 5.3: 2022 AM Peak Hour - Without Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.11	-	7s	3m
Site (Approach) -	Site (N)	0.04	А	5s	1m
Base 2022 AM	Collier Pass (W)	0.09	-	3s	0m
	Intersection	0.11	-	4s	3m
	Collier Pass (E)	0.09	-	0s	0m
Collier Pass /	Median Storage	0.03	А	3s	1m
Site (Median) - Base 2022 AM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.09	-	1s	1m





Table 5.4: 2022 PM Peak Hour - Without Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.11	-	7s	3m
Site (Approach) -	Site (N)	0.21	А	5s	6m
Base 2022 PM	Collier Pass (W)	0.13	-	3s	0m
	Intersection	0.21	-	4s	6m
	Collier Pass (E)	0.11	-	0s	0m
Collier Pass /	Median Storage	0.13	А	3s	3m
Site (Median) - Base 2022 PM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.13	-	1s	3m

Table 5.5: 2022 AM Peak Hour – With Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.20	-	8s	2m
Site (Approach) -	Site (N)	0.07	А	5s	1m
Dev 2022 AM	Collier Pass (W)	0.15	-	4s	0m
	Intersection	0.20	-	5s	2m
	Collier Pass (E)	0.09	-	0s	0m
Collier Pass /	Median Storage	0.04	А	3s	0m
Site (Median) - Dev 2022 AM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.09	-	1s	0m

Table 5.6: 2022 PM Peak - With Development

	Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
		Median Storage	0.00	-	0s	0m
	Collier Pass /	Collier Pass (E)	0.13	-	8s	2m
	Site (Approach) -	Site (N)	0.31	А	6s	5m
	Dev 2022 PM	Collier Pass (W)	0.13	-	3s	0m
		Intersection	0.31	-	5s	5m
		Collier Pass (E)	0.11	-	0s	0m
	Collier Pass /	Median Storage	0.19	А	3s	2m
Site (Median) Dev 2022 PM	Dev 2022 PM	Collier Pass (W)	0.00	-	0s	0m
		Intersection	0.19	-	2s	2m

Table 5.7: 2032 AM Peak – Without Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.14	-	7s	4m
Site (Approach) -	Site (N)	0.05	А	5s	2m
Base 2032 AM	Collier Pass (W)	0.11	-	3s	0m
	Intersection	0.14	-	4s	4m
	Collier Pass (E)	0.11	-	0s	0m
Collier Pass /	Median Storage	0.04	А	3s	1m
Site (Median) - Base 2032 AM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.11	-	1s	1m
	·				





Table 5.8: 2032 PM Peak - Without Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.15	-	8s	4m
Site (Approach) -	Site (N)	0.28	А	6s	9m
Base 2032 PM	Collier Pass (W)	0.16	-	3s	0m
	Intersection	0.28	-	5s	9m
	Collier Pass (E)	0.13	-	0s	0m
Collier Pass /	Median Storage	0.17	А	3s	4m
Site (Median) - Base 2032 PM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.17	-	1s	4m

Table 5.9: 2032 AM Peak - With Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass	Collier Pass (E)	0.24	-	8s	8m
/ Site (Approach)	Site (N)	0.09	А	6s	2m
- Dev 2032 AM	Collier Pass (W)	0.17	-	4s	0m
	Intersection	0.24	-	5s	8m
	Collier Pass (E)	0.11	-	0s	0m
Collier Pass / Site	Median Storage	0.05	А	3s	1m
(Median) - Dev 2032 AM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.11	-	1s	1m

Table 5.10: 2032 PM Peak - With Development

Location	Arm	DOS	LOS	Avrg Delay	95th %ile Q
	Median Storage	0.00	-	0s	0m
Collier Pass /	Collier Pass (E)	0.17	-	8s	2m
Site (Approach) -	Site (N)	0.41	А	7s	7m
Dev 2032 PM	Collier Pass (W)	0.16	-	3s	0m
	Intersection	0.41	-	5s	7m
	Collier Pass (E)	0.13	-	0s	0m
Collier Pass /	Median Storage	0.23	А	3s	3m
Site (Median) - Dev 2032 PM	Collier Pass (W)	0.00	-	0s	0m
	Intersection	0.23	-	2s	3m

The SIDRA assessment demonstrates that the intersection of Collier Pass and the shopping centre access road in its current configuration will continue to operate within it's acceptable limits for a period of at least 10 years after the development.

5.5. Level of Service Concepts

The level of service concept describes the quality of traffic service in terms of six levels, designated A to F, with level of service A (LOS A) representing the best operating condition (i.e. at or close to free flow), and level of service F (LOS F) the worst (i.e. forced flow). More specifically:

- LOS A: Primarily free flow operations at average travel speeds, usually about 90% of the FFS (free flow speed) for the given street class. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at signalised intersections is less than 10 seconds. At non-signalised movements at intersections the average control delay is less than 10 seconds;
- LOS B: Reasonably unimpeded operations at average travel speeds, usually about 70% of the FFS for
 the street class. The ability to manoeuvre within the traffic stream is only slightly restricted, and control
 delays at signalised intersections are between 10 and 20 seconds. At non-signalised movements at
 intersections the average control delay is between 10 and 15 seconds;
- LOS C: Stable operations; however, ability to manoeuvre and change lanes in mid-block locations may
 be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may
 contribute to lower average travel speeds of about 50% of the FFS for the street class. Signalised
 intersection delays are between 20 and 35 seconds. At non-signalised movements at intersections the
 average control delay is between 15 and 25 seconds;





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- LOS D: A range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40% of FFS. Signalised intersection delays are between 35 and 55 seconds. At non-signalised movements at intersections the average control delay is between 25 and 35 seconds;
- LOS E: Characterised by significant delays and average travel speeds of 33% of the FFS or less. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections (between 55 and 80 seconds), and inappropriate signal timing. At non-signalised movements at intersections the average control delay is between 35 and 50 seconds;
- LOS F: Characterised by urban street flow at extremely low speeds, typically 25% to 33% of the FFS. Intersection congestion is likely at critical signalised locations, with high delays (in excess of 80 seconds), high volumes, and extensive queuing. At non-signalised movements at intersections the average control delay is greater than 50 seconds.

In addition to the above:

- Average Delay: is the average of all travel time delays for vehicles through the intersection; and,
- Queue: is the queue length below which 95% of all observed queue lengths fall.
- Degree of Saturation: Ratio of the traffic flow to the capacity for that particular lane/movement

W198082 // 19/04/21

Drive, Joondalup

Transport Impact Assessment // Issue: B

Joondalup SC Office Development, 420 Joondalup

6. CONCLUSON

Based on the analysis and discussions presented within this report, the following conclusions are made:

- 1. The site is expected to generate up to 206 and 1,429 vehicle movements in any peak hour and daily
- 2. There is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.
- 3. The proposed provision of 167 parking bays against a statutory requirement of 142 parking bays is considered sufficient for the development.
- The development requires a reduction of 12 vehicle bays and 3 motorcycle bays from the Shopping Centres existing carparks, these bays are situated away from centre entrances and are lower utilised bays. It is not anticipated this loss of bays will have a significant impact on the operations of Lakeside Joondalup Shopping Centre.
- The construction of a new podium level pedestrian bridge will greatly improve pedestrian amenity to and from the train station.
- The priority controlled intersection of Collier Pass and the Shopping Centre Access Road is anticipated to continue to perform with an excellent level of service and minimal delays out to at least 2031 and is not adversely impacted by the traffic generation from the proposed commercial development.





A.DEVELOPMENT PLANS



W198082 // 19/04/21 Transport impact Assessment // Issue: B Joondalup SC Office Development, 420 Joondalup Drive, Joondalup







B.SIDRA INTERSECTION RESULTS









USER REPORT FOR NETWORK

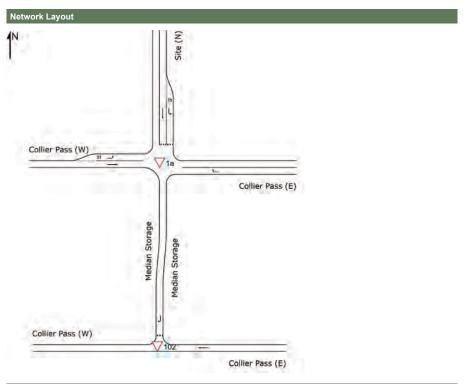
Project: W210318sip - W198093 - Office Development Sidra

Template: GTA Network Appendix

** Network: N101 [Base 2021 AM]

New Network

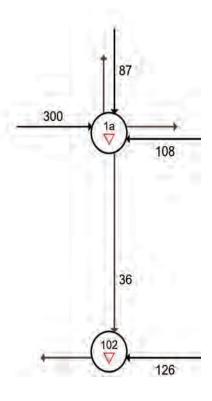
Network Category: (None)



Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.





Network Performance - Hourly V	'alues		
Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS B 8.02 0.82 1.22		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	49.3 km/h 239.5 veh-km/h 4.9 veh-h/h 60.0 km/h		49.3 km/h 287.4 pers-km/h 5.8 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	658 veh/h 658 veh/h 622 veh/h 0 veh/h 0 veh/h		789 pers/h 789 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	11.7 % 11.7 % 0.103			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement)	0.61 veh-h/h 3.3 sec 6.9 sec 6.9 sec		0.73 pers-h/h 3.3 sec 6.9 sec	
Geometric Delay (Average) Stop-Line Delay (Average) Queue Storage Ratio (Worst Lane)	2.9 sec 0.4 sec 0.03			
Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	232 veh/h 0.35 0.12 6.3	0.97 per km	278 pers/h 0.35 0.12 6.3	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	169.50 \$/h 30.6 L/h 12.8 L/100km 74.3 kg/h 0.006 kg/h 0.069 kg/h 0.230 kg/h	0.71 \$/km 127.7 mL/km 310.1 g/km 0.024 g/km 0.290 g/km 0.959 g/km	169.50 \$/h	
		g		

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



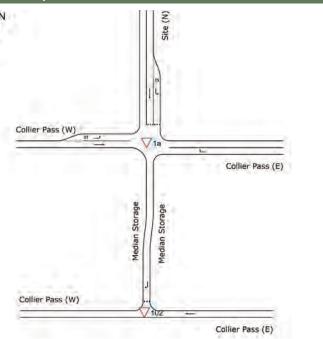


Colour code I	based on Que	eue Storage R	tatio		
[< 0.6]	[0.6 - 0.7]	[0.7 - 0.8]	[0.8 - 0.9]	[0.9 – 1.0]	[> 1.0]

** Network: N101 [Base 2021 PM]

New Network Network Category: (None)

Network Layout

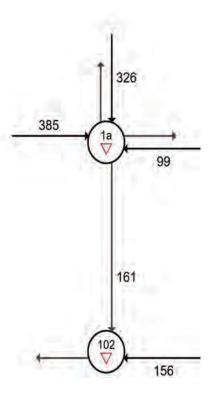


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.78 0.80 1.25		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	48.0 km/h 367.6 veh-km/h 7.7 veh-h/h 60.0 km/h		48.0 km/h 441.1 pers-km/h 9.2 pers-h/h
D 15 (T.116 11011)	4407 1 //		4050 "
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1127 veh/h 1127 veh/h 966 veh/h 0 veh/h 0 veh/h		1353 pers/h 1353 pers/h

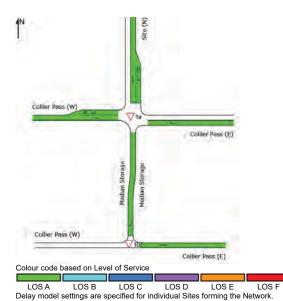
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	10.0 % 10.0 % 0.200			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.10 veh-h/h 3.5 sec 7.4 sec 7.4 sec 2.8 sec 0.7 sec		1.32 pers-h/h 3.5 sec 7.4 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.13 469 veh/h 0.42 0.20 11.4	1.28 per km	563 pers/h 0.42 0.20 11.4	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	277.58 \$/h 50.2 L/h 13.7 L/100km 121.5 kg/h 0.010 kg/h 0.115 kg/h 0.347 kg/h	0.76 \$/km 136.7 mL/km 330.5 g/km 0.026 g/km 0.313 g/km 0.944 g/km	277.58 \$/h	

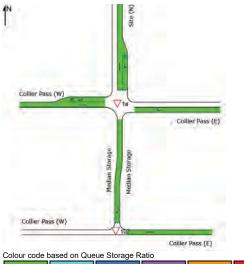
Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



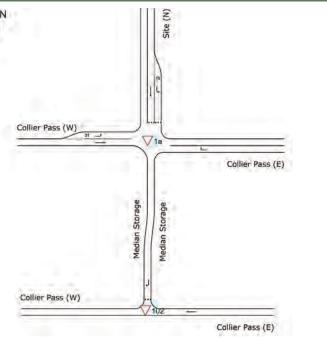


[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Base 2021 Sat]

New Network Network Category: (None)

Network Layout

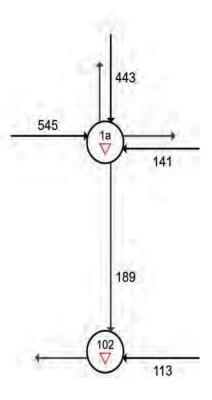


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.34 0.76 1.31		
T 10 1/1	45.0.1. #		45.0.1
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	45.6 km/h 452.0 veh-km/h 9.9 veh-h/h 60.0 km/h		45.6 km/h 542.4 pers-km/h 11.9 pers-h/h
Daniel J. Flance (Tabal San all Otton)	4.400		4740
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1432 veh/h 1432 veh/h 1242 veh/h 0 veh/h 0 veh/h		1718 pers/h 1718 pers/h

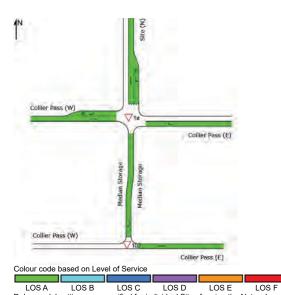
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	1.5 % 1.5 % 0.263			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.71 veh-h/h 4.3 sec 8.5 sec 8.5 sec 3.4 sec 1.0 sec		2.05 pers-h/h 4.3 sec 8.5 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.15 702 veh/h 0.49 0.21 15.4	1.55 per km	842 pers/h 0.49 0.21 15.4	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	366.32 \$/h 50.2 L/h 11.1 L/100km 118.8 kg/h 0.011 kg/h 0.127 kg/h 0.116 kg/h	0.81 \$/km 111.2 mL/km 262.7 g/km 0.023 g/km 0.281 g/km 0.257 g/km	366.32 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



 $\label{eq:decomposition} \mbox{Delay model settings are specified for individual Sites forming the Network.}$

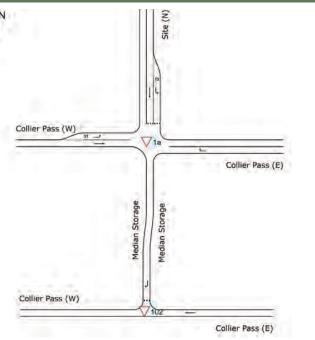


[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Dev 2021 AM]

New Network Network Category: (None)

Network Layout

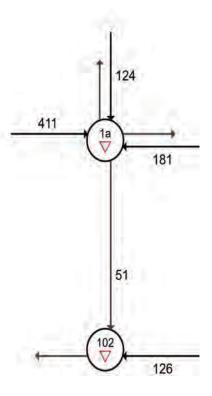


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Network Performance - Hourly V			
Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.59 0.78 1.28		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	47.0 km/h 310.6 veh-km/h 6.6 veh-h/h 60.0 km/h		47.0 km/h 372.7 pers-km/h 7.9 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	893 veh/h 893 veh/h 842 veh/h 0 veh/h 0 veh/h		1071 pers/h 1071 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	8.6 % 8.6 % 0.195			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.03 veh-h/h 4.2 sec 7.7 sec 7.7 sec 3.5 sec 0.7 sec		1.24 pers-h/h 4.2 sec 7.7 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.04 388 veh/h 0.44 0.16 9.0	1.25 per km	466 pers/h 0.44 0.16 9.0	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	240.46 \$/h 38.7 L/h 12.5 L/100km 93.4 kg/h 0.007 kg/h 0.090 kg/h 0.237 kg/h	0.77 \$/km 124.7 mL/km 300.7 g/km 0.024 g/km 0.288 g/km 0.763 g/km	240.46 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



LOS A LOS B LOS C LOS D LOS E LOS F Delay model settings are specified for individual Sites forming the Network.

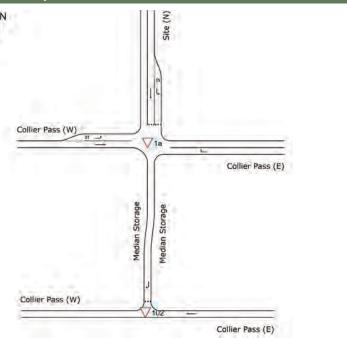


[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Dev 2021 PM]

New Network Network Category: (None)

Network Layout

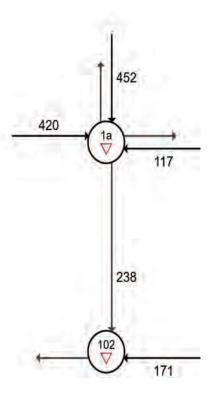


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.55 0.78 1.28		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	46.8 km/h 435.6 veh-km/h 9.3 veh-h/h 60.0 km/h		46.8 km/h 522.7 pers-km/h 11.2 pers-h/h
Daniel J. Flance (Tabal San all Otton)	4007		4070
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1397 veh/h 1397 veh/h 1159 veh/h 0 veh/h 0 veh/h		1676 pers/h 1676 pers/h

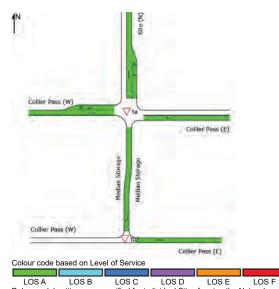
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	8.0 % 8.0 % 0.307			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.51 veh-h/h 3.9 sec 7.7 sec 7.7 sec 2.9 sec 1.0 sec		1.81 pers-h/h 3.9 sec 7.7 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.20 650 veh/h 0.46 0.23 14.6	1.49 per km	779 pers/h 0.46 0.23 14.6	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	339.76 \$/h 58.9 L/h 13.5 L/100km 141.7 kg/h 0.012 kg/h 0.137 kg/h 0.351 kg/h	0.78 \$/km 135.1 mL/km 325.3 g/km 0.027 g/km 0.315 g/km 0.805 g/km	339.76 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



 $\label{eq:decomposition} \mbox{Delay model settings are specified for individual Sites forming the Network.}$



Colour code based on Queue Storage Ratio

[< 0.6] [0.6 - 0.7] [0.7 - 0.8] [0.8 - 0.9] [0.9 - 1.0] [> 1.0]

** Network: N101 [Base 2022 AM]

New Network Network Category: (None)

Network Layout

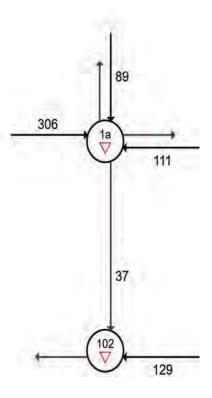


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS B 8.02 0.82 1.22		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	49.3 km/h 244.8 veh-km/h 5.0 veh-h/h 60.0 km/h		49.3 km/h 293.8 pers-km/h 6.0 pers-h/h
D 15 (T.116 11011)	070 1 //		
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	673 veh/h 673 veh/h 636 veh/h 0 veh/h 0 veh/h		807 pers/h 807 pers/h

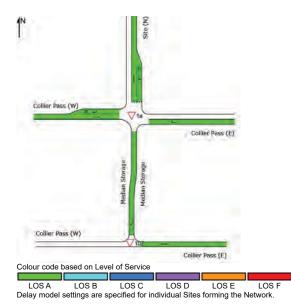
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	11.7 % 11.7 % 0.106			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	0.62 veh-h/h 3.3 sec 6.9 sec 6.9 sec 2.9 sec 0.4 sec		0.74 pers-h/h 3.3 sec 6.9 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.03 237 veh/h 0.35 0.12 6.4	0.97 per km	285 pers/h 0.35 0.12 6.4	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	173.25 \$/h 31.3 L/h 12.8 L/100km 76.0 kg/h 0.006 kg/h 0.071 kg/h 0.236 kg/h	0.71 \$/km 127.9 mL/km 310.5 g/km 0.024 g/km 0.290 g/km 0.963 g/km	173.25 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service





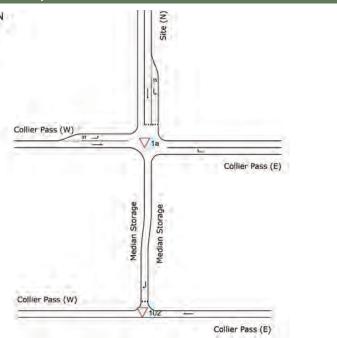
Colour code based on Queue Storage Ratio

[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Base 2022 PM]

New Network Network Category: (None)

Network Layout

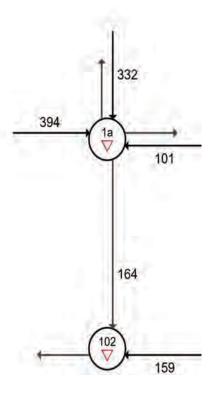


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Network Performance - Hourly Va			
Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.77 0.80 1.25		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	48.0 km/h 375.1 veh-km/h 7.8 veh-h/h 60.0 km/h		48.0 km/h 450.1 pers-km/h 9.4 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1149 veh/h 1149 veh/h 985 veh/h 0 veh/h 0 veh/h		1379 pers/h 1379 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	9.9 % 9.9 % 0.207			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.13 veh-h/h 3.5 sec 7.5 sec 7.5 sec 2.8 sec 0.8 sec		1.36 pers-h/h 3.5 sec 7.5 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.13 481 veh/h 0.42 0.20 11.5	1.28 per km	577 pers/h 0.42 0.20 11.5	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	282.86 \$/h 51.1 L/h 13.6 L/100km 123.4 kg/h 0.010 kg/h 0.117 kg/h 0.349 kg/h	0.75 \$/km 136.1 mL/km 329.0 g/km 0.026 g/km 0.312 g/km 0.930 g/km	282.86 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



LOS A LOS B LOS C LOS D LOS E LOS F

Delay model settings are specified for individual Sites forming the Network.

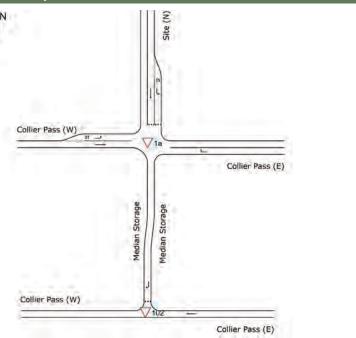


Colour code based on Queue Storage Ratio [<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Base 2022 Sat]

New Network Network Category: (None)

Network Layout

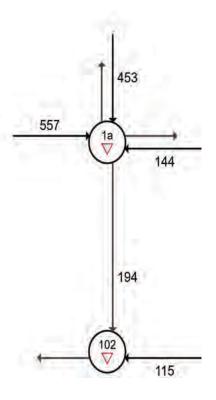


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.33 0.76 1.32		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	45.6 km/h 461.5 veh-km/h 10.1 veh-h/h 60.0 km/h		45.6 km/h 553.8 pers-km/h 12.2 pers-h/h
Daniel de la constant	4.400		4755 manufic
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1462 veh/h 1462 veh/h 1268 veh/h 0 veh/h 0 veh/h		1755 pers/h 1755 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	1.5 % 1.5 % 0.272			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.77 veh-h/h 4.3 sec 8.6 sec 8.6 sec 3.4 sec 1.0 sec		2.12 pers-h/h 4.3 sec 8.6 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.15 722 veh/h 0.49 0.21 15.8	1.56 per km	866 pers/h 0.49 0.21 15.8	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	374.58 \$/h 51.3 L/h 11.1 L/100km 121.2 kg/h 0.011 kg/h 0.130 kg/h 0.117 kg/h	0.81 \$/km 111.1 mL/km 262.5 g/km 0.023 g/km 0.281 g/km 0.253 g/km	374.58 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



LOS A LOS B LOS C LOS D LOS E LOS F Delay model settings are specified for individual Sites forming the Network.

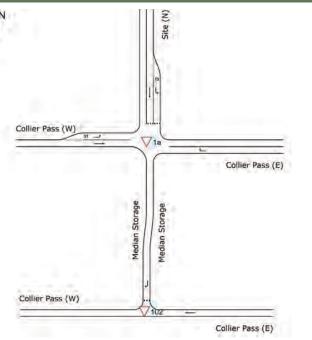


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** Network: N101 [Dev 2022 AM]

New Network Network Category: (None)

Network Layout

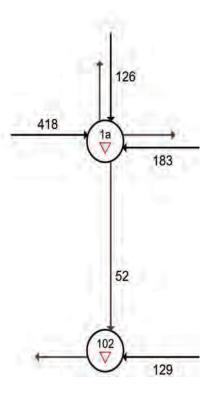


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Network Performance - Hourly V			
Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS)	LOS C		
Travel Time Index	7.59		
Speed Efficiency	0.78		
Congestion Coefficient	1.28		
Travel Speed (Average)	47.0 km/h		47.0 km/h
Travel Distance (Total)	316.4 veh-km/h		379.7 pers-km/h
Travel Time (Total)	6.7 veh-h/h		8.1 pers-h/h
Desired Speed	60.0 km/h		
Demand Flows (Total for all Sites)	908 veh/h		1090 pers/h
Arrival Flows (Total for all Sites)	908 veh/h		1090 pers/h
Demand Flows (Entry Total)	857 veh/h		
Midblock Inflows (Total)	0 veh/h		
Midblock Outflows (Total)	0 veh/h		

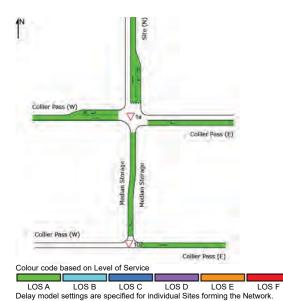
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	8.7 % 8.7 % 0.199			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.05 veh-h/h 4.2 sec 7.8 sec 7.8 sec 3.5 sec 0.7 sec		1.26 pers-h/h 4.2 sec 7.8 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.04 395 veh/h 0.44 0.16 9.2	1.25 per km	474 pers/h 0.44 0.16 9.2	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	244.73 \$/h 39.5 L/h 12.5 L/100km 95.3 kg/h 0.008 kg/h 0.091 kg/h 0.243 kg/h	0.77 \$/km 124.8 mL/km 301.1 g/km 0.024 g/km 0.288 g/km 0.768 g/km	244.73 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



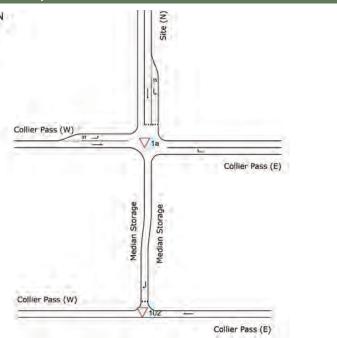


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ф Network: N101 [Dev 2022 PM]

New Network Network Category: (None)

Network Layout

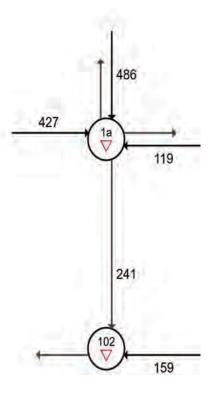


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.48 0.77 1.29		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	46.4 km/h 441.1 veh-km/h 9.5 veh-h/h 60.0 km/h		46.4 km/h 529.4 pers-km/h 11.4 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1433 veh/h 1433 veh/h 1192 veh/h 0 veh/h 0 veh/h		1719 pers/h 1719 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	7.9 % 7.9 % 0.315		
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.58 veh-h/h 4.0 sec 7.7 sec 7.7 sec 2.9 sec 1.0 sec		1.90 pers-h/h 4.0 sec 7.7 sec
, , , , , ,			
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.21 679 veh/h 0.47 0.24 15.0	1.54 per km	815 pers/h 0.47 0.24 15.0
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	351.14 \$/h 60.5 L/h 13.7 L/100km 145.6 kg/h 0.012 kg/h 0.141 kg/h 0.358 kg/h	0.80 \$/km 137.2 mL/km 330.1 g/km 0.027 g/km 0.319 g/km 0.811 g/km	351.14 \$/h

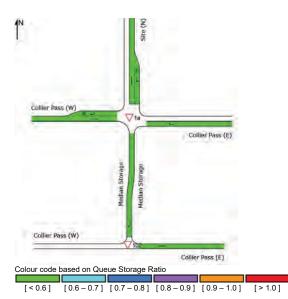
Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service





** Network: N101 [Base 2032 AM]

New Network Network Category: (None)

Network Layout

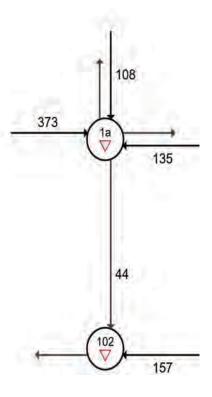


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS B 7.99 0.82 1.22		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total)	49.1 km/h 297.4 veh-km/h 6.1 veh-h/h		49.1 km/h 356.8 pers-km/h 7.3 pers-h/h
Desired Speed	60.0 km/h		·
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	817 veh/h 817 veh/h 773 veh/h 0 veh/h 0 veh/h		980 pers/h 980 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	11.6 % 11.6 % 0.139			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	0.78 veh-h/h 3.4 sec 7.4 sec 7.4 sec 2.9 sec 0.5 sec		0.94 pers-h/h 3.4 sec 7.4 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.03 297 veh/h 0.36 0.13 7.9	1.00 per km	356 pers/h 0.36 0.13 7.9	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	211.04 \$/h 37.9 L/h 12.7 L/100km 92.0 kg/h 0.007 kg/h 0.086 kg/h 0.282 kg/h	0.71 \$/km 127.5 mL/km 309.4 g/km 0.024 g/km 0.289 g/km 0.949 g/km	211.04 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



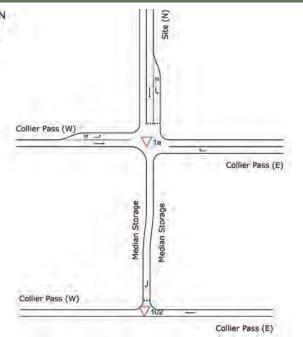


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** Network: N101 [Base 2032 PM]

New Network Network Category: (None)

Network Layout

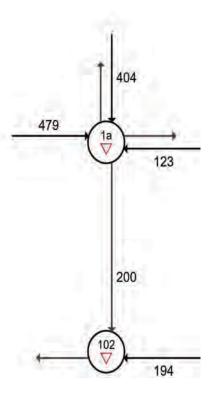


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.68 0.79 1.26		
Travel Speed (Average)	47.5 km/h		47.5 km/h
Travel Distance (Total) Travel Time (Total) Desired Speed	456.7 veh-km/h 9.6 veh-h/h 60.0 km/h		548.0 pers-km/h 11.5 pers-h/h
Demand Flows (Total for all Sites)	1400 veh/h		1690 para/h
Definition (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1400 veh/h 1400 veh/h 1200 veh/h 0 veh/h		1680 pers/h 1680 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	9.8 % 9.8 % 0.282			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.49 veh-h/h 3.8 sec 8.1 sec 8.1 sec 2.8 sec 1.1 sec		1.79 pers-h/h 3.8 sec 8.1 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.17 622 veh/h 0.44 0.22 14.6	1.36 per km	746 pers/h 0.44 0.22 14.6	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	347.11 \$/h 62.1 L/h 13.6 L/100km 150.1 kg/h 0.012 kg/h 0.143 kg/h 0.418 kg/h	0.76 \$/km 136.0 mL/km 328.7 g/km 0.026 g/km 0.312 g/km 0.916 g/km	347.11 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service





[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Base 2032 Sat]

New Network Network Category: (None)

Network Layout

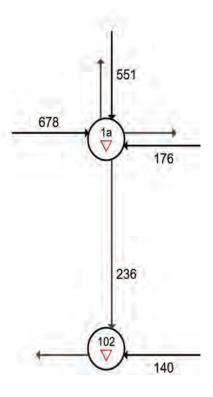


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.17 0.74 1.34		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	44.7 km/h 562.0 veh-km/h 12.6 veh-h/h 60.0 km/h		44.7 km/h 674.4 pers-km/h 15.1 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1780 veh/h 1780 veh/h 1544 veh/h 0 veh/h 0 veh/h		2136 pers/h 2136 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	1.5 % 1.5 % 0.383			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	2.39 veh-h/h 4.8 sec 10.0 sec 10.0 sec 3.4 sec 1.5 sec		2.87 pers-h/h 4.8 sec 10.0 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.20 931 veh/h 0.52 0.24 20.4	1.66 per km	1117 pers/h 0.52 0.24 20.4	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	464.31 \$/h 63.0 L/h 11.2 L/100km 148.9 kg/h 0.013 kg/h 0.159 kg/h 0.146 kg/h	0.83 \$/km 112.1 mL/km 265.0 g/km 0.024 g/km 0.283 g/km 0.260 g/km	464.31 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service





[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Dev 2032 AM]

New Network Network Category: (None)

Network Layout

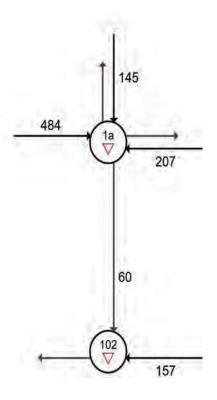


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.59 0.78 1.28		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	47.0 km/h 369.2 veh-km/h 7.9 veh-h/h 60.0 km/h		47.0 km/h 443.0 pers-km/h 9.4 pers-h/h
D 15 (7.16 110)	1051 1 1		1001 "
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1054 veh/h 1054 veh/h 994 veh/h 0 veh/h 0 veh/h		1264 pers/h 1264 pers/h

Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	9.0 % 9.0 % 0.245			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	1.24 veh-h/h 4.2 sec 8.4 sec 8.4 sec 3.4 sec 0.8 sec		1.49 pers-h/h 4.2 sec 8.4 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate	0.04 464 veh/h 0.44 0.17	1.26 per km	557 pers/h 0.44	
Proportion Queued Performance Index	10.8		0.17 10.8	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	283.86 \$/h 46.2 L/h 12.5 L/100km 111.4 kg/h 0.009 kg/h 0.106 kg/h 0.289 kg/h	0.77 \$/km 125.1 mL/km 301.8 g/km 0.024 g/km 0.288 g/km 0.784 g/km	283.86 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Main Road.

Lane Level of Service



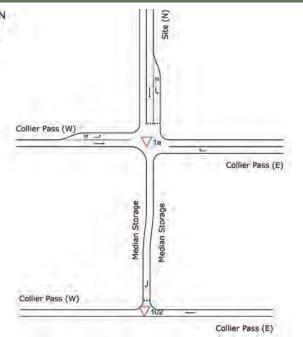


[<0.6] [0.6-0.7] [0.7-0.8] [0.8-0.9] [0.9-1.0] [>1.0]

** Network: N101 [Dev 2032 PM]

New Network Network Category: (None)

Network Layout

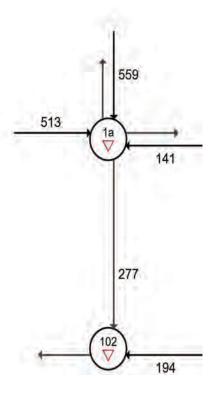


Approach Lane Flows

Click the Total Approach Arrival Flow Rate values for details in popup boxes.

Open All Popups





Performance Measure	Vehicles	Per Unit Distance	Persons
Network Level of Service (LOS) Travel Time Index Speed Efficiency Congestion Coefficient	LOS C 7.37 0.76 1.31		
Travel Speed (Average) Travel Distance (Total) Travel Time (Total) Desired Speed	45.8 km/h 522.8 veh-km/h 11.4 veh-h/h 60.0 km/h		45.8 km/h 627.3 pers-km/h 13.7 pers-h/h
Demand Flows (Total for all Sites) Arrival Flows (Total for all Sites) Demand Flows (Entry Total) Midblock Inflows (Total) Midblock Outflows (Total)	1683 veh/h 1683 veh/h 1406 veh/h 0 veh/h 0 veh/h		2020 pers/h 2020 pers/h

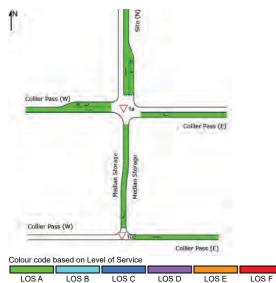
Percent Heavy Vehicles (Demand) Percent Heavy Vehicles (Arrival) Degree of Saturation	8.1 % 8.1 % 0.406			
Control Delay (Total) Control Delay (Average) Control Delay (Worst Lane) Control Delay (Worst Movement) Geometric Delay (Average) Stop-Line Delay (Average)	2.04 veh-h/h 4.4 sec 8.4 sec 8.4 sec 2.9 sec 1.5 sec		2.45 pers-h/h 4.4 sec 8.4 sec	
Queue Storage Ratio (Worst Lane) Total Effective Stops Effective Stop Rate Proportion Queued Performance Index	0.25 843 veh/h 0.50 0.27 18.6	1.61 per km	1012 pers/h 0.50 0.27 18.6	
Cost (Total) Fuel Consumption (Total) Fuel Economy Carbon Dioxide (Total) Hydrocarbons (Total) Carbon Monoxide (Total) NOx (Total)	418.61 \$/h 71.8 L/h 13.7 L/100km 172.8 kg/h 0.014 kg/h 0.167 kg/h 0.428 kg/h	0.80 \$/km 137.3 mL/km 330.5 g/km 0.027 g/km 0.318 g/km 0.819 g/km	418.61 \$/h	

Number of Iterations: 5 (Maximum: 10)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0.0% 0.0% 0.0% Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

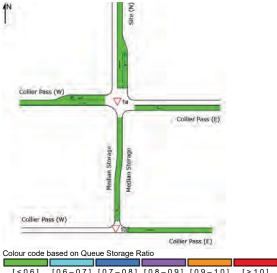
Software Setup used: Main Road.

Lane Level of Service



Delay model settings are specified for individual Sites forming the Network.

Vehicle Queue (%ile)



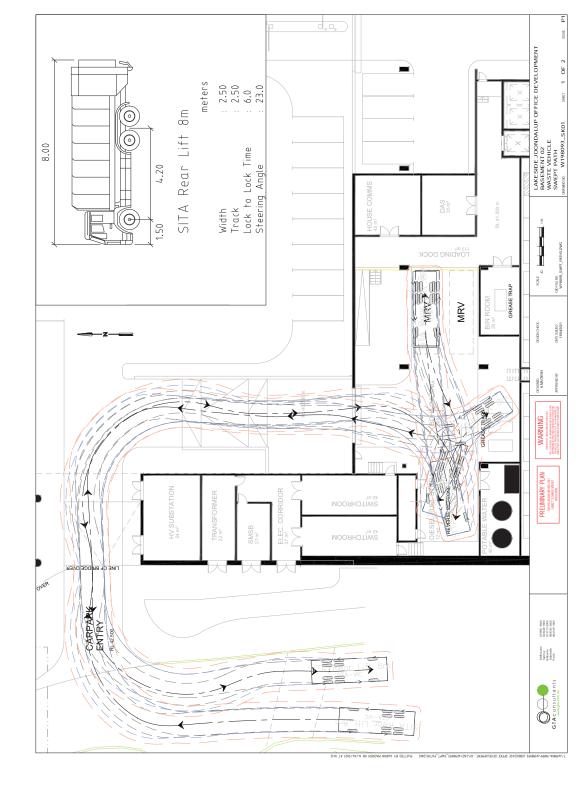
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Organisation: GTA CONSULTANTS | Created: Tuesday, 23 March 2021 1:07:09 PM
Project: T:W19800-19899W198093 Lendlease Office Development, JolModelling/W210318sip - W198093 - Office Development Sidra.sip8

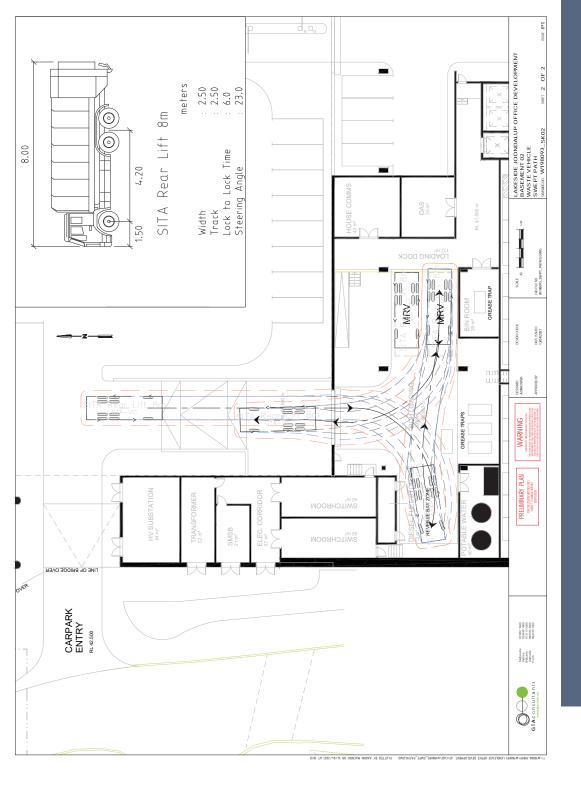
C. SWEPT PATH ASSESSMENT



W198082 // 19/04/21 Transport Impact Assessment // Issue: B Joondalup SC Office Development, 420 Joondalup Drive, Joondalup









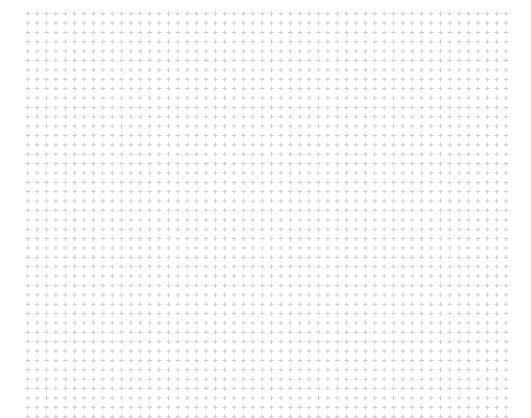
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Lakeside Joondalup Office Development

Joondalup

Noise Assessment for Development Application



CLIENT

Lendlease



ARCHITECTS

Hames Sharley







Amendment Register

Rev. No	Section & Page No.	Issue/Amendment	Author	Project Engineer	Checked	Date
P1	-	Preliminary Issue	SS	SS	JC	25/03/2021
A	-	DA Issue	SS	SS	JC	16/04/2021
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EXECUTIVE SUMMARY

Floth Pty Ltd (Floth) has been commissioned by Lendlease to provide Acoustic Engineering Services for the proposed commercial office building located at 420 Joondalup Drive, Joondalup 6027.

This report presents the noise impact assessment for the proposed development as part of the Development Application to the local authority, City of Joondalup. The noise impact assessment has been prepared in accordance with the WA Environmental Protection (Noise) Regulations 1997 and Australian Standards and relevant guidelines.

The noise impacts that have been considered as part of this assessment are as follows:

- Noise intrusion from external sources onto the proposed development;
 - Road traffic and rail noise from surrounding roads and transport network,
 - Mechanical plant noise emissions from nearby buildings onto the subject site, and
 - Short-term noise events from Joondalup Shopping Centre Carpark.
- Noise emission from typical commercial building operations including;
 - Environmental noise emissions from mechanical plant to nearby buildings,
- Short-term noise events from car-parking and refuse collection,
- Noise from childcare premise on ground floor, and
- Noise from retail dining/entertainment activities.

The noise intrusion assessment showed that the existing ambient noise environment is characterised by the typical city centre 'hum' with dominant noise sources including road traffic, rail and public transport noise as well as carpark and mechanical noise associated with the adjacent shopping centre precinct. Preliminary building envelope performance requirements to achieve compliance with Australian Standards and the indoor noise criteria specified in SPP 5.4 have been provided in Section 6.3 of this report for the commercial office and Child Care Centre respectively.

The dominant noise emission source from the proposed development is expected to be from the proposed mechanical plant and equipment. The mechanical plant and equipment will be developed further as the design progresses and must achieve compliance with the noise limits in Section 4 of this report. Detailed acoustic calculations shall be performed at each design phase to ensure appropriate noise mitigation measures are incorporated into the design. Preliminary findings indicate that compliance can be achieved using reasonable and feasible noise mitigation measures such as single stage acoustic louvres, lined plenums and attenuators.

An assessment of childcare outdoor play indicated that compliance with the critical noise criteria is achieved for a worst-case scenario (Section 7.4) with a solid, gap-free noise barrier around the perimeter as shown in Appendix C.



An assessment of potential retail and alfresco dining/entertainment indicated that compliance with the critical noise criteria can be achieved. Nevertheless, it is recommended that any ambience / background music systems be fitted with noise limiters to control noise emission.

In summary, the assessment has shown that the noise impacts on and from the proposed development can be managed.

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Appendix D – Noise Contours

INTRODUCTION 1.

Floth Pty Ltd (Floth) has been commissioned by Lendlease to provide Acoustic Engineering Services for the proposed commercial office building to be located at 420 Joondalup Drive, Joondalup 6027.

This report presents the noise impact assessment for the proposed development as part of the Development Application to the local authority, City of Joondalup. The noise impact assessment has been prepared in accordance with the WA Environmental Protection (Noise) Regulations 1997, State Planning Policy (SPP) 5.4, Australian Standards and relevant guidelines.

The noise impacts that have been considered as part of this assessment are as follows:

- Noise intrusion from external sources onto the proposed development, specifically the childcare centre on ground level:
 - Road traffic and rail noise from surrounding roads and transport network,
 - Mechanical plant noise emissions from nearby buildings onto the subject site, and
 - Short-term noise events from Joondalup Shopping Centre Carpark.
- Noise emission from typical commercial building operations including;
 - Environmental noise emissions from mechanical plant to nearby buildings,

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- Short-term noise events from car-parking and refuse collection,
- Noise from childcare premise, and
- Noise from potential retail dining/entertainment activities.

PROPOSED SITE AND SURROUNDING AREA 2.

2.1 Site Details

Lendlease proposes to develop a multi-storey commercial building that includes a Ground Floor café and childcare facility. For details of the proposed design, refer to the architectural drawings prepared by Hames Sharley.

The subject site and surrounding area is presented in Figure 1. The PlanWA interactive map by the WA Department of Planning, Lands and Heritage indicates that the site is located within a Central city area zone, with property details as presented in Table 1.

Table 1: Property Details of the Subject Site

PROPERTY DETAILS	DESCRIPTION
Property Address	420 Joondalup Drive, Joondalup
Lot Number	708
R Code	Joondalup Activity Centre Plan
Planning Scheme	Metropolitan Region Scheme (MRS)
LG Zoning	Centre
Structure Plan No	Joondalup Activity Centre Plan
MRS Zoning	Central city area
Local Planning Scheme	City of Joondalup Scheme No.3

A review of the site shows that it is potentially impacted by road traffic noise from Grand Boulevard and Collier Pass as well as rail noise from the nearby Joondalup railway line and train station. Noise arising from the Joondalup Lakeside Shopping City multi-storey carpark (located south-east) will also be considered. The site is found to not be within the Perth Airport Aircraft Noise Exposure Forecast (ANEF) contours and is therefore not significantly impacted by aircraft noise.

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2.2 Project Description

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The subject site and surrounding area are presented in Figure 1, with a description of surrounding noise sensitive receivers (NSRs) in Table 2. The nearest busy road Grand Boulevard is approximately 15 metres from the nearest boundary of proposed site.



Figure 1: Aerial View of Site and Noise Sensitive Receivers (Ref. Nearmap)

2.2.1 Nearest Noise Sensitive Receivers (NSRs)

The nearest potentially affected NSRs include an apartment building on Grand Boulevard and an educational premise on Kendrew Crescent. These NSRs are also located within the Central City area zone. The nearest commercial receivers include the Lakeside Joondalup Shopping Centre and office complex located on 38 Collier Pass, Joondalup. Any noise emissions from the proposed development will be assessed and appropriately screened in accordance with the relevant standards and codes.

The indicative distance separation between the nearest NSRs and the proposed development are presented in Table 2.

Table 2: Description of Nearby NSRs Surrounding the Proposed Site

ТҮРЕ	ADDRESS	DESCRIPTION	APPROXIMATE DISTANCE SEPARATION ¹
Noise Sensitive Premise	167 Grand Blvd, Joondalup	4-Storey Residential Building	150 metres
Noise Sensitive Premise	35 Kendrew Cres, Joondalup	Educational – North Metropolitan TAFE Joondalup	250 metres
Commercial Premise	38 Collier Pass, Joondalup	RAC Office	40 metres
Commercial Premise	420 Joondalup Dr, Joondalup	Lakeside Joondalup Shopping Centre (Myer Department Store)	150 metres

2.3 Potential Noise Impacts

The following noise intrusion sources have been identified to have potential impact on the proposed development and childcare centre:

- Road Traffic Noise from Grand Boulevard and Collier Pass,
- Rail transport noise from Joondalup railway station;
- Joondalup Shopping Centre multi-storey carpark adjacent to subject site;
- Mechanical plant noise emissions from nearby buildings onto subject site.

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¹ Approximate distance separation. These indicative distances of separation between the nearest NSRs and the proposed development are estimates only and Floth takes no responsibility for the accuracy of the nearest noise sensitive receivers.

The main sources of noise emission from the proposed development that will be controlled to satisfy the noise limits at the surrounding NSRs are:

- Noise emissions from proposed mechanical plant and equipment associated with the development;
- Short-term noise events from on-site childcare centre premise and café;
- Short-term noise events from onsite car-parking and refuse collection.

3. EXISTING NOISE LEVELS

The existing ambient noise levels in the local area were measured from the 11th of March to 18th of March 2021 at the noise monitoring locations illustrated in Figure 2. Short-term noise measurements were conducted on the 18th of March to quantify rail noise from surrounding railway line.

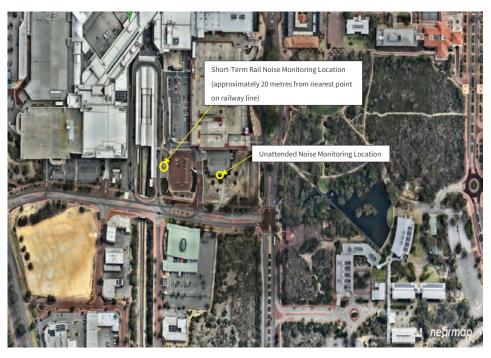


Figure 2: Noise Monitoring Location (Ref. Nearmap)

The top of the sound level meter microphone was 1.5 metres above ground level with a view of Collier Pass and Grand Boulevard for the unattended measurements and a view of the railway line for the short-term noise measurements. The noise monitoring locations were selected considering the following:

- appropriate angle of view to the significant noise sources,
- accurate representation of noise impacts at the approximate location of the proposed development façade line,
- equipment security and pedestrian safety (i.e. trip hazard) concerns.

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The noise measurement instrumentation consisted of:

- Norsonic Nor139 Class 1 sound level meter, serial number: 15749372
- Pulsar Model 105 sound level calibrator, serial number: 77507

The instrumentation had current NATA laboratory calibration during the monitoring period. Field calibration conducted prior-to and at the completion of logging did not find any drift in the calibration of the logger.

During the logging period weather data was obtained from the Bureau of Meteorology (BOM) website for Perth. These weather observations were reviewed and it is noted that weather conditions did not adversely impact upon the noise logging results.

The results include values for the L_{A01}^2 , L_{A10}^3 , L_{Aeq}^4 and L_{Amax}^5 averages for each of the day, evening and night periods for the weekdays.

3.1 Unattended / Logger Measurements

Ambient noise level and road traffic noise measurements are summarised in Table 3 and Table 4, respectively.

Table 3: Ambient Noise Summary

TIME OF DAY	OVERALL AVER	AGE NOISE LEV	EL IN dB(A)		
	L _{Amax,T}	L _{Aeq,T}	L _{A01,T}	L _{A10,T}	L _{A90,T}
Day (7am – 6pm)	79	67	59	58	50
Evening (6pm - 10pm)	69	61	53	51	45
Night (10pm – 6am)	67	58	50	48	40

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A summary of measured road traffic noise levels are presented in Table 4.

Table 4: Road Traffic Noise Levels

ROAD TRAFFIC NOISE DESCRIPTOR	TIME PERIOD	MEASU	IRED LE	VEL dB(A)					
		11/03	12/03	13/03	14/03	15/03	16/03	17/03	18/03	AVERAGE
L _{A10,18hr}	6am to Midnight	-	56	57	56	56	55	57	-	56
L _{Aeq,15hr}	7am to 10pm	-	55	55	56	57	57	-	-	56

3.2 Short-Term Rail Noise Measurements

Short-term noise measurements were conducted on the 18th of March to quantify rail noise from surrounding railway network. The location of the noise measurement is illustrated in Figure 2. A summary is provided in Table 5.

Table 5: Short-term Measurement Summary

START TIME DURATION		ARITHMETIC AVERAG	ARITHMETIC AVERAGE OF NOISE DESCRIPTOR, dB(A)			
		L _{ASMAX}	Laeq			
9am	1-hour	66	60			

Based on distance attenuation, the incident façade noise level due to rail noise at the proposed development is predicted to be:

- 52 dB(A) L_{ASmax}
- 46 dB(A) L_{Aeq}

Based on the above and the effects of shielding and distance attenuation, rail noise is not considered to be the dominant source of noise intrusion when compared to road traffic noise.

 $^{^2}$ $L_{\rm A01}$ is the A-weighted sound pressure level exceeded for 1% of the time

 $^{^3}$ L $_{\mathrm{A10}}$ is the A-weighted sound pressure level exceeded for 10% of the time

⁴ L_{Aeq} is the equivalent or energetic-averaged A-weighted sound pressure level

⁵ L_{Amax} is the average of the maximum A-weighted sound pressure levels occurring within the consecutive 15-minute samples





4. NOISE CRITERIA

The noise criteria for the proposed development is defined by City of Joondalup Council requirements, Western Australia state noise policies / legislation and applicable Australian Standards. A summary of the relevant noise criteria for the proposed development are presented in Table 6. This document will identify the measures that can be taken to achieve compliance with the most stringent criteria.

Table 6: Summary of Applicable Noise Policies and Guidelines

ASSESSMENT	APPLICABLE CRITERIA	NOISE SOURCES
Noise Impact on the Proposed Development / Noise Intrusion	State Planning Policy (SPP) 5.4 – Road and rail noise; AS/NZS 2107:2016; Joondalup Child-Care Premises Local Planning Policy.	Road traffic noise from the surrounding transport network; Rail transport noise from Joondalup railway station; Noise from mechanical plant associated with surrounding residential buildings.
Noise Emissions from the Proposed Development	WA Environmental Protection (Noise) Regulations 1997; Joondalup Child Care Premises Local Planning Policy.	Mechanical plant noise; Noise from refuse, car park and loading activities; Noise from retail, childcare premises.
Construction Noise	WA Environmental Protection (Noise) Regulations 1997.	Noise associated with construction activities.

4.1 Noise Intrusion

4.1.1 Steady State and Quasi Steady State Noise sources - Commercial Office

Intruding noise from external sources such as road traffic, mechanical plant, carpark as well as the mechanical services within the proposed development shall achieve compliance with the recommended levels specified in Table 1 of Australian Standard AS/NZS 2107:2016 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors.

The appropriate AS/NZS 2107:2016 design sound limits within the proposed development are presented in Table 7.

Table 7: Recommended Internal Design Sound Levels

TYPE OF OCCUPANCY / ACTIVITY	RECOMMENDED DESIGN SOUND LEVEL RANGE (dBA)
Board and conference rooms	30 to 40
Cafeterias	45 to 50
Corridors and lobbies	45 to 50
Executive office	35 to 40
General office areas	40 to 45
Meeting room (small)	40 to 45
Open plan office	40 to 45
Reception areas	40 to 45
Rest rooms and break-out spaces	40 to 45

4.1.2 Road Traffic and Rail Noise Intrusion - Child Care Centre

SPP 5.4 outlines a procedure for assessing road traffic and rail noise intrusion onto new noise-sensitive developments. Noting that the subject development is proposed to be primarily commercial it is not classified as noise sensitive. However, the intended childcare centre premise on the Ground Level is considered noise sensitive and as such the SPP 5.4 defines an outdoor noise target and noise limit for this noise sensitive space as shown in Table 8. SPP 5.4 also defines indoor noise criteria which is presented in Table 9.

Table 8: Outdoor Noise Criteria (Ref. Table 2 of SPP 5.4 2019)

TIME OF DAY	NOISE TARGET	NOISE LIMIT
Day (6am – 10pm)	$L_{Aeq(Day)} = 55 dB(A)$	$L_{Aeq(Day)} = 60 \text{ dB(A)}$
Night (10pm – 6am)	$L_{Aeq(Night)} = 50 dB(A)$	$L_{Aeq(Night)} = 55 \text{ dB(A)}$

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Table 9: Indoor Noise Criteria (Ref. Table 2 of SPP 5.4 2019)

TIME OF DAY	NOISE TARGET	NOISE LIMIT
Day (6am – 10pm)	$L_{Aeq(Day)} = 40 \text{ dB(A)}$	$L_{Aeq(Day)} = 45 dB(A)$
Night (10pm – 6am)	L _{Aeq(Night)} = 35 dB(A) (sleeping areas)	$L_{Aeq(Night)} = 40 dB(A)$

In addition, the Association of Australasian Acoustical Consultants AAAC Guideline for Child Care Centre Acoustic Assessment V3⁶ recommends that the following indoor noise criteria be achieved to minimise external road and rail noise impact on children:

- Outdoor Play or Activity Areas L_{Aeq,1hr} 55 dB(A);
- Indoor Activity Areas L_{Aeq,1hr} 40 dB(A); and
- Sleeping Areas L_{Aeq,1hr} 35 dB(A).

It can be seen that the SPP 5.4 and AAAC guidelines are consistent and will be used to assess the requirements for noise mitigation measures. Rail Noise and Intermittent Events Noise Intrusion Criteria – Commercial Office

In lieu of applicable rail noise criteria for commercial developments in Perth, reference has been made to available standards and guidelines in order to propose suitable noise criteria.

AS 2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction addresses aircraft noise intrusion rather than rail noise. However, both aircraft and rail noise can be characterised as short-duration, intermittent events that can be described using the L_{ASmax} noise descriptor. The noise criteria from AS 2021 for commercial and retail developments is presented in Table 10.

Table 10: Commercial Building, Office and Shop L_{Asmax} Noise Criteria (Ref. AS 2021)

BUILDING TYPE AND ACTIVITY		INDOOR DESIGN SOUND LEVEL, L _{ASmax} , dB(A)		
Com	mercial buildi	ngs, offices and shops		
Private offices, conference rooms	55			
Drafting, open offices	65			

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BUILDING TYPE AND ACTIVITY		INDOOR DESIGN SOUND LEVEL, LASmax, dB(A)
Typing, data processing	70	
Shops, supermarkets, showrooms	75	

The AAAC Guideline for Commercial Buildings⁷ recommends that maximum noise levels from rail noise does not exceed the maximum recommended design sound levels in AS/NZS 2107: 2016 by more than 10 dB. Adopting this approach, the rail noise criteria for an open plan office would be 55 dB L_{ASmax}.

Based on our review of potential rail noise criteria for commercial office environments, an internal noise level of 55 to 65 dB L_{ASmax} would be a reasonable target, with the lower limit having more flexibility for end users and the upper limit having less flexibility.

For this development, we propose a 60 dB L_{ASmax} noise criteria for commercial office and 70 dB L_{ASmax} noise criteria for retail.

⁶ Association of Australasian Acoustical Consultants Guideline for Child Care Centre Acoustic Assessment V3

⁷ Association of Australasian Acoustical Consultants (AAAC) Guideline for Commercial Building Acoustics (Version 2)



4.2 Noise Emission Criteria

As outlined in Table 6, the noise emission from the proposed development will be assessed in accordance with the Environmental Protection Act 1986, with the prescribed standards detailed in the Environmental Protection (Noise) Regulations 1997 (EPNR).

The EPNR sets out the maximum allowable noise levels based on the time of day and type of premise receiving the noise. The maximum allowable noise levels are determined based on the assigned noise levels (L_{A10} , L_{A1} and L_{Amax}) adjusted with the Influencing Factor (IF). The IF is calculated with consideration to the land use zoning in the vicinity of the NSRs.

Table 11: Assigned Noise Level at Surrounding Uses (Ref. Table 1 of EPNR)

TYPE OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL				
		L _{A10}	Laı	LAmax		
Noise sensitive premises: highly sensitive area	0700 to 1900 hours (Monday to Saturday)	45 + IF	55 + IF	65 + IF		
	0900 to 1900 hours (Sunday and Public Holidays)	40 + IF	50 + IF	65 + IF		
	1900 to 2200 hours (All days)	40 + IF	50 + IF	55 + IF		
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours on Sunday and Public Holidays	35 + IF	45 + IF	55 + IF		
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80		
Commercial premises	All hours	60	75	80		

A highly sensitive area means that the area (if any) of noise sensitive premises comprising:

 A building, or part of a building, on the premises that is used for a noise sensitive purpose (i.e. residential or accommodation use); Any other part of the premises within the 15m of that building or that part of the building.

The influencing factor described in Table 11 accounts for higher noise levels in a locality due to nearby industrial and commercial areas and major roads and is derived in accordance with Schedule 3 of the EPNR.

The EPNR states the following:

7. Prescribed standard for noise emissions

- (1) Noise emitted from any premises or public place when received at other premises –
- (a) Must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and
 - (b) Must be free of -
 - (i) tonality; and
 - (ii) impulsiveness; and
 - (iii) modulation,

When assessed under regulation 9.

- (2) For the purposes of sub regulation (1)(a), a noise emission is taken to **significantly contribute to** a level of noise if the noise emission as determined under sub regulation (3) exceeds a value which is 5 dB below the assigned level at the point of reception.
 - (3) A level of noise emission may be determined by -
- (a) Measurement at its point of reception when, to the extent practicable, other noises that would contribute to the measured noise level are not present; or
- (b) Calculation of the level at its point of reception based on measurement of the noise emission at a reference point determined by the inspector or authorised person to be a point where the relationship between the noise emission as measured at the reference point and at the point of reception can be established.

4.2.1 Derivation of the Assigned Levels

To determine the influencing factors that are applied to the assigned levels presented in Table 11, the following has been taken into consideration:

The city of Joondalup land-use zoning map indicates that the area surrounding the site is generally zoned
commercial and parkland, with a smaller of portion dedicated to residential and educational uses. The proposed
site is located within the 'Central City Area' zone.

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- Within 100m of the nearest noise-sensitive receptor, there are no major roads and only one secondary roads. The secondary road is Grand Boulevard
- The following roads are within a 450 metre radius of the nearest noise sensitive receptor:
- Major Roads: Shenton Avenue
- Secondary Roads: Grand Boulevard, Collier Pass, Lakeside Drive.

Based upon the zoning plan, land usage and traffic data, the influencing factor can be determined in accordance with the EPNR as shown in Table 12. In accordance with the EPNR, a transport factor of 4 dB has been applied accordingly for one secondary road within a 100 metre radius and one major road within a 450 metre radius.

Table 12: Determining of Influencing Factor

% INDUSTRIAL AND UTILITY USE		% COMMERCIAL US	E	TRANSPORT	INFLUENCING
100m	450m	100m 450m		FACTOR (dB)	FACTOR (dB)
0	3	30	63	4	8

Using the influencing factor determined in Table 12, the appropriate assigned levels can be determined as presented in Table 13. For mechanical plant and music noise emissions where the noise is generally continuous the LA10 metric would be appropriate. For short-duration intermittent noise such as patron noise and vehicle movements the LA1 metric is appropriate.

Table 13: Derived Assigned Levels at Surrounding Uses

TYPE OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700 to 1900 hours (Monday to Saturday)	53	63	73
	0900 to 1900 hours (Sunday and Public Holidays)	48	58	73
	1900 to 2200 hours (All days)	48	58	63

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TYPE OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL			
		L _{A10}	L _{A1}	L _{Amax}	
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours on Sunday and Public Holidays	43	53	63	
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80	
Commercial premises	All hours	60	75	80	

4.3 Environmental Noise Emission Limits

Noise emissions from the proposed development are not considered to significantly contribute to the noise level at the receiving premise if the component noise emission level is 5 dB or below the assigned levels presented in Table 13. As such, the noise emission limits that must be satisfied at premises surrounding the proposed development are presented in Table 14.

Table 14: Project Noise Emission Limits

TYPE OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL				
RECEIVING NOISE		L _{A10}	L _{A1}	L _{Amax}		
Noise sensitive premises:	0700 to 1900 hours (Monday to Saturday)	48	58	68		
sensitive area	0900 to 1900 hours (Sunday and Public Holidays)	43	53	68		
	1900 to 2200 hours (All days)	43	53	58		
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours on Sunday and Public Holidays	38	48	58		

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⁸ A major road has an average daily traffic count in excess of 15,000 vehicles per day, while a secondary road has an average daily traffic count of 6,000 to 15,000 vehicles per day. The classifications of the roads have been determined via reference to traffic data contained in the Metropolitan Traffic Digest 2015/16 - 2020/21 and WA Main Roads' Traffic Maps.

TYPE OF PREMISES RECEIVING NOISE	TIME OF DAY	ASSIGNED LEVEL (dB)			
RECEIVING NOISE		L _{A10}	L _{A1}	L _{Amax}	
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80	
Commercial premises	All hours	60	75	80	

4.4 Waste Collection

Regulation 14 of the EPNR states that noise emission from waste collection is not required to comply with the noise criteria in Table 8 if it is conducted in accordance with the following:

- (a) Is conducted between 0700 hours and 1900 hours on any day that is not a Sunday or a public holiday; and / or
- (b) Is conducted between 0900 hours and 1900 hours on a Sunday or public holiday;
- (c) The works are carried out in the quietest reasonable and practicable manner;
- (d) The equipment used to carry out the works is the quietest reasonably available.

Waste collection outside of these hours must be conducted in accordance with an approved Noise Management Plan (NMP).

4.5 Construction Noise

The EPNR does not impose noise emission limits for construction work carried out between 0700 and 1900 on Monday to Saturday (excluding public holidays), provided that:

- (a) The construction work is carried out in accordance with the control of environmental noise practices defined in Section 4 of AS 2436-2010 Guide to noise and vibration control on construction, maintenance and demolition sites; and
- (b) The equipment used on the construction site is the quietest reasonably available; and

The construction work is carried out in accordance with an approved noise management plan (if required under Sub-regulation (4) or (5A)).

5. NOISE MODEL

5.1 Road Traffic Noise

A road traffic noise model was created in SoundPLAN version 8.2 to predict incident road traffic noise levels on the childcare precinct associated with the subject development. As stated in Section 2.3, the proposed childcare centre on Ground level is expected to be impacted by road traffic noise, with contribution predominantly from Grand Boulevard and Collier Pass.

5.1.1 Noise Model

A three-dimensional computer noise model was created with the appropriate site, surrounding buildings and major roads as presented in Figure 3. The road elevations, road alignments and local topography were obtained from the Google Earth imagery and architectural drawings. Aerial photography and site observations were used to determine the surrounding building heights and other shielding effects.

Point receivers have been assigned to the building facades at a distance of 1 metre (i.e. the predictions include façade reflection). The receivers were placed 1.5 metres above the proposed FFLs, which have been assumed based on architectural plans and floor to floor heights.

The traffic noise prediction algorithm selected was the Calculation of Road Traffic Noise (CoRTN) methodology. No road surface correction has been applied to the base noise level calculated by SoundPLAN because the base noise level prediction assumes a dense graded asphalt (DGA) road surface, as is the case with the roads surrounding the site.

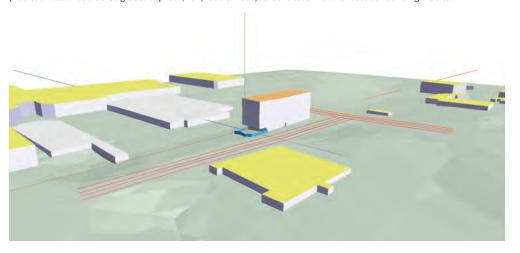


Figure 3: Aerial View of 3-D SoundPLAN Model

5.1.2 Traffic Volume Data

Existing Annual Average Daily Traffic (AADT) volume estimates for Grand Boulevard and Collier Pass are presented in Table 15. An average 1.2% population growth rate for Perth has been adopted for these roads to determine a 15 year ultimate traffic volume as per the SPP5.4 Policy implementation guidelines. The 18-hour traffic (6.am. to midnight) road traffic volumes are typically approximated as being 94% of the total daily volume.

Table 15: Road Traffic Volume Estimates for the Surrounding Road Network

ROAD	AADT		% COMMERCIAL	POSTED SPEED (KM/H)
ROAD	EXISTING	ULTIMATE	VEHICLES	POSTED SPEED (RM/H)
Grand Boulevard	9150	10797	7.8	60
Collier Pass ¹	9150	10797	7.8	50

¹ No adequate traffic data for Collier Pass was obtained. Conservatively, traffic volumes from Grand Boulevard were adopted for Collier Pass.

5.1.3 Traffic Noise Model Validation

The model was calibrated to the unattended measurement results conducted at the location shown in Figure 2. To validate the noise model, the existing road traffic volumes in Table 15 were used to predict road traffic noise at the noise monitoring location with the results compared in Table 16.

Table 16: Results of Traffic Noise Model Calibration

LOCATION	PREDICTED NOISE (LA _{10,18H})	MEASURED NOISE (LA _{10,18H})	DIFFERENCE (dB)
Unattended Noise Monitoring	55.7	56	-0.3
Location – Refer Figure 2			

The difference between the predicted and measured noise level at the noise monitoring location is within a $\pm 2dB$ tolerance, and as such, the noise model is considered to be valid for noise predictions. The ± 0.3 correction has been applied to the predicted results.

5.2 Child Care Centre and Café Noise

The ground level is expected to accommodate a café and childcare centre as shown in the architectural drawings. We expect the hours of operation to be limited to 6am to 10pm and 6am to 7pm for the café and childcare centre, respectively. To demonstrate that these tenancies can operate without adverse noise impacts, the following source definitions were used.

Project Name: Lakeside Joondalup Office Development

Noise Assessment for Development Application

Project Location: Joondalup



Figure 4: Illustration of Noise Sources

5.2.1 Child Care Centre Noise Source Definition

Childcare centre noise emission assessment was conducted with reference to AAAC Guideline for Child Care Centre Acoustic Assessment V3. The AAAC Guideline for Child Care Centre Acoustic Assessment V3 provides sound power level definitions for children playing in outdoor areas.

Effective sound power levels (L_{Aeq,15min}) for groups of 10 children playing are provided in Table 17.

Table 17: Table 1 of the AAAC Guideline for Child Care Centre Acoustic Assessment V3

NUMBER AND AGE OF CHILDREN	SOUND POWER LEVELS [db] AT OCTAVE BAND CENTRE FREQUENCIES [Hz]								
	dB(A)	63	125	250	500	1k	2k	4k	8k
10 Children – 0 to 2 years	78	54	60	66	72	74	71	67	64
10 Children – 2 to 3 years	85	61	67	73	79	81	78	74	70
10 Children – 3 to 5 years	87	64	70	75	81	83	80	76	72

The AAAC Guideline outlines a formula to calculate the effective sound power level for a specific number of children based on values in Table 17:

Effective Sound Power Level for 'n' children = Effective Sound Power Level for 10 Children + 10 log (n/10).



The following considerations were made for the assessment:

- To be conservative, the sound power spectrum for 10 children aged three to five years old was used;
- Floth understands the preliminary childcare centre capacity is 64 child placements, with the operation time to be between 6am and 7pm during weekdays.
- It is assumed that all children can be playing in the outdoor play area at any given time;
- To simulate an LA10 sound power level to address the EPNR criteria, a conservative 5 dB was added to the LAeq,15min descriptor.

Based on the above considerations, the sound source definition in Table 18 was developed:

Table 18: Sound Source Definition - Childcare Outdoor Play Area

SOURCE	SOURCE TYPE	EFFECTIVE SOUND POWER LEVEL SPECTRUM [dB]								
		63	125	250	500	1K	2K	4K	8K	dB(A)
64 children – 3 to 5 years (worst-case)	Area	77	83	88	94	96	93	89	85	100

Café Noise Source Definition

The café was represented by an area source with sound power level of LA10 75dB(A) to simulate a café bistro with music as per the SoundPLAN v8.2 Source Library. The noise source definition for amplified music has also been penalised by the maximum +15 dB correction to account for any impulsiveness as per Table 2 of the ENPR. In summary, a conservative 90 dB(A) L_{A10} has been used for the assessment.

NOISE INTRUSION ASSESSMENT

Road Traffic Noise Assessment

The external noise on the proposed childcare premise and childcare outdoor area has been modelled and predicted using SoundPLAN as described in Section 5. Table 19 shows the predicted noise on each orientation at the boundaries of the childcare centre outdoor play area. Table 20 provides the predicted and façade corrected noise level on each orientation of the childcare centre façade.

Table 19: Predicted Ultimate Road Traffic Outdoor Noise Levels (Free-field noise level)

LEVEL	SPACE	PREDICTED NOISE L	SPP 5.4 CRITER	RIA, L _{Aeq(day,}		
		NORTH	SOUTH	WEST	OUTDOOR	INDOOR
Ground	Boundary of Childcare Outdoor Area	53 -complies	55 - complies	55 – complies	60	45

Table 20: Predicted Ultimate Road Traffic Childcare Centre Façade Noise Levels

LEVEL	SPACE	PREDICTED NOISE LEV FAÇADE (Leq,DAY dB(A))	SPP 5.4 CRITER to 10pm)	IA, L _{Aeq(day, 6am}		
		NORTH	SOUTH	WEST	OUTDOOR	INDOOR
Ground	Childcare Centre Façade	48 - complies	65 – Note 1	58 - complies	60	45

Note 1: The indoor noise criteria can be achieved through building envelope acoustic requirements outlined in Section 6.3. This will require the windows and doors to be closed on the southern façade to achieve acceptable internal noise levels.

As can be seen from Table 19, the predicted noise levels comply with SPP5.4 Outdoor Criteria (60 dB(A) LAeq(Day)) with the inclusion of a continuous, solid and gap-free noise barrier as per the markup provided in Appendix C. Based on the results presented in Table 20, preliminary building envelope acoustic performance requirements are presented in Section 6.3.

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Project Name: Lakeside Joondalup Office Development

6.2 Joondalup Shopping Centre Multi-Storey Carpark

There is potential carpark activity noise arising from the Lakeside Joondalup shopping centre carpark located just north of the subject site (see Figure 5).



Figure 5: Shopping Centre Carpark in Relation to Subject Site

The use of a carpark has the potential to result in intermittent, high noise events such as car door slams and engine starts. The maximum sound power level from a car door can reach 98 dB(A) LAmax and is considered as the worst-case noise event for the carpark. Although from our experience with car park noise assessment, it is noted that typically most car door closures have noise levels significantly lower (up to 20 dB(A)) than 98 dB(A).

The 98 dB(A) L_{Amax} sound power level was modelled using a point source (representative of the worst-case intermittent L_{Amax} noise event from a car door slam) distributed along the nearest carpark edge (denoted by the star symbol in Figure 5) to the subject site. If this scenario is found to satisfy the noise criteria, all other levels of the subject development are expected to comply due to further distance attenuation.

The assessment of the carpark activity scenario produced the following results provided in Table 21.

Table 21: Results of Carpark Noise Impacts onto Subject Childcare Centre

CARPARK ACTIVITY	SOUND POWER LEVEL, L _{Amax} dB(A)	DISTANCE TO SUBJECT DEVELOPMENT	DISTANCE ATTENUATION dB	RESULTANT NOISE LEVEL, L _{Amax} dB(A)	NOISE CRITE dB(A) AT FAÇADE (EPNR) ¹	INDOOR (AS 2021) ²
Car Door Slam	98	50 metres	-42	56	58 dB(A) L _{Amax}	50 dB(A) L _{Asmax}

¹The noise criteria at the façade was referenced from the EPNR night-time criteria (2200 hours on any day to 0700 hours Monday to Saturday) as it is expected that the childcare centre could operate from 6am in the morning.

From the above, it can be concluded that the worst-case event (car door slam) from the Lakeside Joondalup Carpark complies with the outlined applicable noise criteria at the façade. The applicable indoor noise criteria can be achieved through the recommendations outlined in Section 6.3.

6.3 External Facade

The preliminary external façade acoustic requirements for the childcare centre premise are as follows:

- Glazing R_w 30
- External Walls It is assumed that solid façade elements (e.g. external walls) will achieve a minimum Weighted Sound Reduction Index, Rw 45-50 rating.

It is noted that windows and doors are required to be closed in order to achieve the internal noise criteria, outside air intakes and relief air paths must be fully ducted to allow external windows and doors to be closed in order to meet acceptable internal noise levels. The design of the mechanical ventilation should consider orientating the intakes / discharges away from significant road traffic noise sources where possible. All mechanical ventilation systems must comply with AS 1668.2 'The use of mechanical ventilation and air-conditioning in buildings' and building code requirements.

Where mechanical ventilation is required, any penetrations through the slab or wall must not decrease the overall acoustic façade performance and may need to be acoustically treated.

Acoustic performance targets for the commercial office levels will be developed in conjunction with the façade consultant during schematic design, however we expect that standardised, commercial grade IGUs will satisfy the acoustic design criteria.

Page 23

²The indoor noise criteria was referenced from the AAAC Guideline for Child Care Centre Acoustic Assessment.





7. ENVIRONMENTAL NOISE EMISSIONS

7.1 Mechanical Plant and Equipment

The mechanical plant and equipment will be developed further as the design progresses and must achieve compliance with the noise limits in Section 4 of this report. Detailed acoustic calculations shall be performed at each design phase to ensure appropriate noise mitigation measures are incorporated into the design. Preliminary findings indicate that compliance can be achieved using reasonable and feasible mitigation measures such as Stage 1 Acoustic Louvres and internally lined ductwork etc.

7.2 Mechanical Plant - Emergency Power Outage

During an emergency or unscheduled power outage, the standby diesel generators would operate to maintain the critical infrastructure such as emergency lighting, stair pressurisation fans and ventilation. Noise control measures have been introduced to minimise the noise impact on surrounding noise sensitive receivers including enclosing the intended rooftop generators by placing them in class 2 sound enclosures. It is expected that these generators would be tested on a monthly basis during daytime hours and for a duration of up to one-hour. Besides the monthly testing regime, it is expected that these generators would rarely operate. As such, the applied noise controls are considered to be as low as reasonably practicable (ALARP).

7.3 Refuse, Loading and Carpark Facilities

The refuse and carparking facilities are required to satisfy the noise limits shown in Section 4, as these limits are appropriate criteria for short-term noise events (car door slam, industrial bin handling). The refuse and carparking facilities are contained within basement levels and as such noise impacts are not expected to arise. The 'open deck' carpark on the basement 2 level is also not expected to produce significant noise impact to receiver due to shielding effects from existing shopping centre carpark and distance attenuation to the nearest noise sensitive receiver.

7.4 Child Care Centre and Café Noise Emission

The results of the noise emission modelling for childcare outdoor area and café noise emissions are presented in Table 22.

Table 22: Predicted Noise Emissions for Childcare Outdoor Area and Café Noise

Project Name: Lakeside Joondalup Office Development

Noise Assessment for Development Application

Project Location: Joondalup

NSR	PREDICTED NOISE LEVEL (LA10 (dBA))	CRITERIA L ₁₀ dB(A)	COMPLIES?
167 Grand Blvd, Joondalup – Apartment Building	39	43	Yes

PREDICTED NOISE LEVEL **CRITERIA** NSR COMPLIES? (LA10 (dBA)) L₁₀ dB(A) 35 Kendrew Cres, Joondalup - TAFE 30 43 38 Collier Pass, Joondalup - RAC Office 47 60 420 Joondalup Dr., Joondalup - Lakeside Joondalup Shopping 41 60 Centre

It can be seen from Table 22, that for a worst-case noise emission scenario and a conservative 5 dB LA10 adjustment that the childcare outdoor play and café are expected to comply at the nearest noise sensitive and commercial receivers with the inclusion of a solid, gap-free noise barrier as shown in Appendix C.

It is recommended for the café or any retail premises with background noise that noise limiters be installed on any ambience / background music systems to ensure that the noise emissions can be adequately controlled, even though these systems are unlikely to be used during the night period.

7.5 Construction Noise

Construction noise is acceptable provided that it is carried out in accordance with the EPNR as presented in Section 4.5.

8. SUMMARY

Floth has completed a noise impact assessment for the proposed Stage 1 Joondalup Shopping Centre Office Development located on 420 Joondalup Drive, Joondalup.

The noise impacts that have been considered as part of this assessment are noise intrusion from external sources documented in Section 6 and noise emissions from typical childcare centre and commercial building operations provided in Section 7.

The noise intrusion assessment for the childcare centre showed that the existing ambient noise environment is characterised by the typical city centre 'hum' with dominant noise sources including road traffic, rail and public transport noise as well as carpark and mechanical noise associated with the adjacent shopping centre precinct. Preliminary childcare centre envelope performance requirements to achieve the indoor noise criteria specified in SPP 5.4 have been provided in Section 6.3 of this report.

The mechanical plant and equipment will be developed further as the design progresses and must achieve compliance with the noise limits in Section 4. Detailed acoustic calculations shall be performed at each design phase to ensure appropriate noise mitigation measures are incorporated into the design. Preliminary findings indicate that compliance can be achieved using reasonable and feasible mitigation measures such as single stage louvres, lined plenums and attenuators etc.

An assessment of childcare outdoor play indicated that compliance with the critical noise criteria is achieved for a worst-case scenario (Section 7.4) with a solid, gap-free noise barrier around the perimeter as shown in Appendix C. An assessment of potential café alfresco dining indicated that shielding effects of the building envelope and significant distance separation contribute to achieving compliance with noise criteria. Nevertheless for café / alfresco dining and entertainment, it is recommended that any ambience / background music systems be fitted with noise limiters to control noise emission. It is noted that the Liquor Licencing Authority may prescribe more stringent noise emission limits for any licenced premises in accordance with the Liquor Control Act 1988.

The refuse and carparking facilities are contained within basement levels and as such noise impacts are not expected to arise. The 'open deck' carpark on Basement Level 2 is also not expected to produce significant noise impact to the nearest sensitive receivers due to shielding effects from existing shopping centre carpark and significant distance attenuation.

In summary, the assessment has shown that the noise impacts on and from the proposed development can be managed and that adverse noise impacts on surrounding NSRs and commercial premises are not expected to arise.

Appendix A- Referenced Documentation

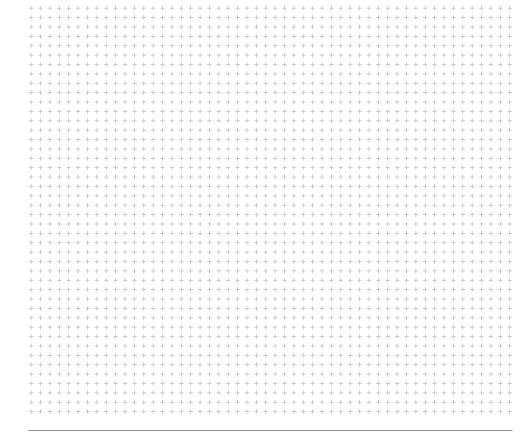
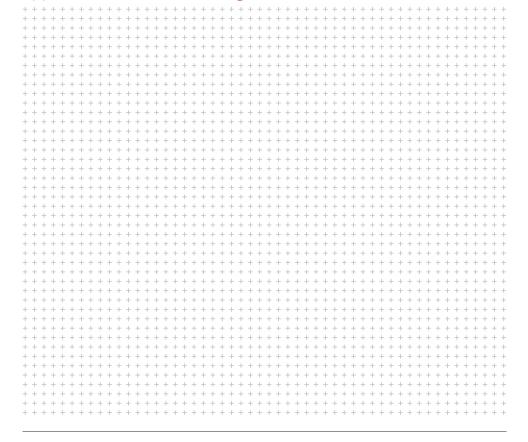
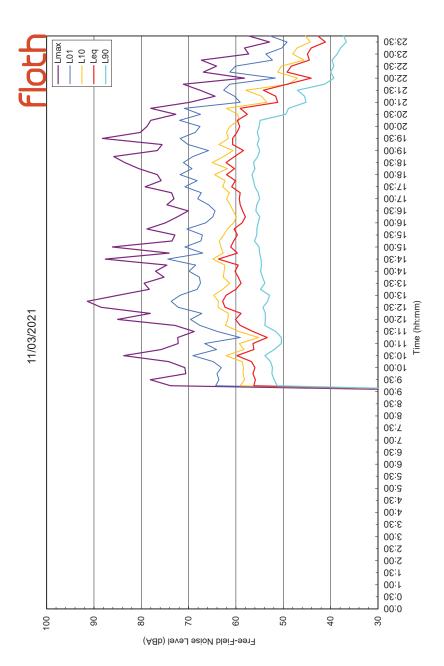


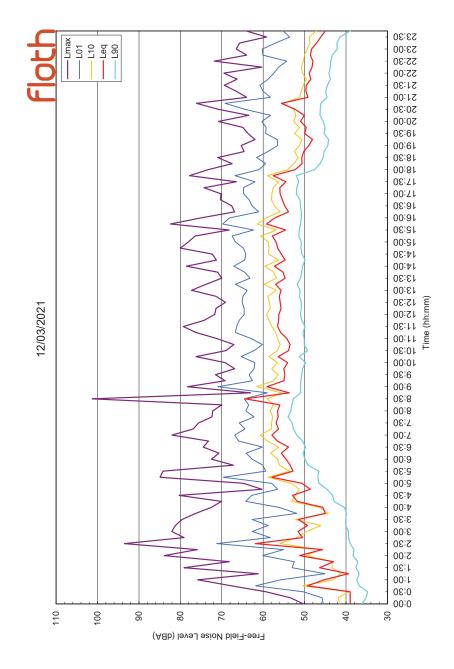
Table 23: Architectural Documentation

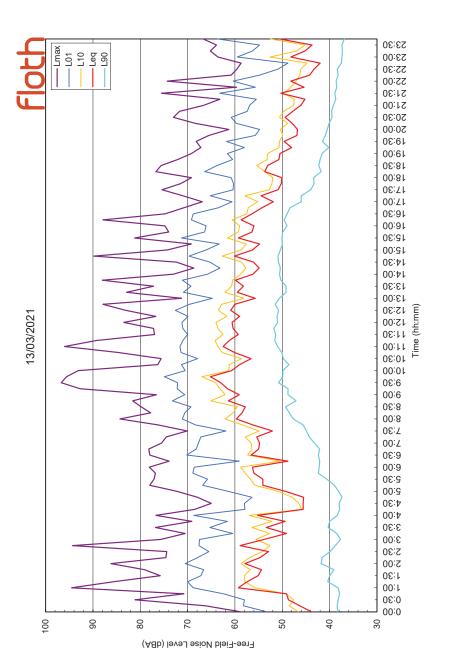
DOCUMENT NUMBER	тіт	LE	REVISION NUMBER
DA-008	Site Survey		В
DA-010	Basement Plan 2		Е
DA-011	Basement Plan 1		Е
DA-012	Ground Floor		D
DA-013	Level 1 & 2		D
DA-014	Level 3 & 4		E
DA-015	Level 5 & 6		D
DA-016	Roof Plan		D
DA-019	Elevations 01		D
DA-020	Elevations 02		D
DA-021	Sections		С

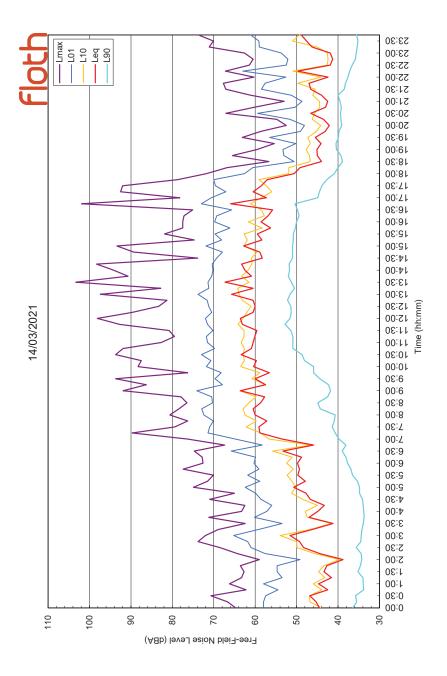
Appendix B - Noise Monitoring Data

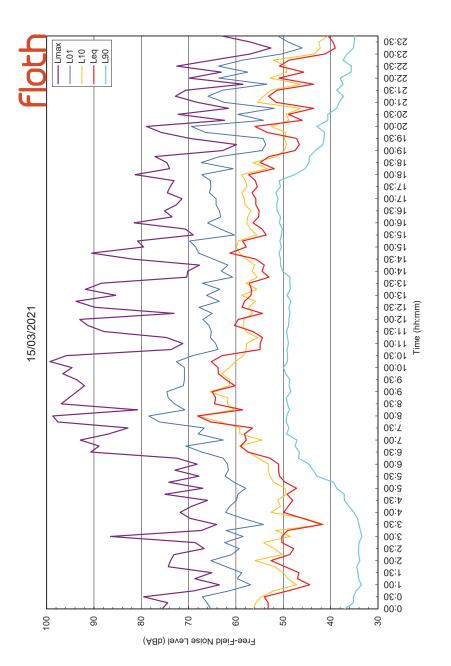


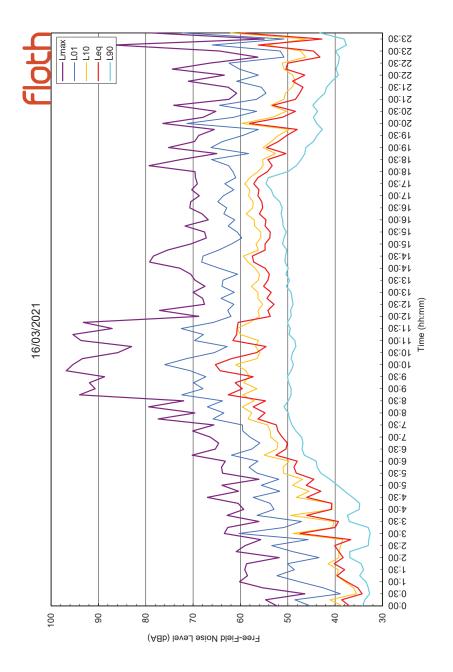


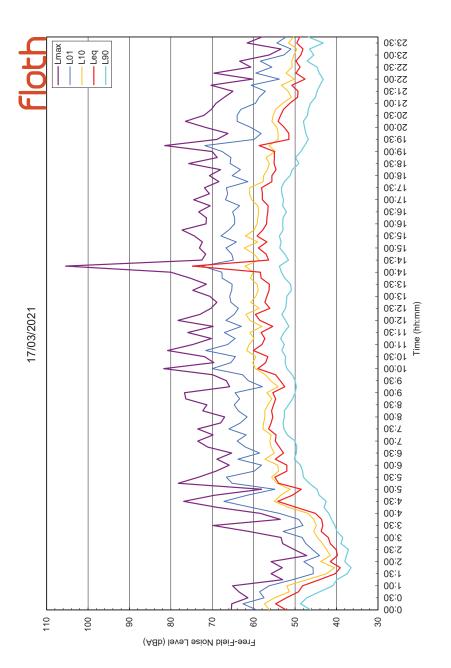


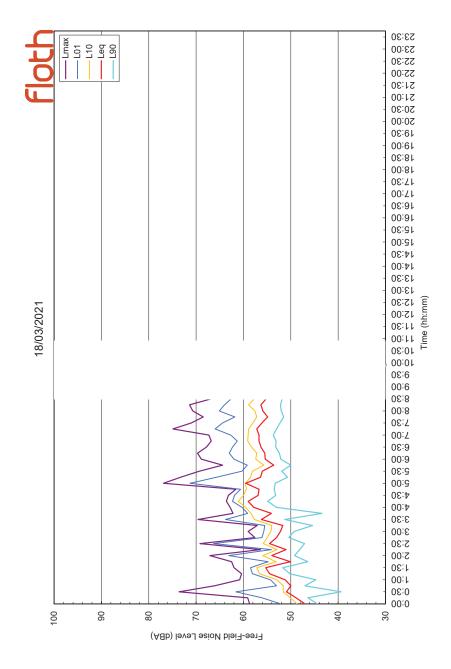




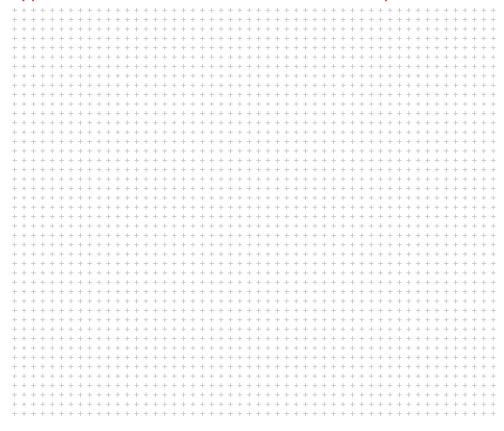


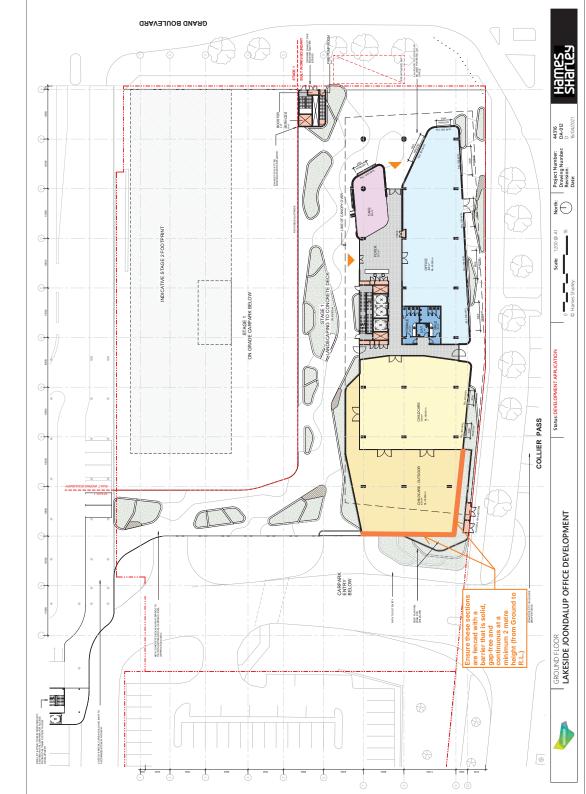




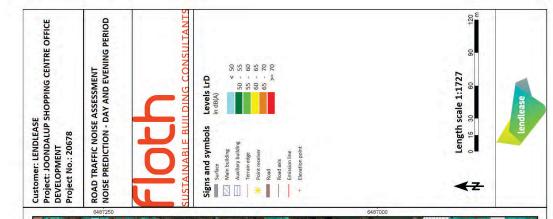


Appendix C – Child Care Centre Noise Barrier Markup





Appendix D - Noise Contours







6487250

Customer: LENDLEASE Project: JOONDALUP SHOPPING CENTRE OFFICE DEVELOPMENT Project No.: 20678 < 50 50 - 55 55 - 60 60 - 65 65 - 70 × 70 ROAD TRAFFIC NOISE ASSESSMENT NOISE PREDICTION - NIGHT PERIOD Length scale 1:1727 0 15 30 60 Levels LrN in dB(A) Signs and symbols

Surface

Main building

Auxiliary building

Customer: LENDLEASE Project: JOONDALUP SHOPPING CENTRE OFFICE DEVELOPMENT Project No.: 20678

CHILDCARE OUTDOOR PLAY AND CAFE ALFRESCO NOISE EMISSIONS NOISE PREDICTION - ALL PERIODS











Length scale 1:1727





Joonalup SC Office Development Lendlease

Operational Waste Management Plan

Prepared by Foresight Environmental

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This report is based on information provided by **Lendlease** coupled with Foresight Environmental's knowledge of waste generated within the education and commercial sectors. To that extent this report relies on the accuracy of the information provided to the consultant. It has been compiled by Foresight Environmental on behalf of Lendlease.

This report is not a substitute for legal advice on the relevant environmental related legislation, which applies to businesses, contractors or other bodies. Accordingly, Foresight Environmental will not be liable for any loss or damage that may arise out of this project, other than loss or damage caused as a direct result of Foresight Environmental negligence.

Document Information						
Client	Lendlease					
Prepared by	Foresight Environmental					
Document name	Joondalup SC Operational Waste M	lanagement Plan				
Author	Matt Bielby					
Reviewed	Scott Ebsary					
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2	6 May 2021 Final report incorporating updated plans and Lendlease feedback					
3	4 August 2021	Updated with minor amendments as per feedback				

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1. Introduction

This waste management plan has been prepared by Foresight Environmental on behalf of Lendlease in accordance with best practice waste and recycling practices. The plan details how the commercial, retail and childcare components of the proposed Joondalup SC office development located on Collier Pass and Grand Boulevard, Lakeside Joondalup will manage the waste and recycling generated during the ongoing operational stage of the development. The provisions of this report are in accordance with City of Joondalup guidelines and industry best practice as per Better Buildings Partnership Operational Waste Guidelines and Green Building Council of Australia waste management guidelines.

2. Overview of Development

The proposed Stage 1 development is for a commercial office building with a childcare facility and café on ground floor. The area breakdown of the different components is provided in table 1.

Table 1 - Development Area Breakdown

Site Description	sqm
Office Area	10,160m²
Childcare Centre	436m² internal + 437m2 outdoor space
Café	86m²
Total Building Area	11,119m²

3. Waste Generation Estimate

Based on the information provided, the Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities¹, Department of Environment Studies on Commercial & Industrial Waste and Recycling in Australia² and Foresight Environmental's benchmark data from similar developments³, the primary waste streams expected to be generated in the ongoing operation of the Stage 1 development would be:

- General waste
- Cardboard / Cardboard
- Food waste
- Mixed recycling (plastics, glass, aluminium, steel)

Table 2: Waste generation estimate - Office + retail

Stream	kg/day	L/day	kg/wk	L/wk
General Waste	52	521	262	2,607
Co-mingle	26	429	129	2,146
Cardboard	54	1536	269	7,678
Paper	284	3152	1,418	15,760
Food Waste	78	277	388	1,386
Total	493	5,915	2,466	29,576

¹ https://www.epa.nsw.gov.au/resources/managewaste/120960-comm-ind.pdf

² http://www.environment.gov.au/protection/national-waste-policy/publications/commercial-industrial-waste-recycling-australia

³ Foresight Environmental currently reports the ongoing operational waste data for over 7million m² of Australian commercial/retail/industrial/mixed use property – including Lendlease retail and commercial portfolios and other similar A and B grade property portfolios. This extensive database provides the most current and detailed information on real-world waste generation performance and trends available and enables very accurate modelling for prospective property developments.

Table 3 - Waste generation estimate - Childcare Centre

Stream	kg/day	L/day	kg/wk	L/wk
Paper/Cardboard	4	53	18	267
Mixed Recycling	1	15	5	76
General Waste	13	84	64	419
Grand Total	17	152	86	762

4. Waste Management Systems

4.1 Waste Systems

Table 4 below demonstrates the recommended systems to adequately manage the waste estimates detailed above for office waste and recycling, while table 5 shows the systems to manage the childcare waste and recycling. All bins will be housed within the main waste storage area on Basement level 2.

Table 4: Recommended waste systems

Stream	Bin Type	No. of Bins	Weekly Clearance Frequency	Weekly Capacity (L)	Estimated volume / week (L)	Footprint per bin (m²)	Total Footprint (m²)
Cardboard	MGB - 1100L	3	3	9,900	7,678	1.69	5.06
Paper*	MGB - 240L	22	3	15,840	15,760	0.43	9.38
Mixed Recycling	MGB - 1100L	1	2	2,200	2,146	1.69	1.69
Food Waste	MGB - 120L	4	3	1,440	1,386	0.27	1.09
General Waste	MGB - 1100L	1	3	3,300	2,607	1.69	1.69
Total bin footprint							18.89
Recommended Room Size - including circulation space							25.0
	Current room size						

^{*}Paper MGB's may be stored on levels and only collected when required to save space in the waste storage area

Table 5: Recommended additional systems for childcare

Stream	Bin Type	No. of Bins	Weekly Clearance Frequency	Weekly Capacity (L)	Estimated volume / week (L)	Footprint per bin (m²)	Total Footprint (m²)
Paper/Cardboard	MGB - 240L	1	3	720	267	0.43	0.43
Mixed Recycling	MGB - 240L	1	1	240	76	0.43	0.43
General Waste	MGB - 240L	1	3	720	419	0.43	0.43
Total bin footprint						1.28	

4.2 Other waste/recycling

- The following waste stream will be collected on call as needed:
- Battery Recycling Battery recycling boxes will be present where deemed necessary e.g. copy rooms, office/study common areas. These boxes will be collected when full by a dedicated contractor.
- Toner Cartridge Recycling Used toners will be collected by administration staff and consolidated for collection by specialty cartridge recycler (usually provided by office supplier).

5. Waste and Recycling Storage Area

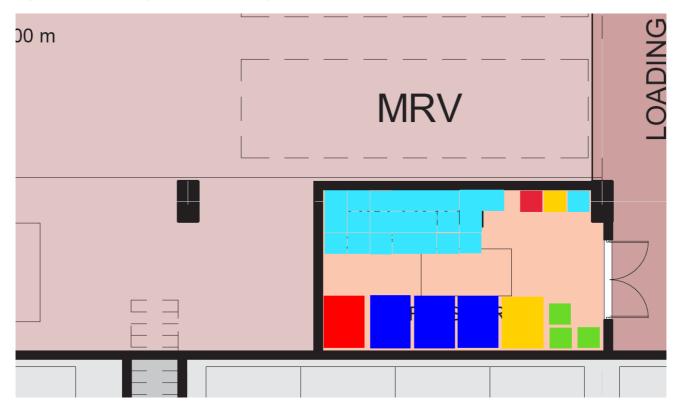
The waste storage area for the development is located on Basement level 2 of the development and provides ample capacity for the required number of bins for the Stage 1 development. Figure 1 below shows the location of the waste storage area on the basement level of the development.

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Figure 1: Waste storage area location on Basement level 2

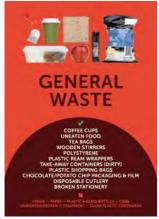
Figure 2 shows an indicative layout of bins within the bin storage area based on the projected bins required in table 4 and 5. Note that the 240L paper bins will be used on the tenant floors and will only be brought to the waste room when they are full - it is unlikely that they will all be presented in the waste room at any one time, leaving additional circulation space within the waste room.

Figure 2: Waste storage area indicative layout



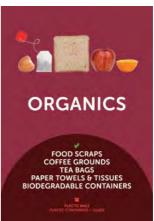
5.1 Signage and Colour-coding

All waste and recycling streams should be differentiated with clear signage and colour-coding on all bins and on walls within the waste storage area. Below are examples of appropriate signage incorporating textual information, pictures and colour-coding to communicate the message.









5.2 Amenity

The main waste and recycling storage room will have the following features:

- Ventilation: The bin storage rooms will be naturally ventilated by external air flow
- Vermin and Odour Prevention:
 - o Opening will be vermin proof
 - o Cleaners are to ensure that bin lids are closed when unattended
- Floor: Structural concrete slab with smooth epoxy topping finish with coved wall and floor junctions. Graded drains to approved sewer connections fitted with an in-floor dry basket arrestor approved by Sydney Water Corporation
- Water Supply: cold tap and hose connection
- Signage: clear signage identifying the various streams and appropriate use will be prominently displayed (see section on signage below)

The ongoing maintenance and up-keep of the waste storage room will be the responsibility of cleaning/building management staff. They will be tasked with ensuring bins are stored neatly and are cleaned as required.

6. Onsite Management Protocols

6.1 Office

The following table defines the protocols in place to manage materials generated from the office.

Table 6 - Management Protocol for waste streams and equipment on site for office area

Waste Stream	Management Protocol	Additional Notes
General Waste	Staff will dispose of all General Waste into their Bin Hub systems within the office. Cleaners will collect this material and dispose it into the General Waste bin within the Waste Storage Area.	It is the responsibility to of the property manager to train staff on how to identify and manage hazardous waste that is not accepted within this stream.
Cardboard	Staff will flatten all bulky Cardboard material to be stored in a designated area within the office. Cleaners will collect this material and dispose it into the Cardboard bin within the Waste Storage Area.	Staff will flatten cardboard material prior to disposal to maximise the efficiency of this system.
Paper	Staff will dispose of all Paper into their Bin Hub systems within the office. Cleaners will collect this material and decant it into the cardboard bin within the Waste Storage Area.	This site may opt to use Secure Paper Bins. If this is the case the showroom staff will manage this stream and the contractor will collect and dispose of the material directly from the office area.
Mixed Recycling	Staff will dispose of all Mixed Recycling into their Bin Hub systems within the office. Cleaners will collect this material and decant it into the Mixed Recycling bin within the Waste Storage Area.	

6.1.1. Bin Hub System

It is highly recommended that a "bin-hub" approach to waste management be implemented throughout warehouse, office and common areas. This system entails providing bin hubs at central locations and regular intervals throughout warehouse areas, open plan office areas and common areas. The bin hubs should consist of general waste and mixed recycling streams. This system has the following benefits:

- Better separation of recyclables as staff are required to make a conscious decision as to which bin they place their items
- Fewer bins for cleaners to service results in a significant reduction in cleaner time spent on emptying and re-lining bins
- Significant reduction in bin liners required resulting in ongoing cost savings and reduced general waste

Bin hubs can be housed within cabinetry or can stand alone in appropriate locations - operator preference. Typically, bins are approximately 70L in volume which provides sufficient capacity and ease of handling for cleaners. Figures 3 - 5 provide examples of bin hub configurations.

Figure 3: Example of small waste/recycling "multisort" bins for bin hubs

Figure 4: Example of "multisort" bins integrated into cabinetry

Figure 5: Example of "multisort" bins integrated into cabinetry







Staff will be responsible for depositing their waste and recyclables into the appropriate bin throughout their daily operations. Cleaning staff will then be responsible for emptying waste and recyclables from the bin hubs into a segregated cleaners trolley to maintain the separation of the streams before finally emptying the waste and recycling into the larger bins in the waste storage room on ground floor.

6.1.2. Additional Material Streams

The following protocols are in place to manage additional streams.

Table 7 - Management Protocol for additional streams from commercial

Waste Stream	Management Protocol
Paper hand towel recycling	In an effort to reduce waste generation volumes, a paper hand towel free system in bathrooms should be considered. Replacing hand towel with a system such as the 'Airblade' produced by Dyson4 or the "Jet Towel" produced by Mitsubishi Electric ⁵ may prove to be a more environmentally (and economically) efficient than a paper hand towel system.
	If a paper hand towel system is chosen, then it should be confirmed with the appointed waste contractor whether soiled hand towel waste is accepted in the paper or cardboard recycling streams - if not this material will be collected by cleaners and deposited into the general waste 3M FEL's in the waste storage room.
To minimise generating toner cartridge waste all printers should be set to side printing as a default. Showroom staffs should also install printers at photocopiers that have refillable toner cartridges, which are refilled as passupply agreement. Where cartridges are generated recycling systems should also install printers at photocopiers that have refillable toner cartridges, which are refilled as passupply agreement. Where cartridges are generated recycling systems should be set to side of the printers should be set to side of the printers should be set to side of the printers and photocopiers that have refillable toner cartridges, which are refilled as passupply agreement. Where cartridges are generated recycling systems should also install printers at photocopiers that have refillable toner cartridges, which are refilled as passupply agreement. Where cartridges are generated recycling systems should also install printers at photocopiers that have refillable toner cartridges, which are refilled as passupply agreement. Where cartridges are generated recycling systems should also install printers at photocopiers that have refillable toner cartridges.	
E-Waste	An E-waste collection service should be set up either quarterly or biannually depending on volumes generated. Staff will be required to leave their E-waste in a designated area during an E-waste collection period. Cleaners will then transfer the material to the waste storage room where it will be collected directly by a specialist contractor upon request.
	Measures should be taken to avoid generating E-waste and take-back programs with the supplier or reuse programs with charities or schools are encouraged.

⁴ Information gathered from http://www.dysonairblade.com.au/
5Information gathered from http://www.mitsubishielectric.com/bu/handdryer/products/index.html

6.2 Childcare

The following details how the childcare centre will manage the daily generation of waste and recycling.

Table 8 - Management Protocol for childcare waste streams

Waste Stream	Management Protocol	Additional Notes
General Waste	Staff will dispose of all General Waste into their bin systems within the childcare centre. Cleaners/ staff will transport this material to the waste storage area in the basement.	It is the responsibility to of the property manager to train staff on how to identify and manage hazardous waste that is not accepted within this stream.
Cardboard/ Paper	Staff will flatten all bulky Cardboard material to be stored in a designated area within childcare centre. Staff will dispose of paper material into their bin within the childcare centre. Cleaners/ staff will transport this material to the waste storage area in the basement.	Staff will flatten cardboard material prior to disposal to maximise the efficiency of this system.
Mixed Recycling	Staff will dispose of all Mixed Recycling into their bin system within the Childcare centre. Cleaners/ staff will transport this material to the waste storage area in the basement.	

7. Collection

All waste and recycling streams detailed in this plan will be collected from the waste storage area by a medium-rigid rear lift waste truck. Figure 6 shows the indicative path for waste trucks entering the site, reversing to the collection area, then exiting in a forward-facing direction. The privately appointed waste contractor will retrieve the appropriate bins directly from the waste room, transfer them to the collection zone via the ramp and will conduct the collection from the MRV loading bay. The waste contractor will then return the empty bins to the waste room following collection. Please refer to the Traffic Impact Assessment for detailed swept paths and confirmation of access/clearance etc.

7.1 Truck swept path

Vehicle Entry / Exit SMSB 21 m² 6200 ELEC. CORRIDOR SWITCHROOM 42m² SWITCHROOM 42m⁵ RL).500 m OADING DOCK MRV DIESEL FUEL STORAGE BOH LOADING 40.500 m REVERSE BAY ZONE Collection GREASE TRAPS POTABLE WATER BIN ROOM == GREASE TRAF

Figure 6 - Truck movement and collection area

7.2 Waste Collection Vehicle

Tables 4 and 5 detail the suggested collection frequency for all waste and recycling streams as well as the total footprint of the recommended equipment for each area. A private waste contractor will be able to access the site from the truck entry/exit point in the North western corner of the development and service the waste storage area directly. Entry and exit to the site provides uninhibited, forwards access for waste trucks. It is noted that there are no height restrictions over the waste collection area. Figure 7 shows the indicative specifications of a MRV rear lift truck that will be used to service the waste and recycling on site.

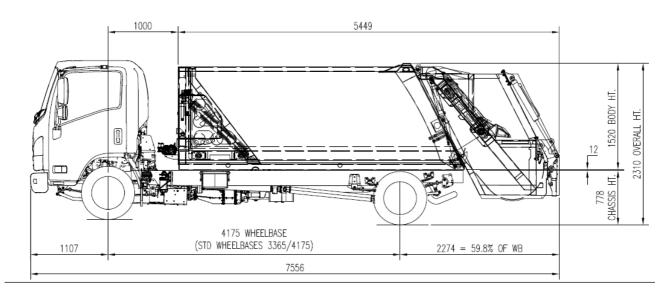


Figure 7: Medium rear-lift commercial waste truck specifications

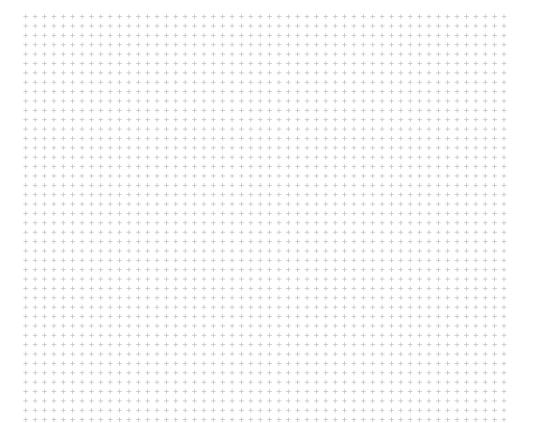
8. Conclusion

The details of this waste management plan confirm that the waste facilities provided in the proposed design adequately cater for the projected waste generation rates at the completion of the development.

Lakeside Joondalup Office Development

Joondalup

Sustainability Statement for Development Application



CLIENT

Lend Lease



ARCHITECT

Hames Sharley





Amendment Register

Rev. No	Section & Page No.	Issue/Amendment	Author	Project Engineer	Checked	Date
P1	-	Issued for Review	AM	AF	WL	29/03/2021
P2	-	Revised issue for Review	AM	AF	WL	01/04/2021
A	-	DA Issue	AM	AF	WL	15/04/2021

EXECUTIVE SUMMARY

Lendlease proposes to develop a new commercial office building at 420 Joondalup Drive, Joondalup 6027. Floth Pty Ltd (Floth) has been commissioned by Lendlease to provide Sustainability Engineering Services for the development.

This report summarises the environmental sustainability strategy for the proposed development as part as part of the Development Application to the local authority, City of Joondalup. The Sustainability Statement has been prepared to exceed the requirements of the City of Joondalup Environmentally Sustainable Design Checklist.

This document is organised around a key project environmental target using the Green Star environmental rating system:

5 Star Green Star - Design and As-Built v1.3 certified rating, representing "Australian Excellence'.

This report has been prepared by a Green Star Accredited Professional and references a Design Review pre-assessment undertaken to demonstrate that a minimum 5 star Green Star - Design and As-Built rating can and will be achieved. We understand that the project does not need to be formally registered with the GBCA at time of Development Approval submission.

This document is structured as follows:

- Development description and project synopsis;
- A discussion of the Green Star rating scheme;
- A list of the initiatives targeted by the design to achieve the project's environmental goals. These initiatives have been developed in collaboration with the design team and have been incorporated throughout the design being conducted to date.

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1. INTRODUCTION

Lendlease proposes to develop a new commercial office building at 420 Joondalup Drive, Joondalup 6027. Floth Pty Ltd (Floth) has been commissioned by Lendlease to provide Sustainability Engineering Services for the development.

This Sustainability Statement has been prepared for the proposed Joondalup SC Office Development commercial tower project to exceed the requirements of the City of Joondalup Environmentally Sustainable Design Checklist, and summarises the sustainability targets and strategies used to minimise the development's environmental impact throughout design and construction.

1.1 Development Description

Location: The project site is at the proposed 420 Joondalup Drive, Joondalup.

The subject site and surrounding area are presented in Figure 1 and for an aerial view of site. The PlanWA interactive map by the WA Department of Planning, Lands and Heritage indicates that the site is located within a *Central city area* zone, with property details as presented in Table 1.

Table 1: Property Details of the Subject Site

PROPERTY DETAILS	DESCRIPTION
Property Address	420 Joondalup Drive, Joondalup
Lot Number	708
R Code	Joondalup Activity Centre Plan
Planning Scheme	Metropolitan Region Scheme (MRS)
LG Zoning	Centre
Structure Plan No	Joondalup Activity Centre Plan
MRS Zoning	Central city area
Local Planning Scheme	City of Joondalup Scheme No.3

Project Name: Lakeside Joondalup Office Development

Sustainability Statement for Development Application

Project Location: Joondalup

1.2 Project Synopsis

Lendlease proposes to develop a multi-storey commercial building that includes a Ground Floor café and childcare facility. For details of the proposed design, refer to the architectural drawings prepared by Hames Sharley.

The subject site and surrounding area is presented in Figure 1 below.



Figure 1: Aerial View of Site (Ref. Nearmap)

A primary aim of the development is to create a commercial office tower with leading yet practical sustainable design and construction for the temperate climate. The project will be developed in line with firmly established leading practice ESD design. The Joondalup SC Office Development development will target minimum 5 Star Green Star Design and As-Built v1.3 certification.

Project Name: Lakeside Joondalup Office Development

Sustainability Statement for Development Application

Project Location: Joondalup

This sustainability performance is achieved by the holistic integration of ESD elements throughout the building and site design. Wherever possible the ESD elements have been integrated into the building function to achieve the desired level of sustainable performance.

1.3 Green Star - Design and As-Built Sustainable Building Rating Scheme

Green Star is a comprehensive, national, voluntary environmental rating system administered by the Green Building Council of Australia¹ that evaluates the environmental design and construction of buildings. With more than 26 million square metres of Green Star-certified space around Australia, Green Star has transformed Australia's property and construction market.

Green Star covers the following nine categories to assess the environmental impact that is a direct consequence of project site selection, design, construction and maintenance:

- Management;
- Indoor Environment Quality;
- · Energy;
- Transport;
- Water;
- Materials:
- Land Use and Ecology;
- · Emissions; and
- Innovation.

Green Star certification is subject to meeting four (4) eligibility criteria: Spatial Differentiation, Space Use, Conditional Requirements, and Timing of Certification. If one or more of the eligibility criteria are not achieved, the project cannot be certified.

¹ http://www.gbca.org.au

Each category is divided into credits, each of which addresses an initiative that improves or has the potential to improve environmental performance. Points are awarded in each credit for actions that demonstrate that the project has met the overall objectives of Green Star.

The following Green Star certified ratings are available:

- 4 Star Green Star Certified Rating, signifies 'Best Practice' in environmentally sustainable design and construction;
- 5 Star Green Star Certified Rating, signifies 'Australian Excellence' in environmentally sustainable design and construction:
- 6 Star Green Star Certified Rating, signifies 'World Leadership' in environmentally sustainable design and construction

This report has been prepared by a Green Star Accredited Professional and references a Design Review pre-assessment undertaken to demonstrate that a minimum 5 star Green Star - Design and As-Built rating can and will be achieved.

Green Star certification is awarded by the Green Building Council of Australia on the basis of Green Star Assessments undertaken by an Independent third-party Assessor. The Green Star Design Review rating is assessed by the Green Building Council of Australia independent assessor on the basis of the Tender or For Construction documentation. The Green Star-Design and As-Built certified rating is assessed on the basis of As-Built documentation together with commissioning data. The Green Building Council of Australia would grant a certificate to confirm the rating achieved, which will be effective for the life of the building.

This Sustainability Statement confirms the design is articulated to target the nominated minimum 5 Star Green Star rating, but it acknowledges that, should the GBCA independent third party assessor disagree with the project approach to compliance with a credit requirement, the Sustainability Statement interpretation of the initiative would take precedence in so far as the interpretation was done "in good faith" and the design complies with the interpretation.

SUSTAINABLE DEVELOPMENT INITIATIVES

This section of the report addresses the sustainability components of the development and summarises the sustainability benefits of the new development.

The sustainability requirements of the building have been addressed with respect to:

- The project-specific environmental design initiatives incorporated.
- The Green Star rating tool.

Key passive design and building services initiatives proposed to be incorporated into the development are summarised. The project team has identified these initiatives and design strategies, which are proposed to comply with the environmental rating requirements.

2.1 Sustainability Verification and Ratings

The project will verify compliance via the following approaches:

• Targeting a minimum 5 Star Green Star - Design and As-Built v1.3 certified rating, demonstrating 'Australian Excellence".

Architecture 2.2

The commercial building envelope will incorporate insulated constructions and high-performance glazing systems designed to significantly reduce energy consumption within the building and address thermal discomfort issues. The building facade is required to adequately attenuate external noise intrusion to achieve an internal average sound pressure level that does not exceed 40 dB(A) for office spaces and 45 dB(A) for lobbies.

2.2.1 Passive Design

- High performance vision panel IGU glazing system. A glazed façade system with optimised solar heat gain coefficient (SHGC) and visual light transmittance (VLT) that can control solar ingress while providing excellent daylight penetration.
- · Insulated, high air-tightness building envelope, to minimise thermal losses and leakage to the external environment.

2.2.2 Reduction of Thermal Load

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Issue No: A

Date: 15th April 2021

Various sunshading devices have been explored to ensure that heat load will be reduced on the external façade and control solar penetration as required

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Issue No. A

Date: 15th April 2021

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oth

2.2.3 Ecology

Native planting has been incorporated in landscape design undertaken to date to maintain the ecological value of the site.

2.3 Energy and Water Efficiency Strategies

To complement the passive and low embodied carbon design initiatives incorporated into the built form, the following energy and water efficiency measures will be implemented in the engineering services provided within the development to minimise utilities consumption and therefore greenhouse gas emissions and peak demands.

2.3.1 Mechanical Services

The air conditioning systems will be designed to respond to the environmental performance of the building's façade in order to maximise thermal comfort and reduce energy costs.

The following energy initiatives are intended to be adopted:

- High efficiency electric centrifugal chillers with a high COP and full load efficiency in a parallel configuration;
- Variable speed chilled water pumps controlled so that they always operate at the minimum possible speed to satisfy
 the load.
- Variable speed fans controlled so that they always operate at the minimum possible speed to satisfy the load.
- Low temperature variable-air volume air conditioning system that matches the air supply to the actual load (not the
 peak load).
- Separate air handling units for each façade and the interior zone to eliminate re-heat and maximise economy cycle
 operation.
- Design outside air quantity improvement by 50% beyond NCC requirements and demand control in response to CO2 sensors to adjust outside air rates to occupancy rates while maintaining high indoor air quality.
- High quality return air filtration and an allowance for future carbon filtration.
- · Fresh air dampers shut during early morning warm-up.
- Low bleed rate cooling towers to minimise water consumption.
- Variable speed car park ventilation fans controlled by CO sensors.
- Unoccupied areas isolated to prevent air conditioning to these areas.
- Variable speed fan for the tenants' fresh air system.
- Variable speed pumps for the tenants' condenser water system.

- Major fans to have efficiencies greater than 69%.
- High efficiency motors used throughout.
- Multiple chillers selected to allow the chillers to operate at an efficient band during medium and low cooling load
 periods.
- · Low duct velocities employed to reduce fan energy.
- Mechanical equipment sound levels to open offices and lobbies to not exceed an internal average sound pressure level of 40 dB(A) and 45 dB(A), respectively.

2.3.2 Lighting

The following lighting initiatives are intended to be adopted:

- Energy efficient LED light sources will be used for the office lighting which does not contain any mercury; any
 fluorescents included in the design will be specified as low-mercury.
- Office lights will be installed to provide illumination and glare control better than Australian Standard requirements.
 Power for lighting will be less than 4.5 W/m2.
- Intelligent programmable, digitally addressable lighting control system incorporating movement and ambient light sensors and enabling individual occupant control by commercial office tenants.
- Lighting system will be designed to limit glare.
- Amenities on office floors will be activated by movement sensors in the access corridors.
- Lighting in car parks will be controlled after hours by movement sensors.

2.3.3 Power Factor Correction

Power factor correction plant will be provided as required to reduce the kVA electrical demand of the building on the
external electricity distributor's network.

floth

2.3.4 Hydraulic Services

The energy used for the hydraulic services is low in an office building. Efficient domestic hot water plant will be provided for the End of Trip facilities and for the office floors.

Water efficient fittings and fixtures reduce the pumping otherwise required.

Circulating pumps will be shut off after business hours.

The following features will be incorporated to significantly reduce potable water consumption:

- 5 Star WELS rated urinals.
- · 4 Star WELS rated toilets.
- 5 Star WELS rated tapware.
- · 3 Star WELS rated showers for EOT facilities.
- Rainwater harvesting.
- Fire test water storage/reuse.

2.3.5 Lift Services

The lifts are not large energy consumers. Nevertheless, the following features will be incorporated:

- High efficiency drives with a power factor greater than 0.9.
- Sophisticated control system to optimise the movement of the lifts.
- Re-generative electrical control which reduces energy usage.
- · Switching off lift car lights and ventilation during periods of inactivity.

2.3.6 Building Control Systems

The following control facilities will be incorporated in the design to assist the building managers optimise the operation of the various building services systems and therefore avoid energy and water wastage.

- Building management and control system (BMCS) incorporated to optimise building control.
- Dedicated energy metering and management system (EMS) incorporated to optimise utilities consumption.
- Extensive electrical, thermal energy, gas and water metering connected to the EMS to facilitate management of utilities usage.
- Facilities for offsite monitoring of the building performance via the internet.

2.4 Green Star Strategy

Initiatives are targeted by the development to meet the project environmental minimum 5 Star Green Star 'Australian Excellence' targets, and it is confirmed that a minimum 5 Star Green Star - Design and As-Built rating can and will be achieved. These initiatives have been developed in collaboration with the design team and have been incorporated throughout the design being conducted to date. The project will target minimum 5 Star Green Star certification following a verified strategy to target a minimum of 60 credit points across the rating system's nine environmental impact categories:

- Management;
- Indoor Environment Quality;
- Energy;
- Transport;
- Water;
- Materials:
- Land Use and Ecology;
- · Emissions; and
- · Innovation.

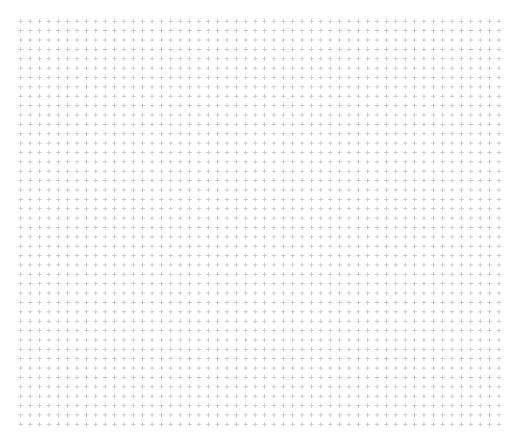
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Environmentally Sustainable Design - Checklist

Under the City's planning policy, *Environmentally Sustainable Design in the City of Joondalup*, the City encourages the integration of environmentally sustainable design principles into the construction of all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

Environmentally sustainable design is an approach that considers each building project from a 'whole-of-life' perspective, from the initial planning to eventual decommissioning. There are five fundamental principles of environmentally sustainable design, including: siting and structure design efficiency; energy efficiency; water efficiency; materials efficiency; and indoor air quality enhancement.

For detailed information on each of the items below, please refer to the *Your Home Technical Manual* at: www.yourhome.gov.au, and *Energy Smart Homes* at: www.clean.energy.wa.gov.au.

This checklist must be submitted with the planning application for all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

The City will seek to prioritise the assessment of your planning application and the associated building application if you can demonstrate that the development has been designed and assessed against a national recognised rating tool.

Please tick the boxes below that are applicable to your development.

Siting and structure design efficiency

Environmentally sustainable design seeks to affect siting and structure design efficiency through site selection, and passive solar design.

Does your development retain:

existing vegetation; and/or

natural landforms and topography

Does your development include:

northerly orientation of daytime living/working areas with large windows, and minimal windows to the east and west

passive shading of glass

sufficient thermal mass in building materials for storing heat

insulation and draught sealing

floor plan zoning based on water and heating needs and the supply of hot water; and/or

advanced glazing solutions

Energy efficiency

Environmentally sustainable design aims to reduce energy use through energy efficiency measures that can include the use of renewable energy and low energy technologies.

Do you intend to incorporate into your development:

renewable energy technologies (e.g. photo-voltaic cells, wind generator system, etc); and/or

low energy technologies (e.g. energy efficient lighting, energy efficient heating and cooling, etc); and/or

natural and/or fan forced ventilation

Water efficiency

Environmentally sustainable design aims to reduce water use through effective water conservation measures and water recycling. This can include stormwater management, water reuse, rainwater tanks, and water efficient technologies.

Does your development include:



water reuse system(s) (e.g. greywater reuse system); and/or



rainwater tank(s)

Do you intend to incorporate into your development:



water efficient technologies (e.g. dual-flush toilets, water efficient showerheads, etc)

Materials efficiency

Environmentally sustainable design aims to use materials efficiently in the construction of a building. Consideration is given to the lifecycle of materials and the processes adopted to extract, process and transport them to the site. Wherever possible, materials should be locally sourced and reused on-site.

Does your development make use of:



recycled materials (e.g. recycled timber, recycled metal, etc)



rapidly renewable materials (e.g. bamboo, cork, linoleum, etc); and/or



recyclable materials (e.g. timber, glass, cork, etc)



natural/living materials such as roof gardens and "green" or planted walls

Indoor air quality enhancement

Environmentally sustainable design aims to enhance the quality of air in buildings, by reducing volatile organic compounds (VOCs) and other air impurities such as microbial contaminants.

Do you intend to incorporate into your development:



low-VOC products (e.g. paints, adhesives, carpet, etc)

'Green' Rating

Has your proposed development been designed and assessed against a nationally recognised "green" rating tool?



Yes



No

If yes, please indicate which tool was used and what rating your building will achieve:

Minimum 5 Star Green Star - Design & As Built v1.3 - please refer to separate Sustainability Statement.

If yes, please attach appropriate documentation to demonstrate this assessment.

design into your development, can you tell us why:
N/A
Is there anything else you wish to tell us about how you will be incorporating the principles of environmentally sustainable design into your development:
Please refer to separate Sustainability Statement for further details.
When you have checked off your checklist, sign below to verify you have included all the information necessary to determine your application.
Thank you for completing this checklist to ensure your application is processed as quickly as possible.
Applicant's Full Name: Element Advisory Pty Ltd (George Ashton) Contact Number: 9289 8300
Applicant's Signature: Date Submitted: 24/5/21
Accepting Officer's Signature:
Checklist Issued: March 2011

If you have not incorporated or do not intend to incorporate any of the principles of environmentally sustainable







Our Ref: D21154 Your Ref: DA21/0546

Byron McKie City of Joondalup byron.mckie@joondalup.wa.gov.au

Dear Mr McKie

RE: VULNERABLE LAND USE / DAP - OFFICE BUILDING, CHILD CARE PREMISES AND CAFE - LOT 708 (420) JOONDALUP DRIVE, JOONDALUP - DEVELOPMENT APPLICATION

I refer to your email dated 3 June 2021 regarding the submission of a Bushfire Management Plan (BMP) (Version 1), prepared by Emerge and dated 19 April 2021, for the above development application.

This advice relates only to *State Planning Policy 3.7: Planning in Bushfire Prone Areas* (SPP 3.7) and the *Guidelines for Planning in Bushfire Prone Areas* (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.

Assessment

1. Policy Measure 6.5 a) (ii) Preparation of a BAL contour map

Issue	Assessment	Action
Vegetation classification	The BMP has classified vegetation located outside of the site, including roadside vegetation, as low threat, based on the existing maintenance regimes, and/or as per the City of Joondalup's fire break notice. Evidence to support the excluded vegetation as managed to low threat in accordance with AS3959 is required. An enforceable mechanism is required to provide certainty that the proposed vegetation exclusions can be achieved in perpetuity. DFES does not accept fire break notices on adjoining land as part of the vegetation management required to achieve an APZ or low-threat classification. Fire break notices may only apply for part of the year and may be varied from year to year by the responsible local government. If unsubstantiated, the vegetation classification should be revised to consider the vegetation as per AS3959, or the resultant BAL ratings may be inaccurate.	Insufficient information. The decision maker to be satisfied with the vegetation exclusions and vegetation management proposed.

2. Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria

Element	Assessment	Action
Location, and Siting & Design	A1.1 & A2.1 – not demonstrated The BAL ratings cannot be validated for the reason(s) outlined in the above table.	Modification of the BMP required.
		Decision maker to be satisfied compliance with Elements 1 and 2 can be achieved.

3. Policy Measure 6.6.1 Vulnerable land uses

Issue	Assessment	Action
Bushfire Emergency Evacuation Plan (BEEP)	The referral has not included a 'Bushfire Emergency Evacuation Plan' for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.2 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP to the satisfaction of the City.	Comment.

DFES Built Environment Branch (BEB)

This development will require referral to DFES's BEB for assessment and compliance with the Fire and Emergency Services Commissioner's Operational Requirements as per Regulation 18B of the Building Regulations 2012 (as amended). DFES will be able to provide further comments on compliance with GL-11 when detailed designs are provided at the Building Permit stage.

Recommendation – supported subject to modifications

The development application and the BMP have adequately identified issues arising from the bushfire risk assessment and considered how compliance with the bushfire protection criteria can be achieved. However, modifications to the BMP are necessary to ensure it accurately identifies the bushfire risk and necessary mitigation measures. As these modifications will not affect the development design, these modifications can be undertaken without further referral to DFES. The required modifications are listed in the table(s) above.

As this planning decision is to be made by a Development Assessment Panel please forward notification of the decision to DFES for our records.

If you require further information, please contact Craig Scott, Senior Land Use Planning Officer on telephone number 9395 9713.

Yours sincerely

Ron de Blank
DIRECTOR LAND USE PLANNING

5 July 2021

	Objections Received – 3 submissions				
Design element	Issues raised	Applicant response			
Pedestrian connection to train station	 In its current form, access to the train station from the City Centre is blocked off by lakeside shopping centre, restricting after hours access to Grand Boulevard and Boas Avenue from the train and bus stations. Wayfinding is poor for people accessing the City Centre from public transport late at night and early in the morning. This should be considered as part of a broader site review and work should be undertaken to improve public access to the train and bus stations from Grand Boulevard and Boas Avenue. Further consideration should be given to the pedestrian interconnection between the train station and the proposed pedestrian plaza to improve pedestrian flow. 	The proposed development will contribute to enhanced pedestrian connections between the train station and the City Centre, through the inclusion of a high amenity pedestrian link connecting the train station to Grand Boulevard to the east. This is achieved by constructing a new lift and stair core that connects the current ground level pedestrian environment adjacent the train station with the new open plaza level of the proposed commercial office development. This new pedestrian link will reduce conflict between pedestrians and vehicles associated with the Collier Park access driveway for the existing shopping centre, providing a secure, grade separated alternative that will include appropriate lighting to enhance safety and security after hours. As such, the proposed development is observed to make a positive contribution to the pedestrian path network in and around the subject site, with enhanced wayfinding and pedestrian amenity.			
Interface with adjoining streets.	 The proposal does not create the 'urban wall' along significant streets (inclusive of Grand Boulevard) which was originally envisioned in the Activity Centre Plan. The interface of the shopping centre and Grand Boulevard is already impacted negatively by the car park. The void of the car park on the north side of the site further exacerbates this issue and does little for Urbanism and a sense of entry to the CBD. 	 The proposed development is located on an identified landmark site under the Joondalup Activity Centre Plan (JACP), where development is intended to be set apart from the general urban fabric of the City. The proposed development responds to the above intent by foregoing the standard nil setback podium and tower built form under the JACP, in favour of an alternative design solution that will provide a prominent landmark at the corner of Grand Boulevard and Collier Pass. This is achieved by maintaining generally consistent setbacks for the full height of the development to both Collier Pass and Grand 			

		 Boulevard, with landscaped pedestrian zones provided in the resultant setback areas to expand the surrounding public realm at this key corner location. The above design approach has been supported by the Joondalup Design Review Panel (JDRP), which has identified the overall scale and design as being an appropriate response for an identified landmark site under the JACP. With respect to the open air car park to the north of the proposed commercial office development, it is noted that this is a temporary site condition that will ultimately be enclosed as an integrated basement for the planned Stage 2 office development. The change in level between the street and the interim open air car park will also prevent any view of parked cars from the main road carriageway and pedestrian paths along Grand Boulevard, which are separated from the subject site via an area of existing landscaping. The interim open air car park is also provided with appropriate landscaping and represents an enhancement of the existing at-grade parking facility in this location. As such, the proposed open air car parking facility is considered acceptable, as an interim site condition until such time as the future Stage 2 development proceeds.
Building Design	As a landmark site, the design of the building should address both streets and include a landmark statement to form a gateway into the City Centre. The current design does not achieve this.	 As noted above, the design of the proposed development has been subject to review by the Joondalup Design Review Panel (JDRP), which has identified the overall scale and design as being an appropriate response for an identified landmark site under the JACP. The design has been informed by the local context, with the architectural language of the façade derived from the dynamic nature of the nearby water of Central Park. This results in a bold, distinctive and site-responsive

	 design that delivers on the vision for a landmark building in this location. The development also provides for activation of both Collier Pass and Grand Boulevard, and will contribute to the critical mass of people required to achieve further activation of the broader city centre.
--	--

	Support Received – 1 sub	mission
Design element	Issues raised	Applicant response
Building Design	Generally positive, could be taller, architecturally a bit bland but not terrible.	 General support is noted. The design of the proposed development has been subject to review by the JDRP, which has identified the overall scale and design as being an appropriate response for an identified landmark site under the JACP. The design has been informed by the local context, with the architectural language of the façade derived from the dynamic nature of the nearby water of Central Park. This results in a bold, distinctive and site-responsive design that delivers on the vision for a landmark building in this location. The proposed height of 33.95 metres also comfortably exceeds the required minimum building height and has been recognised by the JDRP as being an appropriate design response for an identified landmark site, having regard to the intent to ultimately develop a more expansive campus-style office precinct in this location.

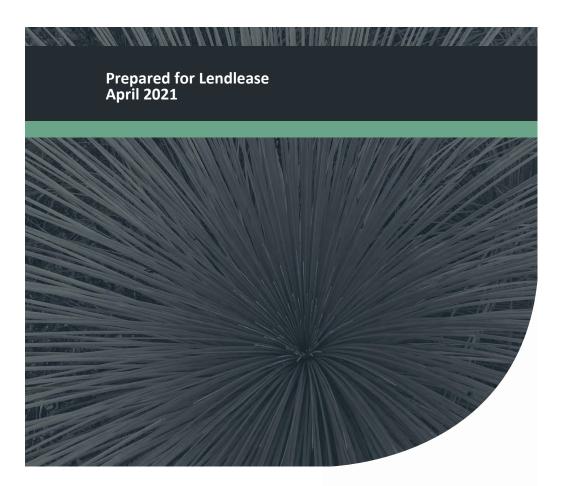


Bushfire Management Plan

Part Lot 708 (No. 420) Joondalup Drive,

Joondalup

Project No: EP21-016(02)



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Bushfire Management Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup



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1	April 2021	Sean Moylan	SCIVI	Anthony Rowe	AJR
	Draft report sul	omitted to client for review	·.		·

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This document has been prepared primarily to consider the layout of development and/or the appropriate building construction standards applicable to development, where relevant. The measures outlined are considered to be prudent minimum standards only based on the standards prescribed by the relevant authorities. The level of bushfire risk mitigation achieved will depend upon the actions of the landowner or occupiers of the land and is not the responsibility of the author. The relevant local government and fire authority (i.e. Department of Fire and Emergency Services or local bushfire brigade) should be approached for guidance on preparing for and responding to a bushfire.

Notwithstanding the precautions recommended in this document, it should always be remembered that bushfires burn under a wide range of conditions which can be unpredictable. An element of risk, no matter how small, will always remain. The objective of the Australian Standard AS 3959-2018 is to "prescribe particular construction details for buildings to reduce the risk of ignition from a bushfire while the front passes" (Standards Australia 2018). Building to the standards outlined in AS 3959 does not guarantee a building will survive a bushfire or that lives will not be lost.

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Bushfire Management Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup



Executive Summary

Lendlease (the proponent) is seeking to lodge a development application (DA) for the construction of a commercial office facility, including childcare centre, within Part Lot 708 (No. 420) Joondalup Drive, Joondalup (herein referred to as the 'site'). The site forms part of the Joondalup city centre and is approximately 0.77 ha in size. It is located approximately 24 km north-west of the Perth Central Business District and is bounded by carparks associated with the Lakeside Joondalup shopping centre to the north and west, Grand Boulevard and Central Park open space to the east and Collier Pass and undeveloped land supporting native vegetation to the south.

The site is located within a 'bushfire prone area' under the state-wide *Map of Bush Fire Prone Areas* prepared by the Office of Bushfire Risk Management (OBRM 2019). The identification of a site within an area declared as bushfire prone necessitates that a further assessment of the determined bushfire risk affecting the site (in accordance with *Australian Standard 3959:2018 Construction of buildings in bushfire prone areas* (AS 3959)) and the satisfactory compliance of the proposal with the policy measures described in *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015) and the *Guidelines for Planning in Bushfire Prone Areas Version 1.3* (the Guidelines) (WAPC and DFES 2017).

The purpose of this BMP is therefore to assess the bushfire hazards, both within and nearby the site, and identify the management strategies required to ensure the development of the land is consistent with the intent of SPP 3.7 which is to 'to preserve life and reduce the impact of bushfire on property and infrastructure'.

This BMP has followed the requirements of SPP 3.7 to identify bushfire risk and the bushfire protection measures that will make the land suitable for its intended purpose. As part of this, a Bushfire Attack Level (BAL) assessment involving the classification of vegetation within 150 m of the site has been undertaken.

In order to resolve the potential for a bushfire to affect the site, the vegetation within the site and 150 m have been classified in accordance with AS 3959. The following assumptions have been made for the post-development scenario:

- The future development will consist of buildings and hardstand, in addition to areas of landscaped gardens managed to achieve 'low threat'.
- All areas of classified vegetation outside the site are assumed to remain in their existing condition and be a bushfire hazard.
- All managed vegetation outside the site is assumed to continue to be maintained to achieve low threat.

The outcomes of this BMP demonstrates that as development progresses, it will be possible for an acceptable solution to be adopted for each of the applicable bushfire protection criteria outlined in the Guidelines. This includes:

Location: all proposed habitable buildings can be located in an area with a BAL rating of BAL-29
or less based on implementing appropriate separation from nearby bushfire hazards.

Bushfire Management Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup



- Siting and Design: due to existing managed public road reserves and the size of the site, a
 developable area (where habitable buildings are situated) can be located so that it achieves a
 BAL rating of BAL-29 or less, with the proposed building subject to a BAL rating of BAL-12.5. This
 is achieved through the provision of appropriate separation from external bushfire hazards that
 is accommodated through the location of hardstand areas, landscaped gardens and public roads.
- Vehicular Access: the site will have access to Collier Pass to the immediate south of the site via a
 public carpark access road. Access to the site will be approximately 40 m from Collier Pass.
 Collier Pass is a major road providing egress to the west of the site (and the Mitchell Freeway) as
 well as to the east, connecting to Grand Boulevard which provide further egress options to the
 north and south. The entrance/exit is compliant with the technical specifications for vehicular
 access in the Guidelines and is wide enough to facilitate two-way road traffic. Fire fighting
 vehicles would access the site via the direct frontages from the existing Collier Pass and Grand
 Boulevard.
- Water: the development will be provided with a permanent and reticulated water supply to support onsite firefighting requirements, with existing hydrants located in the immediate vicinity to the east and south of the site.

The management/mitigation measures to be implemented through the proposed development of the site have been outlined as part of this BMP. Accordingly, having regard to clause 6.11 of SPP 3.7, the bushfire protection criteria of the Guidelines can be addressed and the precautionary principle has been satisfied.

Bushfire Emergency Evacuation Plan (BEEP).

Pursuant to policy measure 6.6 of SPP 3.7, and clause 5.5.2 in the Guidelines, the site is likely to be considered a 'vulnerable land use', as defined by SPP 3.7 given the proposed child care facility will accommodate groups of children (who have a reduced physical and mental ability to respond in a bushfire event). Where a vulnerable land use is within an area exposed to a BAL rating equal to or exceeding BAL-12.5, it needs to be supported by a Bushfire Emergency Evacuation Plan (BEEP) at development application.

A Bushfire Emergency Evacuation Plan (BEEP) has been prepared for the site in accordance with *Australian Standard 3745-2010 Planning for emergencies in facilities* (AS 3745) (Standards Australia 2010). The design of the proposed childcare centre has incorporated the considerations for a bushfire event response and the BEEP identifies the preparation and response requirements in a such an event. Importantly, it identifies that early evacuation from the childcare centre is preferred.

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Figure 5: Bushfire Attack Level Contour Plan

Appendices

Appendix A

Development Layout (Hames Sharley 2021)

Appendix B

Landscape Plan (Emerge Associates 2021)

Appendix C

Bushfire Emergency Evacuation Plan (Emerge Associates 2021)

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Table A1: Abbreviations – Organisations

Organisations	
DBCA	Department of Biodiversity, Conservation and Attractions
DFES	Department of Fire and Emergency Services
DoW	Department of Water
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
OBRM	Office of Bushfire Risk Management
WAPC	Western Australian Planning Commission

Table A2: Abbreviations – General terms

General terms	
AHD	Australian Height Datum
AS	Australian Standard
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
ВЕЕР	Bushfire Emergency Evacuation Plan
ВМР	Bushfire Management Plan
BPAD	Bushfire Planning and Design
FDI	Fire Danger Index
FZ	Flame Zone

Table A3: Abbreviations –Legislation

Legislation	
Guidelines	Guidelines for Planning in Bushfire Prone Areas version 1.3 (WAPC and DFES 2017)
SPP 3.7	State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)

Table A4: Abbreviations – Planning and building terms

Units of measurement	
AS 3959	Australian Standard 3959-2018 Construction of buildings in bushfire prone areas
DA	Development application

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1 Introduction

1.1 Background

Lendlease (the proponent) is seeking to lodge a development application (DA) for the construction of a commercial office facility, including childcare centre, within Part Lot 708 (No. 420) Joondalup Drive, Joondalup (herein referred to as the 'site'). The proposed development layout is shown in **Appendix A**. The site is located within the Joondalup city centre and is approximately 0.77 ha in size. It is located approximately 24 km north-west of the Perth Central Business District and is bounded by carparks associated with the Lakeside Joondalup shopping centre to the north and west, Grand Boulevard and Central Park (and public open space) to the east and Collier Pass and undeveloped land supporting native vegetation to the south, as shown in **Figure 1**.

The southern and eastern portions of the site are currently designated as a 'bushfire prone area' under the state-wide *Map of Bush Fire Prone Areas* as prepared by the Office of Bushfire Risk Management (OBRM 2019), as shown in **Plate 1** below. The *Planning and Development (Local Planning Schemes) Regulations 2015* requires any land identified as bushfire prone to be assessed for its bushfire risk using the methodology described in *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas* (AS 3959) (Standards Australia 2018). The suitability of the land is then assessed based on the determined risk and its compliance with the intent and objectives of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015) and the *Guidelines for Planning in Bushfire Prone Areas Version 1.3* (the Guidelines) (WAPC and DFES 2017).

The site is also likely to be considered a 'vulnerable land use', as defined by SPP 3.7 and the Guidelines (WAPC and DFES 2017) given the childcare centre will accommodate groups of children (who have a reduced physical and mental ability to respond in a bushfire event).

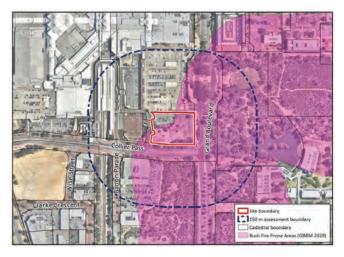


Plate 1: Areas within and surrounding the site identified as 'bushfire prone areas' (as indicated in purple) under the state-wide Map of Bushfire Prone Areas (ORBM 2019).

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.2 Aim of this report

The aim of this Bushfire Management Plan (BMP) is to assess bushfire hazards within the site and nearby areas and ensure that the threat posed by any identified hazards can be appropriately mitigated and managed, and demonstrate satisfaction of clause 6.11 of SPP 3.7, the precautionary principle. It has been prepared to support the proposed development of the site and addresses the requirements of SPP 3.7 (WAPC 2015), the Guidelines (WAPC and DFES 2017) and AS 3959 (Standards Australia 2018). This document provides an assessment of the bushfire management strategies to be considered as part of the future development within the site and includes:

- An assessment of the existing classified vegetation in the vicinity of the site (within 150 m) and
 consideration of bushfire hazards that will exist in the post-development scenario (Section 3).
- Commentary on how future development can achieve the bushfire protection criteria outlined within the Guidelines including an indication of BAL ratings likely to be applicable to future habitable buildings (Section 5).
- An outline of the roles and responsibilities associated with implementing this BMP (see Section 6).

1.3 Statutory policy and framework

The following key legislation, policies and guidelines are relevant to the preparation of a bushfire management plan:

- Bush Fires Act 1954
- Fire and Emergency Services Act 1998
- Planning and Development Act 2005 and associated regulations
- State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)
- Guidelines for Planning in Bushfire Prone Areas Version 1.3 (WAPC and DFES 2017)
- Australian Standard AS 3959 2018 Construction of buildings in bushfire prone areas (Standards Australia 2018)

1.4 Description of the proposed development

The site is proposed to be developed for commercial purposes, in accordance with the proposed development layout provided in **Appendix A**.

The development within the site will include:

- a six-storey commercial office
- a childcare centre
- underground parking
- landscaped gardens.

The proposed development is consistent with the underlying 'Centre' zoning under the City of Joondalup Local Planning Scheme No. 3, and the 'Central city area' zoning under the Metropolitan Region Scheme. The site is also located within the *Joondalup Activity Centre Plan* (Hames Sharley 2018), with the proposed development consistent with the objectives of the plan.

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1.5 Description of the land characteristics

The site slopes to the north, with elevation ranging from 42 m Australian height datum (m AHD) in the northern portion of the site, rising to 48 m AHD in the south-eastern portion of the site (Hames Sharley 2021).

The site has historically been cleared of native vegetation, with a review of historical aerial imagery indicating that the site was cleared between 1989 and 1995, except for a small patch of native vegetation that was retained within the eastern and southern portions of the site (Landgate 2021). The majority of this vegetation was removed between 2006 and 2008 to facilitate the expansion of the Lakeside Joondalup shopping centre. During the expansion of the shopping centre, the site was used as a laydown area for construction purposes, and a carpark was constructed in 2013 in the northern portion. The site is currently vacant, except for the carpark which is still actively used.

Land to the north and west are carparks utilised for the Lakeside Joondalup shopping centre and Joondalup train station, which are located further to the north and west respectively. Central Park is located to the east, which supports a mixture of native vegetation and landscaped parks. Undeveloped land supporting native vegetation is located to the south. Collier Pass bounds the site to the immediate south, with Grand Boulevard is located to the immediate east.

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2 Environmental Considerations

In accordance with the *Bushfire Management Plan* – BMP (complex) template prepared by the Department of Planning, Lands and Heritage (2018), this BMP has considered whether there are any environmental values that may require specific consideration through either protection, retention or revegetation. To support this, a review of publicly available databases, as well as site-specific information (where available) has been undertaken, with particular reference to the Shared Location Information Platform (SLIP) databases and site-specific investigations. A summary of the search results has been provided in **Table 1**.

As outlined in **Section 1.5**, the site has historically been cleared of native vegetation, with a review of historical aerial imagery indicating that the site was cleared between 1989 and 1995, except for a small patch of native vegetation that was retained within the eastern and southern portions of the site, the majority of which was removed between 2006 and 2008, except for scattered trees (Landgate 2021). Due to the historical clearing, there are no significant environmental features within the site that require consideration through the planning process that would have an impact on bushfire mitigation as part of future development.

Table 1: Summary of potential environmental considerations that may be associated with the site (based on a search of the SLIP databases)

Key environmental feature (information in brackets refers to mapping data source)	Yes / no / potentially occurring within the site	If yes / potentially, describe value that may be impacted
Conservation category wetlands and buffer (Geomorphic wetlands, Swan Coastal Plain (DBCA-019))	No	Not applicable. No conservation category wetlands are mapped within or adjacent to the site.
RAMSAR wetlands (DBCA-010)	No	Not applicable. No RAMSAR wetlands are mapped within or adjacent to the site.
Waterways (DWER-031)	No	Not applicable. No waterways are mapped within or adjacent to the site.
Threatened and priority flora (DBCA-036)	No	Not applicable. No species of threatened or priority flora are identified within the publicly available mapping as occurring within the site, and due to historical clearing, it is unlikely that any threatened or priority flora species occur within the site.
Threatened and priority fauna (DBCA-037)	No	Not applicable. No species of threatened or priority fauna are identified within the publicly available mapping as occurring within the site, and due to historical clearing, it is unlikely that any threatened or priority fauna species occur within the site.
Threatened ecological communities (DBCA-038)	No	Not applicable. No threatened ecological communities are identified within the publicly available mapping as occurring within the site, and due to historical clearing, it is unlikely that any threatened ecological communities occur within the site.
Department of Biodiversity, Conservation and Attractions (DBCA) legislated lands or waters (DBCA-011)	No	Not applicable. No DBCA legislated lands or waters are mapped within or adjacent to the site.

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Table 1: Summary of potential environmental considerations that may be associated with the site (based on a search of the SLIP databases) (continued)

Key environmental feature (information in brackets refers to mapping data source)	Yes / no / potentially occurring within the site	If yes / potentially, describe value that may be impacted
Bush Forever areas (DOP-071)	No	Not applicable. No Bush Forever areas are mapped within or adjacent to the site.
Clearing regulations – Environmentally Sensitive Areas (DWER-046)	No	Not applicable. No environmentally sensitive areas are mapped within the site.
Swan Bioplan Regionally Significant Natural Areas 2010 (DWER-070)	No	Not applicable. The Swan Bioplan Project has identified natural areas with significant flora, vegetation and landform values that existed prior to the extensive clearing on the southern Swan Coastal Plain. The site is not mapped as occurring within a Regionally Significant Natural Area (RSNA).
Aboriginal heritage places (DPLH-001)	No	Not applicable. No Aboriginal heritage places are mapped within or adjacent to the site.
Heritage Council WA – State Register (DPLH-006)	No	Not applicable. No state-listed heritage places are mapped within or adjacent to the site.

2.1 Native vegetation – clearing and modification

Due to the historical clearing of native vegetation within the site, there are only scattered native shrubs that have recently regrown. This vegetation is not considered conservation significant, and will not require any formal approval for removal, given native vegetation clearing will be exempt as per Regulation 5, Item 1 pursuant to the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

All vegetation outside of the site is assumed to remain in its existing condition. No areas of native vegetation outside of the site are proposed to be modified by the proponent as part of the proposed development.

2.2 Revegetation and landscape plans

No revegetation is proposed as part of the proposed development within the site. However, as part of the development within the site, areas of landscaping will occur, as shown in **Appendix B**, which will be maintained in accordance with Section 2.2.3.2 of AS 3959.

The establishment and ongoing management of the low threat areas will be the responsibility of the proponent, and may include (but is not limited to):

- Regular mowing/slashing of grass to less than 100 mm in height (where present).
- Regular removal of weeds and built-up dead material (such as fallen branches, leaf litter etc.).
- Low pruning of trees (branches below 2 m in height removed where appropriate/applicable, primarily within the asset protection zone).
- Application of ground/surface covers such as mulch or non-flammable materials as required/applicable.

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3 Bushfire Assessment Results

Bushfire risk for the site has been appropriately considered both in context to the site and potential impact upon the site.

AS 3959 has been used to determine the impact on the site. Its objective is to reduce the risk of ignition and loss of a building to bushfire. It provides a consistent method for determining a radiant heat level (radiant heat flux) as a primary consideration of bushfire attack. It measures the Bushfire Attack Level (BAL) as the radiant heat level (kWm²) over a distance of 100 m.

AS 3959 also prescribes deemed to satisfy construction responses that can resist the determined radiant heat level at a given distance from the fire. It is based on six BAL ratings: BAL-LOW, BAL-12.5, BAL-19. BAL-29. BAL-40 and BAL-FZ.

The building construction requirements outlined within AS 3959 only apply to Class 1, 2, 3 and 10a buildings, which are not generally associated with the type of development proposed within the site. Accordingly, higher building construction requirements in accordance with AS 3959 are unlikely to apply, or will only apply if Class 1, 2, 3 or 10a buildings are constructed. However, development within the site will still be required to demonstrate built form achieves a BAL rating of BAL-29 or less (in accordance with SPP 3.7), and can satisfy the bushfire protection criteria, and accordingly, a BAL assessment is still relevant.

3.1 Bushfire Attack Level (BAL) assessment

In accordance with Appendix Five of the Guidelines, a Method 1 BAL assessment has been undertaken to support the proposed development of the site and determine the BAL ratings likely to be applicable to future habitable buildings. This has been based on the vegetation classifications and the effective slope under the vegetation, with the result presented on a BAL contour plan.

Not all vegetation is a classified bushfire risk. Vegetation and ground surfaces that are exempt from classification as a potential hazard are identified as a low threat under Section 2.2.3.2 of AS 3959 and is a relevant consideration for the assessment. Low threat vegetation includes the following:

- a) Any vegetation that is more than 100 m from the site.
- b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.
- c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified.
- d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified.
- Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.

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nurseries, nature strips and windbreaks.



plantations, market gardens (and other non-curing crops), cultivated gardens, commercial

3.1.1 Assessment inputs

Classifying bushfire hazards takes into account the vegetation structure within the site and surrounding area for a minimum of 100 m, in accordance with AS 3959. The assignment of the vegetation classifications is based on consideration of the fuel layers of different vegetation types. This can be categorised into five segments as illustrated in **Plate 2** below.

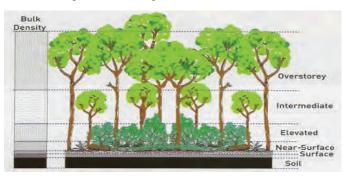


Plate 2: The five fuel layers in a forest environment that could be associated with fire behaviour (Gould et al. 2007)

An assessment of the existing vegetation within the site and surrounding 150 m was undertaken on 24 February 2021 in accordance with AS 3959 and the Guidelines.

Table 2 outlines:

- The pre-development AS 3959 vegetation classifications (and associated photo locations), which are also shown in **Figure 2**.
- The post-development AS 3959 vegetation classifications, which are also shown in Figure 3.
- The effective slope for each area of classified vegetation present in the post-development scenario, which is also shown in Figure 4.

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effective slope and future management

Table 2: Vegetation classification,

AS 3959 classification, effective slope and assumptions	AS 3959 classification (Figure 3): Forest (Class A)	Effective slope (Figure 4): Flat/upslope	Forest vegetation located outside of the site will not be modified as part of the proposed development. This vegetation will therefore remain a bushfire risk to the site.	
Plot no.	1-2			
			Photo location 2: forest vegetation to the south-east of	
Site photo/s (location points shown in Figure 2)			Photo location 1: forest venetation to the south-west of	the site, looking south-west
Plot AS 3959 classification no.	1 - 2 AS 3959 classification (Figure 2): Forest (Class A)	Forest vegetation has been identified to the south-west of the site within the Botth - Inandalin	rail reserve (1011). This vegetation is characterised by planted eucalypts growing to a height of approximately 8 m over an understorey of native and non-	native species. Forest vegetation has been identified to the east and south-
Plot no.	1 - 2			

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Table 2: Vegetation classification, effective slope and future management (continued)

Pre-de	Pre-development (see Figure 2)			Post de	Post development (see Figure 3 and Figure 4)
Plot no.	Plot AS 3959 classification no.	Site photo/s (location points shown in Figure 2)		Plot no.	AS 3959 classification, effective slope and assumptions
4	AS 3959 classification (Figure 2): Grassland (Class G)			4	AS 3959 classification (Figure 3): Grassland (Class G)
	Small patches of grassland vegetation are located to the south of the site. This vegetation is				Effective slope (Figure 4): Flat/upslope
	characterised by non-native grasses growing in areas that have been subject to eleming/modification since the early 1990's, and have been either non-vegetated or composed of	Photo location 9: grassland vegetation to the south of the site, looking north-east	Photo location 10: grassland vegetation to the south of the site, looking south-west		Grassland vegetation located outside of the site will not be modified as part of the proposed development. This vegetation will therefore remain a bushfire risk to the site.
	grass at different times.				

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Table 2: Vegetation classification, effective slope and future management (continued)



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Photo location 14: non-vegetated road reserve (Collier Pass) to the south of the site, looking west

Photo location 13: non-vegetated carpark within the northern portion of the site, looking west

Table 2: Vegetation classification, effective slope and future management (continued)

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Post development (see Figure 3 and Figure 4)

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AS 3959 classification (Figure 3): Low threat vegetation (exclusion clause 2.2.3.2(f))

Effective slope (Figure 4): Not

applicable







The existing maintenance of low threat vegetation located outside of the site is assumed to remain in the long term based on existing practices. These areas will therefore continue to be excluded as low threat.

Existing managed areas within the site will be converted to manicured and maintained gardens/turf areas.

AS 3959 classification (Figure 3): Nonvegetated area (exclusion clause 2.2.3.2(e))

Effective slope (Figure 4): Not applicable



2

Photo location 18: managed parkland to the east of the site, looking north-west

The majority of the low threat vegetation within the site will be converted to non-vegetated areas supporting the future commercial office facilities and childcare centre.

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3.1.1.1 Post development assumptions

The BAL assessment, to determine the predicted BAL ratings applicable to the site, has assumed the following:

- Designated FDI: 80
- Flame temperature: 1090 K
- Vegetation classification: Forest (Class A), scrub (Class D) and grassland (Class G) vegetation identified within the post-development scenario (see Figure 3)
- Effective slope beneath classified vegetation: Flat/upslope (see Figure 4)
- Setback distances: As per Table 2.5 in AS 3959 with the relevant distances used to inform the BAL contour plan provided in Figure 5 and summarised in Table 3.
- •

In addition to the above, the following key assumptions have informed this assessment:

- Areas of landscaping within the site will be designed and managed to a low threat standard.
 Ongoing management may include:
 - o Regular maintenance including removal of weeds and dead material.
 - Where remnant trees are retained or trees planted, low hanging branches will be lowpruned to 2 m from the ground.
 - o Application of ground covers such as mulch or non-flammable materials.
 - Where required, regular irrigation.
 - Where grass/turf is present, this will be regularly cut so that the grass is maintained at or below 100 mm in height.
- Areas of low threat vegetation identified outside of the site will continue to be maintained to
 this standard in accordance with existing maintenance regimes. These areas will achieve low
 threat based on typical urban parkland requirements (and based on Section 2.2.3.2 of AS 3959,
 in particular as 'non-vegetated' or 'low threat' vegetation).
- Classified vegetation that has been identified outside of the site has been assumed to remain in its current state (unless stated otherwise), and will, therefore, remain a bushfire hazard to development within the site.

3.1.2 Assessment outputs

Table 3 provides a summary of the setback distances necessary from the identified classified vegetation to achieve the indicated BAL ratings, with the BAL Contour Plan (**Figure 5**) being a visual representation of these distances. The setback distances are based on the post-development classified vegetation (**Figure 3**), effective slope (**Figure 4**) and are taken from Table 2.5 of AS 3959.

The BAL assessment indicates that the proposed building within the site will be subject to a BAL rating of BAL-12.5.

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Table 3: Setback distances based on vegetation classification and effective slope and Table 2.5 of AS 3959, as determined by the method 1 BAL assessment

Post development plot number (see Figure 3)	Vegetation classification (see Figure 3)	Effective slope (see Figure 4)	Distance to vegetation (from Table 2.5 of AS 3959)	BAL rating (see Figure 5)
Plot 1 - 2	Forest (Class A)	Flat/upslope	< 16 m	BAL-FZ
			16 - < 21 m	BAL-40
			21 - < 31 m	BAL-29
			31 - < 42 m	BAL-19
			42 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 3	Scrub (Class D)	Flat/upslope	< 10 m	BAL-FZ
			10 - < 13 m	BAL-40
			13 - < 19 m	BAL-29
			19 - < 27 m	BAL-19
			27 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 4	Grassland (Class G)	Flat/upslope	< 6 m	BAL-FZ
			6 - < 8 m	BAL-40
			8 - < 12 m	BAL-29
			12 - < 17 m	BAL-19
			17 - < 50 m	BAL-12.5
			> 50 m	BAL-LOW

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4 Identification of Bushfire Hazard Issues

The BAL assessment completed for the site indicates that the site and associated proposed building will be subject to a BAL rating of BAL-29 or less and is shown in **Figure 5**. The site overall is subject to a BAL rating of BAL-12.5 and BAL-LOW.

From a bushfire hazard management perspective, the key issues that are likely to require management and/or consideration as part of future development within the site include:

- Provision of appropriate separation distance from bushfire hazards identified nearby to the site
 (i.e. the areas of forest to the south-west and east and scrub and grassland vegetation to the
 south) to ensure a BAL rating of BAL-29 or less can be achieved at future habitable buildings.
- Ensuring that the site and any future landscaped areas are appropriately designed and managed to achieve low threat in accordance with AS 3959 and also to satisfy the requirements of the City of Joondalup.
- Provision of appropriate vehicular access to ensure emergency personnel can access the site and key infrastructure safely, and that workers can evacuate in the event of an emergency.
- Provision of appropriate water supply and associated firefighting infrastructure/equipment.

These issues are considered further with regard to addressing the bushfire protection criteria (see **Section 5**) and considering risks associated with the proposed vulnerable land use.

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5 Assessment Against the Bushfire Protection Criteria

This BMP provides an outline of the mitigation strategies that will ensure that as development progresses within the site, an acceptable solution and/or performance-based system of control can be adopted for each of the bushfire protection criteria detailed within Appendix Four of the Guidelines (WAPC and DFES 2017). The bushfire protection criteria identified in the Guidelines and addressed as part of this BMP are:

- Element 1: Location of the development
- Element 2: Siting and design of the development
- Element 3: Vehicular access
- Element 4: Water supply.

As part of future development, all the bushfire protection criteria can be satisfied through an acceptable solution approach. A summary of how this can be achieved and an associated compliance statement for each has been provided in **Table 4**.

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Table 4: Summary of bushfire protection criteria and compliance statement

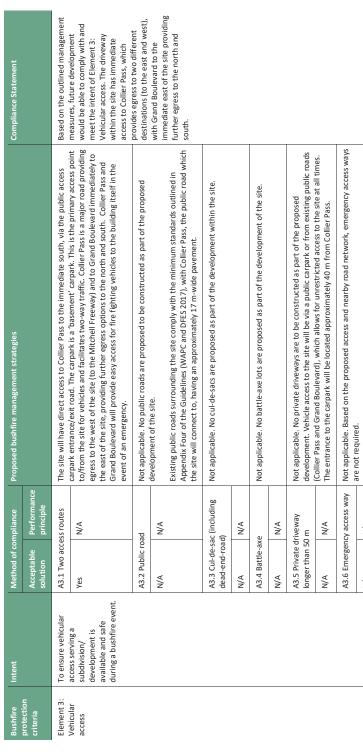
Bushfire	Intent	Method of compliance	Proposed bushfire management strategies	Compliance Statement
protection criteria		Acceptable Performance solution principle		
Element 1:	To ensure that strategic	A1.1 Development location		Based on the outlined management
Location	subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the	Yes N/A	Within the site should not be considered in isolation of the broader hazards. However, it has been clarified that Element 1 (through Position Statement: Planning in bushfire prone areas - Demonstrating Element 1. Location and Element 2. Siting and design (IPLH 2019) is an applicable consideration for intensification of land use as part of strategic planning proposals and structure plans) but addressing Element 1 does not provide site-specific guidance for a DA.	measures, futur development would be able to comply with and meet the intent of Element 1: Location, with the site being identified as suitable for an intensification of development.
	protection of people, property and infrastructure.		The site has already been identified for intensification of land use (based on the existing 'Centre' zoning, which supports commercial development) and the approved activity centre plan. Therefore, within the hierarchy of planning consideration, the focus for Element 1 is on habitable buildings being able to achieve BAL-29 or less. Consideration of achieving BAL-29 or less for development is instead addressed under Element 2 further below.	
Element 2: Siting and design	To ensure the siting and design of development minimises the level of bushfire impact.	A2.1 Asset Protection Zone Yes N/A	One of the most important bushfire protection measures influencing the safety of people and property is to create an asset protection zone (APZ) around buildings. The APZ is a low fuel area immediately surrounding a building and can include non-flammable features such as irrigated landscapes, gardens, driveways and roads.	Based on the outlined management measures, future development would be able to comply with and meet the intent of Element 2: Sting
			Bushfire hazards (forest, scrub and grassland vegetation) relevant to the site have been identified to the south-west, east and south of the site.	and design. Separation to bushfire hazards is achieved through the location of the habitable buildings
			As outlined above, the outcomes of the BAL assessment (see Figure 5) indicates that there is sufficient space within the site to enable future habitable buildings to be located in areas subject to a BAL rating of BAL-29 or less. The building is subject to BAL-12.5, with some areas achieving BAL-LOW.	and the separation provided by the managed road reserves.
			Where Class 1, 2, 3 or 10a buildings are proposed, these should be constructed in accordance with the building requirements outlined in AS 3959.	
			Overall, the acceptable solution can be satisfied for all habitable buildings.	

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Table 4: Summary of bushfire protection criteria and compliance statement (continued)



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Table 4: Summary of bushfire protection criteria and compliance statement (continued)

Compliance Statement	Continued from above.				Based on the outlined management measures, future development would be able to comply with and meet the intent of Element 4: Water. The site will have access to the reticulated water supply network and hydrants are already existing within Collier Pass and Grand Boulevard.						
Proposed bushfire management strategies		Not applicable. Future development within the site will be provided with appropriate vehicular access, as outlined above, and therefore fire service access routes are not required.		The City of Joondalup requires that firebreaks not less than 3 m wide must be cleared around all	structures and immediately inside and around all external boundaries of the land. As the site will be cleared of all vegetation and will consist of trafficiable surfaces around all perimeters (roads/paths to the south and east, the carpark entrance road to the west and an existing carpark to the north) allowing access to the site in the event of an emergency, no specific firebreaks will be required.	The site is located within an existing urban area and will be connected to a reticulated water	Supply. Existing hydrant infrastructure is located along Collier Pass to the south and Grand Boulevard to the east and is within 200 m of the site. The requirement for additional hydrants within the site, associated with structure fire requirements, will be determined as part of the detailed design.	Not applicable.		Not applicable.	
Method of compliance	Acceptable Performance solution principle	A3.7 Fire service access routes (perimeter roads)	N/A N/A	A3.8 Firebreak width	Yes N/A	A4.1 Reticulated areas	Yes N/A	A4.2 Non-reticulated areas	N/A N/A	A4.3 Individual lots within non-reticulated areas (only for use if creating 1 additional lot and cannot be applied cumulatively)	N/A N/A
Continued from above.		To ensure water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.									
Bushfire protection criteria Continued from above.			Element 4: Water								

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5.1 Additional management strategies

5.1.1 Future approval considerations

The BAL assessment within this document is considered to be a conservative assessment of potential bushfire risk posed to key infrastructure within the site based on the assumptions outlined in **Section 3**.

If any Class 1, 2, 3 or 10a buildings are constructed within the site, these will need to comply with the construction standards outlined within AS 3959. As all habitable buildings can achieve BAL-29 or less, no further planning approvals from a bushfire perspective are required. Buildings will need to demonstrate compliance with BAL ratings as part of building licence (where a Class 1, 2, 3 or 10a building).

5.1.2 Landscape management

5.1.2.1 Within the site

The entire site, both landscaped and hardstand areas within the site, will be maintained to achieve low threat vegetation in accordance with Section 2.2.3.2 of AS 3959 and/or based on satisfying Element 2 and Schedule 1 of Appendix Four of the Guidelines (WAPC and DFES 2017). A landscape concept plan has been provided in **Appendix B**, and will guide detailed design that will be approved by the City of Joondalup prior to implementation. The management of the site to a low threat standard will be the responsibility of the proponent in perpetuity, with ongoing management likely to include:

- Regular mowing/slashing of grass to less than 100 mm in height (where present).
- Irrigation of grass and garden beds, if/where required.
- Regular removal of weeds and built-up dead material (such as fallen branches, leaf litter etc.)
- Where trees are present, low pruning of branches (branches below 2 m in height removed where appropriate).
- Application of ground/surface covers such as mulch or non-flammable materials as required.

5.1.2.2 Surrounding the site

Within City of Joondalup public open space and road reserves

The existing management of vegetation within Central Park to the east of the site to achieve low threat is assumed to continue in the future. This is assumed to include the management of all turf to a height of below 100 mm, as per AS 3959, and the irrigation and weeding of garden beds. Existing areas that are identified as a bushfire hazard (i.e. classified vegetation) are assumed to remain unmanaged.

In addition, the road reserves surrounding the site will continue to be managed to a low threat standard, in accordance with the existing management practices.

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Within private landholdings

Classified vegetation within private landholdings to the south and south-east of the site have been assumed to remain in their existing state (i.e. no ongoing management) in perpetuity. It is possible that land to the south may be developed at some point as part of implementing the approved activity centre plan, however timing for this is unknown.

5.1.3 City of Joondalup Firebreak Notice

The City of Joondalup releases a fire control notice annually (or as required) to provide a framework for bushfire management within the City. The City of Joondalup is able to enforce this order in accordance with Section 33 of the *Bush Fires Act 1954* and landowners will need to ensure compliance with the fire control notice, as published, or any directions provided by the City of Joondalup.

For land that is greater than 2000 m² and has buildings, the firebreak notice requires that firebreaks not less than 3 m wide must be cleared around all structures and immediately inside and around all external boundaries of the land. As the site will be cleared of all vegetation and will consist of trafficable surfaces around all perimeters (roads/paths to the south and east, the carpark entrance road to the west and an existing carpark to the north) allowing access to the site in the event of an emergency, no specific firebreaks will be required.

5.1.4 Vulnerable or high-risk land uses

As outlined previously, the proposed development is considered to be a 'vulnerable' land use in accordance with the definitions provided in SPP 3.7 and the Guidelines, given it will accommodate groups of children who will have a reduced physical and mental ability to respond in a bushfire event. Policy measure 6.6 of SPP 3.7 requires any proposal relating to vulnerable land use within an area exposed to a BAL rating equal to or exceeding BAL-12.5 to be supported by a Bushfire Emergency Evacuation Plan (BEEP) at the development application stage of the planning process.

Accordingly, **Appendix C** of this BMP includes a BEEP that has been prepared for the child care centre within the site. The BEEP is based on guidance provided in the following:

- Australian Standard 3745-2010 Planning for Emergencies in Facilities (Standards Australia 2010)
- Guidelines for Planning in Bushfire Prone Areas Version 1.3 (WAPC and DFES 2017)
- A Guide to developing a Bushfire Emergency Evacuation Plan (DPLH WAPC 2019).

Key features of an emergency evacuation process to achieve occupant life safety include:

- Establishing clear decision-making responsibility and authority within the facility;
- Establishing a reliable and consistent communication method;
- Establishing alert triggers;
- Establishing a procedure to determine whether evacuation is required; and
- The provision of amenities supporting shelter. Amenities include drinking water and toilets.

The BEEP provided in **Appendix C** considers the above and incorporates the requirements listed under section 5.5.2 of the Guidelines. The key assumptions underpinning the emergency evacuation process within the childcare centre include:

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- The children/visitors will be hosted within the centre by staff or guardians.
- Children/visitors will not be familiar with bushfire or bushfire procedures within the childcare centre and will require guidance.
- That the staff or guardians can see and smell smoke and can see a fire.
- That the staff or guardians can read and understand the English language.

Avoiding operation of the childcare centre during the season that bushfires are a threat is not considered to be practical, and during the bushfire season (December – April) a bushfire can occur at any time but the climatic conditions and the bushfire fuels present will determine its intensity and danger. The childcare centre must, therefore, have a plan to respond to a bushfire event during the bushfire season. Evacuation in the event of a bushfire emergency is the preferred option and can be accommodated by the proposed development and approaches that will be adopted by the proponent and outlined in this BMP.

5.1.5 Public education and preparedness

Community bushfire safety is a shared responsibility between individuals, the community, government and fire agencies. The Department of Fire and Emergency Services (DFES) has an extensive Community Bushfire Education Program including a range of publications, a website and Bushfire Ready Groups. The DFES website (https://www.dfes.wa.gov.au/bushfire/prepare/) provides a range of materials to help the community prepare for and survive the bushfire season.

The City of Joondalup provides bushfire safety advice to residents available from their website https://www.joondalup.wa.gov.au/kb/resident/bushfire-management. Professional, qualified consultants can offer bushfire safety advice and relevant services to businesses in high-risk areas in addition to that provided in this BMP.

In the case of a bushfire in the area, advice would be provided to businesses by DFES, DBCA and/or the City of Joondalup on any specific recommendations with regard to responding to the bushfire, including evacuation if required. It is highly recommended that the occupiers makes themselves aware of their responsibilities with regard to preparing for and responding to a potential bushfire that may impact upon them or those under their care.

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6 Responsibilities for Implementation and Management of Bushfire Measures

Table 5 outlines the future responsibilities of the proponent, occupiers and the City of Joondalup associated with implementing this BMP with reference to future mitigation measures to be accommodated as part of the development process. These responsibilities will need to be considered as part of the subsequent development and implementation process.

The proponent will be responsible for maintaining a reduced level of risk from bushfire within the site and will be responsible for undertaking, complying and implementing measures to protect the assets within the site from the threat and risk of bushfire, but also for minimising the risk of fire on nearby land uses.

Table 5: Responsibilities for the implementation of this BMP

Management action	Timing
Proponent	
Construct the development in accordance with the proposed development layout (or as amended and approved by regulatory authorities), provided in Appendix A .	As part of development.
Design and implement all landscaped areas (as shown in Appendix B , or as amended and approved by regulatory authorities) within the site to achieve a low threat standard in accordance with Section 2.2.3.2 of AS 3959 with particular reference to exclusion 2.2.3.2(f).	As part of development.
Reticulated water supply and if required, additional hydrants, to be installed as per standard Water Corporation requirements unless otherwise agreed with City of Joondalup.	As part of development.
Management body/occupier	
Ensure that where landscaped gardens are located within the site, these are maintained to a low threat standard (in accordance with Section 2.2.3.2 of AS 3959). Ongoing management should include:	Ongoing.
 Where trees are present, low-hanging branches less than 2 m from the ground are to be removed where appropriate. 	
Regular removal of weeds, dead material, fallen branches and built-up leaf litter.	
 Where required, regular irrigation. Where grass/turf is present, this will be regularly cut so that the grass is maintained at or below 100 mm in height. 	
Implement the Bushfire Emergency Evacuation Plan (provided in Appendix C , or as updated) and maintain its currency.	Ongoing.
Ensure that where fire hydrants are located, these are not obstructed and remain visible at all times.	Ongoing, as required.
City of Joondalup	
Ensure that areas outside of the site that are currently managed by the City to achieve low threat, including public road reserves and portions of Central Park to the east, are continued to be managed to achieve low threat.	Ongoing.
Maintain public road reserves under their management to appropriate standards, where required/applicable.	Ongoing.
Monitor compliance with the City of Joondalup Firebreak Notice, and enforcing management measures as required.	Ongoing, as required.

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7 Applicant Declaration

7.1 Accreditation

This BMP has been prepared by Emerge Associates in collaboration with Anthony Rowe who is a Fire Protection Association of Australia (FPAA) Level 3 Bushfire Planning and Design (BPAD) accredited practitioner (BPAD no. 36690). Anthony has over ten years' experience and is supported by a number of Emerge team members who have BPAD Level 1 and Level 2 accreditation or are in the process of obtaining.

7.2 Declaration

I declare that the information provided is true and correct to the best of my knowledge.

Signature:

Name: Anthony Rowe

Company: Envision Bushfire Protection/Emerge

Associates

Date: 19 April 2021

BPAD Accreditation: Level 3 BPAD no. 36690

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8 References

8.1 General references

The references listed below have been considered as part of preparing this document.

Department of Planning, Lands and Heritage (DPLH) 2019, Position Statement: Planning in bushfire prone areas - Demonstrating Element 1: Location and Element 2: Siting and design, Western Australian Planning Commission.

Gould, J., McCaw, W., Cheney, N., Ellis, P. and Matthews, S. 2007, Field Guide: Fuel Assessment and Fire Behaviour Prediction in Dry Eucalypt Forest, CSIRO and Department of Environment and Conservation, Perth, Western Australia.

Hames Sharley 2018, Joondalup Activity Centre Plan, Revision F.

Hames Sharley 2021, Lakeside Joondalup - Office Development.

Standards Australia 2010, Australian Standard 3745-2010 Planning for emergencies in facilities (AS 3745-2010), SAI Global Limited, Sydney.

Standards Australia 2018, AS 3959:2018 Construction of buildings in bushfire-prone areas, Sydney.

Western Australian Planning Commission (WAPC) 2015, State Planning Policy 3.7 Planning in Bushfire Prone Areas, Perth.

Western Australian Planning Commission and Department of Fire and Emergency Services (WAPC and DFES) 2017, Guidelines for Planning in Bushfire Prone Areas Version 1.3, Western Australia. December 2017.

8.2 Online references

Landgate 2021, Locate V5, viewed 12 April 2021, https://maps.slip.wa.gov.au/landgate/locate/

Office of Bushfire Risk Management (OBRM) 2019, *Map of Bush Fire Prone Areas*, 12 April 2021, https://maps.slip.wa.gov.au/landgate/bushfireprone/

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Figures



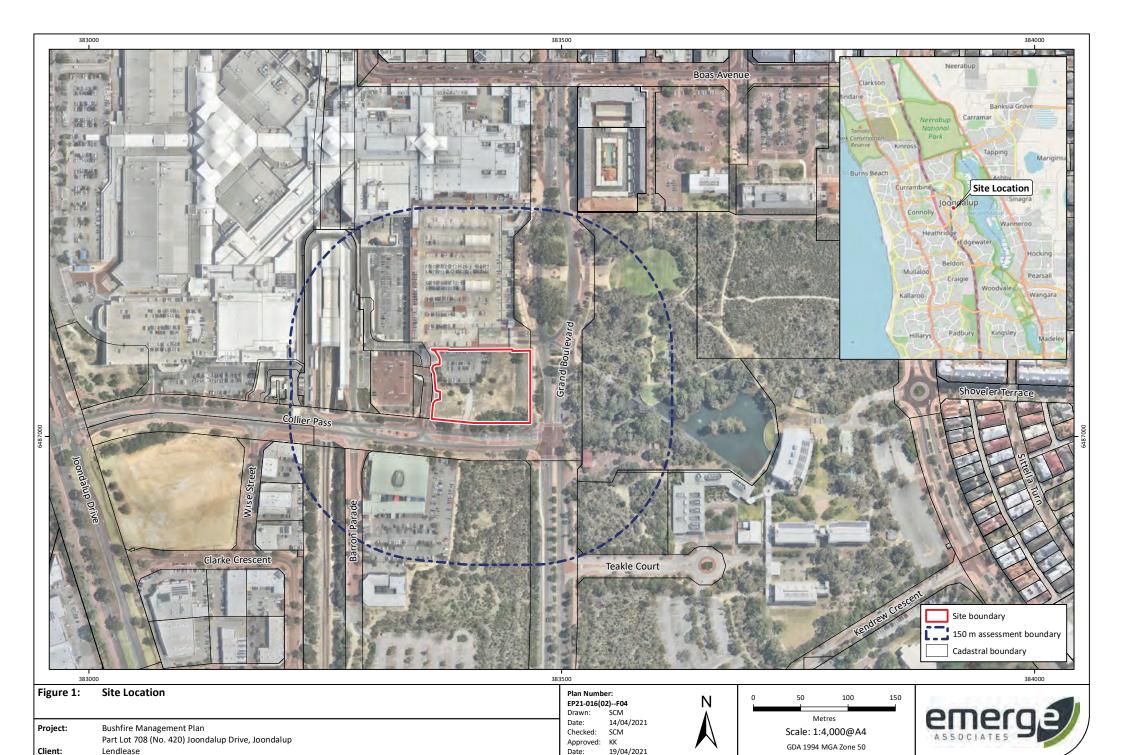
Figure 1: Site Location

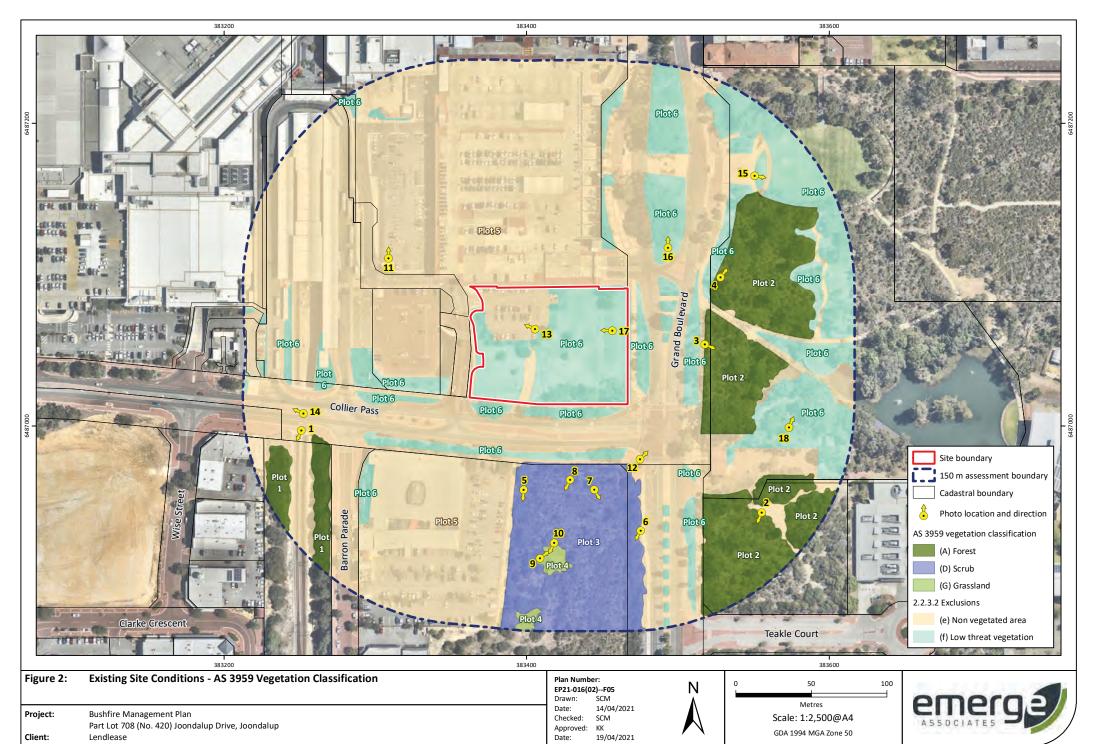
Figure 2: Existing Site Conditions – AS 3959 Vegetation Classification

Figure 3: Post Development Conditions – AS 3959 Vegetation Classification

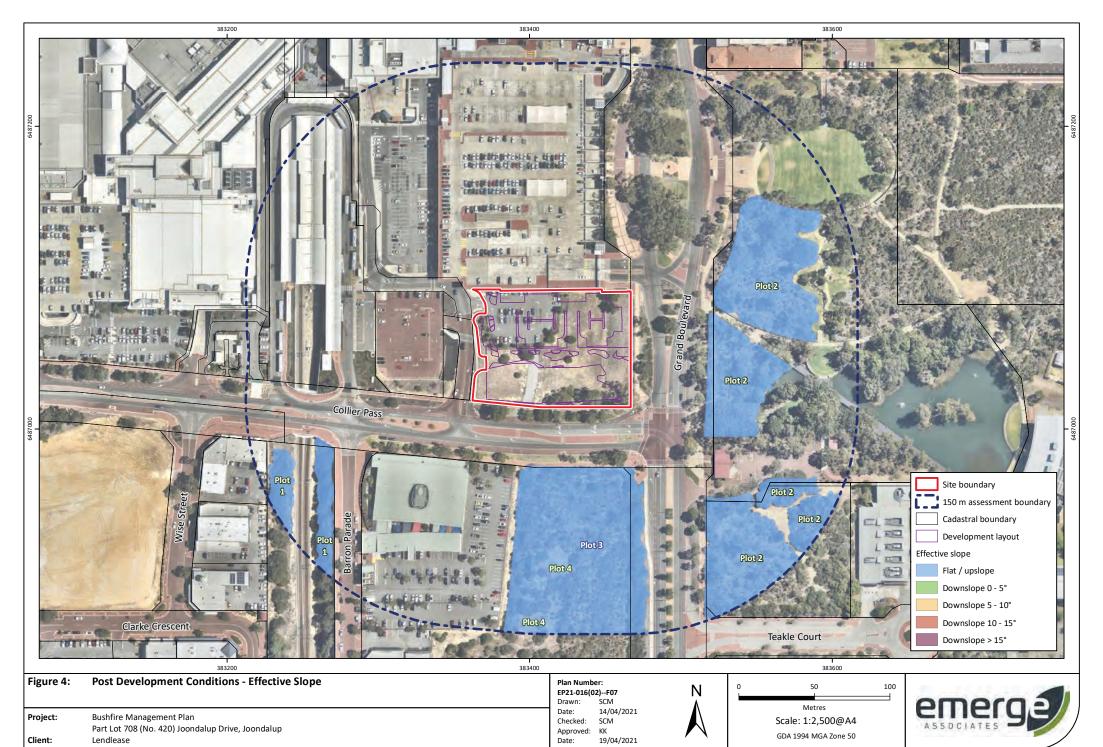
Figure 4: Post Development Conditions – Effective Slope

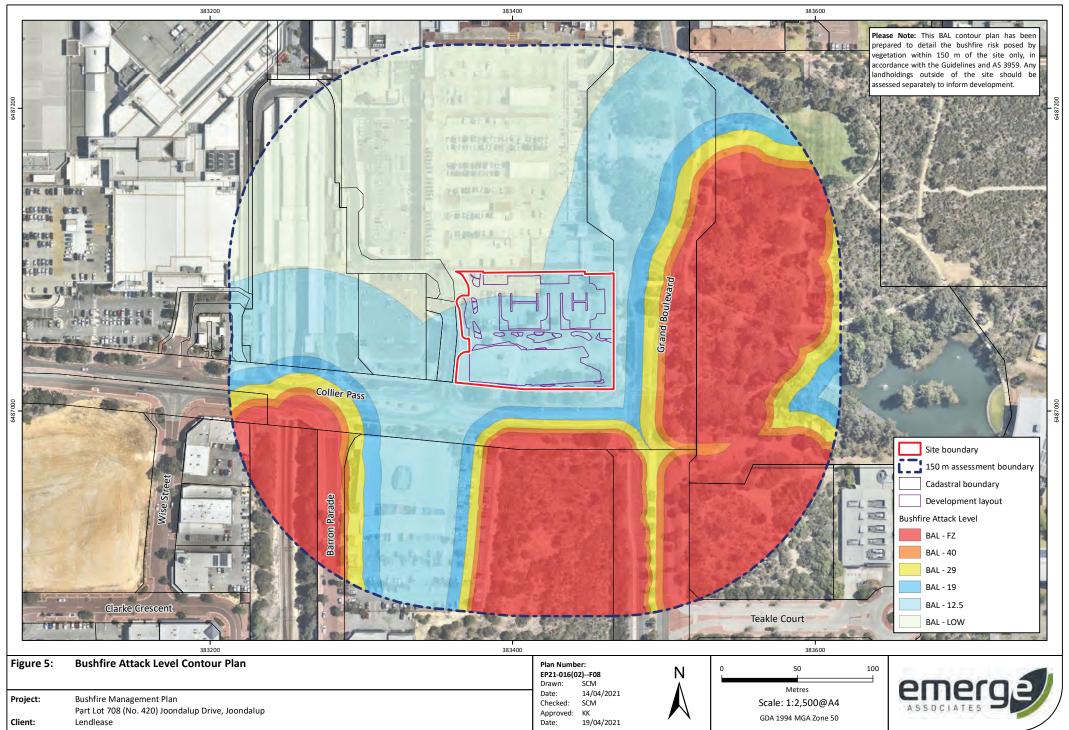
Figure 5: Bushfire Attack Level Contour Plan



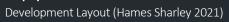




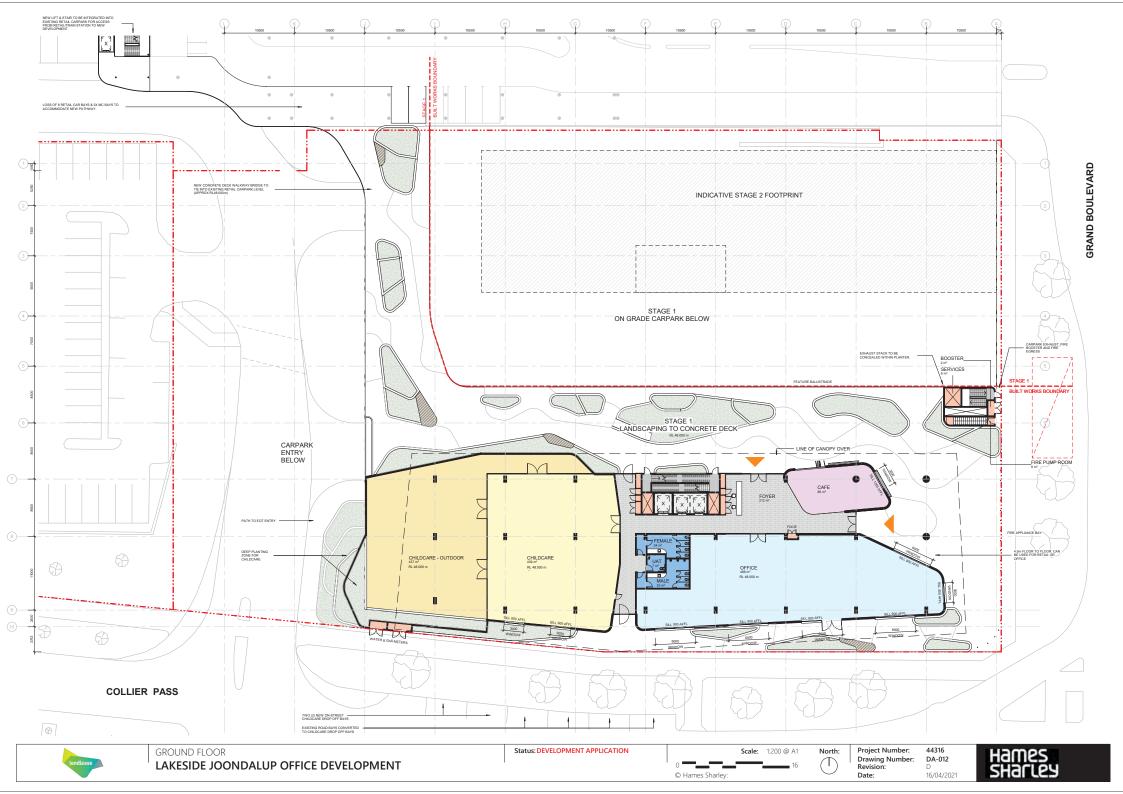




Appendix A



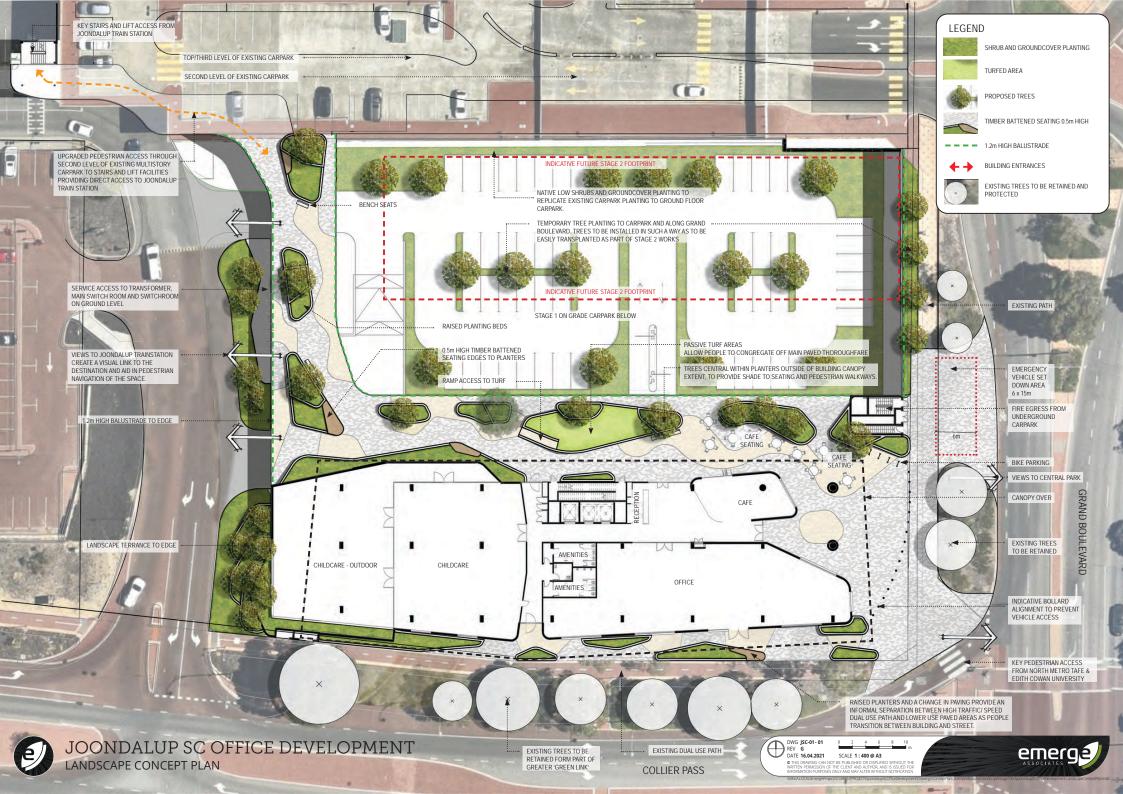




Appendix B

Landscape Plan (Emerge Associates 2021)





Appendix C



Bushfire Emergency Evacuation Plan (Emerge Associates 2021)

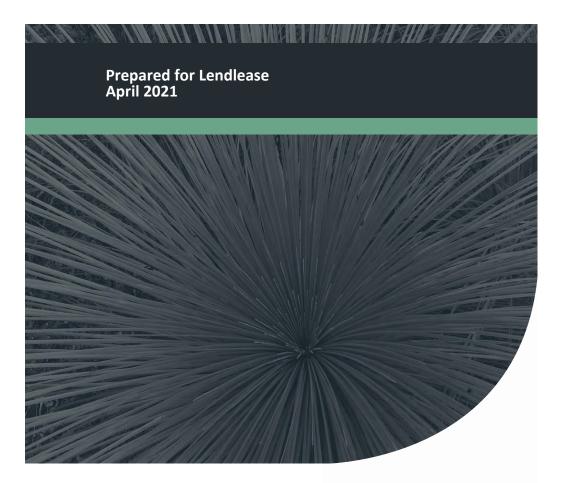


Bushfire Emergency Evacuation Plan

Part Lot 708 (No. 420) Joondalup Drive,

Joondalup

Project No: EP21-016(04)



Prepared for Lendlease

Doc No.: EP21-016(04)-003 SCM | Version:

Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup



Document Control

Doc name:	· ·	Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup				
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	Submitted for clie	Submitted for client review.				

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Appendices

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List of Emergency Control Personnel

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1 Introduction

Lendlease (the proponent) is seeking to lodge a development application (DA) for the construction of a commercial office facility which will include a childcare centre, within Part Lot 708 (No. 420) Joondalup Drive, Joondalup (herein referred to as the 'site'). The site forms part of the Joondalup city centre and is approximately 0.77 ha in size. It is located approximately 24 km north-west of the Perth Central Business District and is bounded by carparks associated with the Lakeside Joondalup shopping centre to the north and west, Central Park to the east and undeveloped land supporting native vegetation to the south.

A childcare centre, if the landholding it is located within has a Bushfire Attack Level (BAL) rating equal to or exceeding BAL-12.5, is identified in the definitions provided in *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015), as 'vulnerable' land use. This is because children within the childcare centre are unlikely to be able to respond independently to a bushfire emergency and will require the development of an effective and comprehensive plan for evacuation.

This document has been prepared to satisfy the requirements of SPP 3.7 (WAPC 2015) and its Guidelines (cl.5.5.2), and has been prepared in accordance with *Australian Standard 3745-2010 Planning for emergencies in facilities (AS 3745)* (Standards Australia 2010) and *A Guide to developing a Bushfire Emergency Evacuation Plan* (DPLH WAPC 2019). Accordingly, it establishes an oversight to ensure that the childcare centre is maintained and prepared for a bushfire, that the event is planned for, that procedure and responsibilities are clearly identified and when they are to occur. It also addresses the recovery after the event, the communications to keep parents informed and collection procedures.

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2 Outline of the Bushfire Emergency Evacuation Plan

2.1 Purpose of the Bushfire Emergency Evacuation Plan

The purpose of this Bushfire Emergency Evacuation Plan (BEEP) is to provide guidance and direction to all children, staff and visitors by providing:

- information, advice and means to prepare for a bushfire emergency; and
- actions to be taken in the event of a bushfire emergency.

This document will complement a broader Emergency Response Plan for the centre, which will identify a range of applicable hazards including but not limited to, a structural fire (internal), bomb threats, armed threat/robbery, missing persons, earthquakes, flood / severe storm/cyclone, motor vehicle accident, hazardous material spill, civil disorder, and bushfire etc.

To address the requirements of SPP 3.7 (WAPC 2015), a separate BEEP (this document) has been prepared to specifically consider bushfire and to be used to augment the broader site Emergency Response Plan.

The BEEP should be reviewed annually and regarded as a 'living document' with guidelines that can be adapted to changing circumstances.

The BEEP is intended to be used by the site to:

- Outline key emergency features relevant for a bushfire event, see Section 3.
- Define the functions, roles and responsibilities of staff in a bushfire emergency, see Section 4.
- Establish ongoing education and training as part of the overall strategy, see Section 5.
- Provide procedures to evacuate children, staff and visitors in the event of a bushfire,, or implement shelter in a 'safer place' see Section 6.

2.2 Overview of outlined response

The BEEP specifically addresses the safety of people present at the time of bushfire emergency. It is not concerned with the protection of property.

Overall, this BEEP recommends evacuation as the best response to awareness of an approaching bushfire if it is safe to leave.

An effective evacuation is dependent upon appropriate planning and decisive actions. This includes identifying staff functions, resources needed, arrangements and documentation and is addressed by this plan. Importantly an established plan needs to be practised. Time is critical to ensuring safe evacuation can occur.

Effective communication and coordination are required at all stages in the evacuation process. This is especially the case where fire impact is imminent and available evacuation time is limited. In this context, the responsibility to monitor, determine action and affect safe evacuation, need to be assigned and understood by management and staff.

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Roles and responsibilities, such as traffic management and child and visitor control need to be assigned and understood by management and staff.

2.3 Policies, guidelines and standards informing the Bushfire Emergency Evacuation Plan

This BEEP is based on guidance provided in the following:

- Australian Standard 3745-2010 Planning for Emergencies in Facilities (Standards Australia 2010)
- Guidelines for Planning in Bushfire Prone Areas Version 1.3 (WAPC and DFES 2017)
- A Guide to developing a Bushfire Emergency Evacuation Plan (DPLH 2019)

2.4 Distribution of the Bushfire Emergency Evacuation Plan

The BEEP is an internal document, to be used by childcare staff to guide evacuation procedures, with an up-to-date copy of the document to be maintained within the centre and is to be provided to all staff who work at the facility. A template for recording the review of the BEEP is provided in **Appendix C**.

All staff who will work at the centre will be briefed on the emergency response protocols and an evacuation procedure should also be displayed prominently in each building. An example has also been provided in **Appendix F**.

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3 Emergency Features Relevant to the Bushfire Emergency Evacuation Plan

3.1 Firefighting equipment

The centre will have onsite firefighting equipment that will be available for emergency personnel, including:

- fire extinguishers
- fire hose reels.

Additional equipment that may be required in the case of a bushfire emergency may include:

- evacuation maps and diagrams
- goggles
- smoke inhalation masks
- walkie talkies/two-way handheld radios (VHF)
- satellite phones.

All equipment should be maintained annually (as a minimum) in accordance with equipment specifications and the relevant standards, including (but not limited to) *Australian Standard 1851 – 2005 Maintenance of Fire Protection Equipment* (Standards Australia 2012). Any large-scale bushfire events should be reported to emergency services who will coordinate the overall response, while site personnel coordinate the safe internal response (i.e. evacuation) as needed.

3.2 Vehicular access

Vehicle access to the centre will be via an entrance/exit point to the west of the site, associated with via a public carpark access road. This access road is located directly off Collier Pass, which abuts the southern boundary of the site. An underground carpark will be located underneath the childcare centre accessed from the existing carpark access road.

Occupants will likely arrive at the centre through a variety of means, predominantly through private vehicles, in addition to walking and cycling.

There will not be sufficient private vehicles retained at the centre to facilitate an evacuation of all occupants.

Supplementary vehicle support, such as buses, will be required for evacuation and the arrangements for supplementary vehicle support are to be determined before the commencement of each bushfire season. These arrangements constitute the 'Transport Plan'.

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3.3 Condition of grounds and buildings

The centre shall be maintained to a low threat state (in accordance with clause 2.2.3.2(e) and 2.2.3.2(f) of *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas* (AS 3959) (Standards Australia 2018). Flammable objects and open storage bins should not be placed in proximity to the building that may increase the risk of the ignition of the building.

The centre building and grounds should be inspected prior to the commencement of the bushfire season (by 1 October each year). A seasonal checklist is attached to **Appendix H**.

A checklist for inspections during the fire season when the Fire Danger Rating (FDR) is Extreme or Catastrophic is attached in **Appendix I**.

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4 Roles and Responsibilities

4.1 Emergency Planning Committee

The childcare centre is to establish an **Emergency Planning Committee** ('the Committee') and should be comprised of the centre Emergency Response Team, and childcare centre board members (if relevant).

The Committee is responsible for overseeing the preparation of the centre building and grounds for the approaching bushfire season, including attendance to any maintenance required to minimise the risk of damage from bushfire attack (**Appendix H**).

The Committee is responsible for reviewing the BEEP, the broader Emergency Response Plan, and preparation of the facility and overseeing the undertaking of education and training. It is also responsible for evaluating the outcomes of drills and responses (when applicable), and ensuring appropriate resources are provided to maintain equipment.

The Committee will assign roles and responsibilities to staff.

4.2 Emergency Response Team

The childcare centre is to establish an Emergency Response Team, who are designated site personnel who have been trained and certified to undertake/provide specific tasks in the event of an emergency, including the operation of firefighting equipment. This includes ensuring that site mobile phones that are registered on the Emergency Alert System are in ready condition throughout the bushfire season.

The centre Emergency Response Team shall comprise of the following positions:

- Chief Warden.
- Deputy Chief Warden.
- Area Warden.
- First Aid Personnel.
- Traffic Warden.
- Communications Officer.

One person may fulfill multiple roles, and roles may change depending upon staff availability.

4.3 Roles of Evacuation Managers

In planning for the event of a bushfire emergency the roles outlined in **Section 4.3.1 to 4.3.6** below should be assigned.

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4.3.1 Chief Warden

The Chief Warden is responsible for:

- Evaluating conditions, alerts and threats of bushfire affecting the centre.
- Determining the need for evacuation.
- Sounding the alarm.
- Supervising the emergency response.
- As required, advising authorities that an evacuation is underway including the Department of Fire and Emergency Services (DFES) and the City of Joondalup fire and emergency services manager.
- Documenting the circumstances of the emergency, processes and outcome.
- Checking on Extreme and Catastrophic FDR days that flammable materials are not located against or close to the building, including litter, grass and leaves, and rubbish bins.
- Checking on Extreme and Catastrophic FDR days that firefighting equipment is ready and that
 the shelter location has the required equipment for communication, safety (including first aid
 equipment) and comfort.

4.3.2 Deputy Chief Warden

The Deputy Chief Warden is responsible for:

- Taking direction from and carrying out tasks allocated by the Chief Warden.
- Checking all buildings/facilities.
- Ensuring all children, staff and visitors have been alerted and evacuation has been initiated.
- Maintaining communication with, and updating the Chief Warden with situation reports.
- Providing situational information.
- Contributing to debriefing.

4.3.3 Area Wardens

Area Wardens are responsible for:

- Taking direction from and carrying out tasks allocated by the Chief Warden.
- Checking all buildings/facilities.
- Ensuring all children, staff and visitors have been alerted and evacuation has been initiated.
- Maintaining communication with, and updating the Chief Warden with situation reports.
- Providing situational information.
- Contributing to debriefing.

All permanent staff are to be trained in the role of Area Warden.

4.3.4 First Aid Personnel

First Aid Personnel, under the direction of the Chief Warden or Area Warden, are responsible for:

- Evaluating the extent of any injuries.
- Administer first aid (where safe to do so).
- Assess if an injured person can be evacuated safely.

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4.3.5 Traffic Warden

The Traffic Warden is responsible for:

- Together with the Chief Warden, arranging for the coordination and supply of additional transport, buses and pick up from the centre.
- Ensuring an orderly evacuation to the carpark to immediate north of the centre the decision is made to evacuate the centre.
- Managing the access and placement of Area Wardens to co-ordinate vehicles to safely leave the site (as it relates to the centre) during a bushfire event.
- Coordinating traffic flows associated with the centre during a bushfire evacuation.

4.3.6 Communications Officer

The Communications Officer is responsible for:

- Taking direction from and carrying out tasks allocated by the Chief Warden.
- Providing situational updates to parents and guardians.

4.3.7 Emergency Response Team Identification

The control of a bushfire emergency is greatly assisted by key personnel being quickly identifiable by children, staff, visitors and emergency services. **Table 1** below outlines the tabards and/or helmets to be worn by the Emergency Response Team to enable them to be identified.

Table 1: Summary of Emergency Response Team identification

Wearers Title	Identification colour
Chief Warden	White helmet
Deputy Chief Warden	White helmet
Area Warden	Red helmet
First Aid Personnel	Green Helmet or green armband

Emergency Response Team roles can be recorded in Appendix A.

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5 Preparation and Actions

The actions outlined below relate specifically to bushfire evacuation and should be managed in the context of the broader Emergency Response Plan for the centre.

5.1 Training requirements

All Wardens, staff and other responsible personnel working at the centre should attend a bushfire evacuation session with a qualified Bushfire Risk Consultant to be informed of and trained in relation to:

- All information contained in this document.
- Individual roles and responsibilities.
- Access and egress routes.
- Assembly point locations.
- Written evacuation procedures applicable to the process.
- Communication equipment.

All those who have received bushfire training should formally acknowledge that they have read and understood the emergency evacuation procedures, understand their role and responsibilities and whether any questions relating to the evacuation procedure were adequately answered.

5.2 Exercise drills

Evacuation to carpark to the immediate north of the centre shall be practised annually.

Staff briefing shall occur prior to each such drill and a debriefing should follow any drill or bushfire event to discuss any issues regarding the implementation of the plan.

5.3 Maintenance of equipment

The communications systems and water supply infrastructure will be regularly checked, tested and serviced according to site servicing schedules, and in accordance with *Australian Standard 1851-2012 Routine service of fire protection systems and equipment* (AS 1851) (Standards Australia 2012).

5.3.1 Evacuation plan review

This plan should be treated as a 'living document' and reviewed and revised (if required) prior to each bushfire season (which is from October to May of each year.

In addition to this annual review, a review of the plan and response of the centre personnel, children and visitors should be undertaken following any bushfire in the area and or after an evacuation.

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6 Primary and Secondary Emergency Action

In considering the response to a bushfire threat, primary and secondary emergency actions have been determined for the centre. This is to ensure that if for any reason the primary action is not achievable, the occupants are not left without a procedure to follow.

The primary emergency action relates to offsite evacuation to an identified evacuation centre/location. The triggers and processes associated with emergency evacuation are addressed within **Section 6.1**.

The secondary emergency action relates to sheltering in place. It is possible that while a bushfire event may occur within the vicinity of the centre/broader area where the risk associated with evacuation is greater than surviving in place and/or offsite evacuation may not be triggered (or it may be safer for the occupants to remain within the centre). The triggers and processes associated with sheltering in place are addressed in **Section 6.2**.

6.1 Communication

The centre Emergency Response Team will communicate during a bushfire event using two-way handheld radios/walkie talkies.

Contact with emergency authorities will be maintained through cellular/mobile telephone. All centre mobile phones need to be registered with the State Governments State Alert System. The Chief Warden should have access to a satellite phone in the event that a bushfire disrupts cellular reception. A template for recording emergency contact details is provided in **Appendix B**.

Occupants will be informed of a bushfire event that may impact the centre and any action required via a loudspeaker system (if installed) and/or via Area Wardens moving through the centre and communicating face to face.

6.2 Evacuation Process

The Chief Warden is responsible for deciding whether an evacuation is necessary and should take the following into consideration when determining if and when to evacuate:

- The advice from Emergency Services, including public warnings.
- The severity of a bushfire incident, the proximity of the bushfire and predicted fire spread (i.e. smoke, embers and radiant heat).
- · The safety of evacuation routes.

The process that should be followed involves:

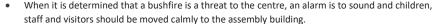
- Daily recording of Fire Danger Rating and weather conditions, during the bush fire season.
- Monitoring to establish the extent of bushfire danger (Fire Danger Ratings) and to identify bushfires in the area.
- Determining whether the bushfire is a potential threat.

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- Deciding when it is safe to evacuate or alternatively shelter in place.
- Implementing the decision to evacuate or shelter in place.
- Evacuate away from the threat to a safer place (designated by the emergency authorities or local
 government). This may include the evacuation of children to their place of residence by their
 nominated guardian, where it is advised safe to do so.
- The process to monitor for and implement evacuation due to bushfire is outlined below and a summary provided in Appendix E.

6.2.1 Monitoring for bushfires

Receiving a warning of an approaching fire is enhanced by actively monitoring communications over the internet (i.e. EmergencyWA) and ABC radio and observing the environment surrounding the centre.

It is common for the first indication that a bushfire is burning nearby to observe smoke in the surroundings.

Fire Danger Ratings (FDR) provide advice on the level of bushfire threat on any given day and are based on the forecast daily fire danger indices (which include consideration of forecast wind speed, temperature, humidity and fuel conditions). There are seven FDRs ('low', 'moderate', 'high', 'very high', 'severe', 'extreme' or 'catastrophic', which provide an indication of how difficult a bushfire will be for authorities to extinguish and on what days bushfires are going to pose the greatest threat to property and lives.

The forecasted FDR can be accessed online through the DFES or Bureau of Meteorology websites.

On days when the FDR is 'high' or above, bushfires can be unpredictable and uncontrollable, and these days trigger basic preparation and monitoring procedures.

Monitoring involves accessing websites (i.e. those of DFES and the Department of Biodiversity Conservation and Attractions), and listening to the emergency services broadcaster 720 ABC radio at regular intervals throughout the day.

In addition to FDRs, where a bushfire occurs, the Department of Fire and Emergency Services has three levels of warnings that escalate to reflect the increased risk to life from a bushfire and the decreasing amount of time people have until the bushfire arrives. The three warning levels are:

- Advice:
- Watch and Act; and
- Emergency.

In the event that an Advice Warning is received at the centre for an approaching bushfire, staff and visitors should be notified of the potential need to evacuate, through the sounding of an alarm.

If a Watch and Act warning is received, it is recommended that consideration be given to evacuation on the advice of DFES or Western Australian Police. Wardens should check the grounds to ensure the

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entry and exit points to the centre are clear and that potentially flammable objects are moved away from buildings or stored.

If an Emergency Warning is received evacuation should be undertaken if advised by DFES or Western Australian Police that it is safe to do so, over the next 90 minutes, and following the safe route identified by DFES or Western Australian Police.

An 'all clear' message means the danger has passed and the fire is under control. Although, it is possible that it still may not be safe to return to the centre and/or evacuate the centre, the Emergency Services will advise the Chief Warden when it is safe to do so.

The Chief Warden, when advised it is safe to do so will direct the Communications Officer to advise parents of children the collection arrangement and for the centre transport (either private, where available, or bus) to resume.

Importantly, early detection of a bushfire's location provides everyone with the best opportunity to evacuate early. Warning of a bushfire may be provided by emergency authorities, but this is not guaranteed.

6.2.2 Evacuation triggers

The key to a safe evacuation is leaving early, this means long before the centre or evacuation roads come under bushfire attack.

The following are triggers for evacuation:

- Receipt of an official warning to evacuate from the emergency authorities. Monitoring of the EmergencyWA web page (https://www.emergency.wa.gov.au/) at regular intervals must occur (outlined in Section 6.3.1).
- When a bushfire is observed in the locality and it has the potential to impact the centre note it
 may be too late immediately implement the survival plan response- check if evacuation is safe
 from the shelter.

The Emergency Alert Telephone warning system is used during an emergency to send messages to registered landline and mobile phones within a defined area where lives and homes are deemed to be under direct and imminent threat from a bushfire. These warnings should trigger an evacuation if they are received in a timely manner. These official warnings, however, must be assessed against the local conditions before evacuation is undertaken.

6.3 Implementation of evacuation

Early evacuation is the safest response in a bushfire event. Late evacuation is a dangerous response. The following procedures shall be implemented:

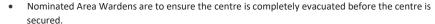
- Determine the route to be used for evacuation.
- Advise emergency authorities of the decision to evacuate and the proposed route.
- Notify Area Wardens and staff that a bushfire evacuation is underway.
- Children, staff and visitors to be informed and organised for evacuation by responsible Area Wardens.

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 Evacuate away from the threat to a safer place (designated by the emergency authorities or local government).

6.3.1 Phasing of evacuation

To facilitate the orderly evacuation of the centre, the departure of children, visitors and staff should be phased if necessary, depending upon the number of people present at the centre and the resources available. This can be achieved by:

- Evacuating the most vulnerable children first such as the disabled or likely to have breathing difficulty, followed by age group.
- Pre-arranged arrangements with bus companies.
- Using private vehicles to evacuate the centre.

Evacuating People with Disabilities

For the purposes of these evacuation procedures, people are considered to be disabled if they are unable to evacuate the site or a building without assistance, or if their time to exit the site or building would be much greater than the average children.

The Chief Warden should make arrangements for another person to be assigned to assist the disabled person in an emergency. This assigned person will assist the disabled person to the designated emergency assembly area.

6.3.2 Evacuation vehicles

Responsibility in this area rests with the Traffic Warden. It is intended that evacuation will occur through guardians collecting children. Should this be unviable given the time available for evacuation, children should be removed from the area through the use of buses. Staff vehicles may be used to assist in the evacuation of priority children. Ambulances may be required to assist any children with special needs/disabilities.

The centre must be aware if there is sufficient vehicle capacity (i.e. arrangements with bus companies) every day during the bushfire season (between November and April each year) to be able to evacuate every person from the centre at all times.

6.4 Secondary action – shelter in place

An alternative to evacuation is to take shelter onsite (within the centre). This would occur if the risk associated with evacuation is greater than surviving in place, or the threat is considered manageable and it may be safer for occupants to remain within the centre.

Whilst the centre is identified within an area that is exposed to a BAL rating exceeding BAL-LOW, the centre should be able to adequately house staff and children and accordingly has been identified as the designated area to shelter (and is identified as the emergency assembly area) (for survival) in the case of a bushfire emergency.

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The internal building of the centre is the 'control building', and will house the first aid equipment and fire extinguishers. Additional equipment required to ensure the centre can function as the control building includes ensuring that a list of key contacts is available at all times, in addition to ensuring that at least one person has a mobile phone during an emergency.

6.4.1 Shelter triggers

The following are triggers for sheltering in place:

- The threat is considered manageable and it may be safer for occupants to remain within the centre.
- An assessment is made by the Chief Warden or by emergency authorities that evacuation would be made unsafe due to the proximity and/or the unavailability of safe evacuation routes.
- A bushfire is observed in close proximity and is approaching the site with not enough time to
 evacuate.

6.4.2 Implementation of sheltering in place

If a decision to shelter on site is taken, occupants will shelter within the centre. For sheltering onsite, the following procedures shall be implemented:

- Advise emergency authorities of the decision to shelter onsite.
- Deputy Chief Warden to ensure all people at the centre have been accounted for, and aware of the procedures.
- Close all external windows, vents and doors.
- Shut down any evaporative air conditioning.

The centre may be subject to an ember attack that may last for many hours. Embers may cause fires on-site that threaten lives. The wardens must therefore be prepared when sheltering, keep calm and methodically look for embers or small fires and extinguish using firefighting equipment provided at the centre.

After the fire front has passed, the Chief Warden should:

- Inspect the centre and extinguish small fires using firefighting equipment provided at the accommodation (where safe to do so).
- Monitor the grounds for small fires for 24 hours after the fire.

A summary of the shelter in place procedure is provided in **Appendix F**.

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Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup





General references 7.1

Department of Planning, Lands and Heritage (DPLH) 2019, A Guide to developing a Bushfire Emergency Evacuation Plan, Western Australian Planning Commission.

Standards Australia 2010, Australian Standard 3745-2010 Planning for emergencies in facilities (AS 3745-2010), SAI Global Limited, Sydney.

Standards Australia 2012, Australian Standard 1851-2012 Routine service of fire protection systems and equipment (AS 1851-2012), SAI Global Limited, Sydney.

Standards Australia 2018, AS 3959:2018 Construction of buildings in bushfire-prone areas, Sydney.

Western Australian Planning Commission (WAPC) 2015, State Planning Policy 3.7 Planning in Bushfire Prone Areas, Perth.

Western Australian Planning Commission and Department of Fire and Emergency Services (WAPC and DFES) 2017, Guidelines for Planning in Bushfire Prone Areas Version 1.3, Western Australia. December 2017.

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Bushfire Emergency Evacuation Plan

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Appendix A List of Emergency Control Personnel



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Appendix A: List of Emergency Control Personnel

Function	Name
Chief Warden	
Deputy Chief Warden	
Area Warden	
First Aid Personnel	
Traffic Warden	
Communications Officer	

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Appendix B
Emergency contacts



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Appendix B: Emergency Contacts

General Emergency	
Police	
Department of Fire and Emergency Services (DFES)	
Water	
Gas	
Electricity	

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Appendix C
Review of Emergency Plan



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Appendix C: Review of Emergency Plan

Date	Plan reviewed	Modification requested	Action procedures practiced	Responsible person	
		Yes/no	Yes/no	Name	Signature

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Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup

Appendix D: Fire warning levels

BUSHFIRE WARNINGS: WHAT SHOULD YOU DO?	WHEN WILL IT BE ISSUED? WHAT SHOULD YOU DO?	When a fire has started but there is no immediate danger When a fire has started but there is no immediate danger There is no threat to lives and flories There is no threat to lives and may be causing smoke near homes Firefighters will be able to control the fire Firefighters will be able to control the fire Therefighters will be able to control the fire	When a fire is approaching and conditions are changing When a fire is a possible threat to lives and homes There is a possible threat to lives and homes The fire will be out of confrol. There may be smoke and embers around your home and roads Put your base decided to leave for a safer place, leave now and take your survival with with you If you have decided to leave for a safer place, leave now and take your survival with the your survival with machines to put in containment lines to Research to the fire spreading	When there is immediate danger and the fire will impact your home There is a threat to lives and homes The fire will be out of control and moving very fast. This is the highest level of warning Therefore in the way is clear leave immediately for your safer place and take your survival kit with you Therefore it is too late to do it now. Your safest option that the significant option is to leave for a safer place, if the way is clear Therefore in the way is clear to the way is clear the first think to the way is clear the fact in the way is clear the fact. If you have not infort and the way is clear the fact in the way is clear the fact in the way is clear the fact. If you have not infort and the way is clear the fact in the fact in the way is clear the fact in the fact in the way is clear the fact in the way is clear the fact in the fact in the way is clear the fact in the way is clear the fact in the fact in the way is clear the fact in the way is clear the fact in the fact in the way is clear the fact in the way is c	 When the danger has passed and the fire is under control Fleringhers will be working to put the last bits of the fire out and make Remain vigilant in case the situation changes When driving in the fire area state When driving in the fire area state Unen driving in the fire area state to return home. Emergency services will advise Dangers like smoke, fallen frees and downed power lines may be on roads when you can go home.
WESTER AGENCY OF	ALERT LEVEL	ADVICE Be aware and keep up to date. Resuld at 11am and 4pm unless the stuation changes	WATCH AND ACT Put your preparations into action — do not wait and see issued every two hours unless the situation changes	EMERGENCY WARNING Take immediate action to survive- you will be impacted by fire Nazusi werey hour cross the idituation changes	ALL CLEAR Take care to avoid any dangers and keep up to date Issued when the threat has passed

Appendix E

Evacuation procedures



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Appendix E: Evacuation procedures

To facilitate orderly evacuation of the centre, the departure of children, staff and visitors, should be phased if necessary, depending upon the number of occupants at the centre and the resources available. This can be achieved by:

- Evacuating the most vulnerable people first.
- Carers being responsible for their children.
- Using private staff vehicles if required to transport vulnerable people from the centre.

Implement the following procedures:

- Sound the audible alarm.
- Assemble all children and personnel in the assembly area.
- Confirm all buildings are empty
- Put the transport plan into action.
- Determine the route to be used for evacuation.
- Advise emergency authorities of the decision to evacuate and proposed route.
- Notify staff that a bushfire evacuation is underway.
- Children, staff and visitors to be informed and organised for evacuation by Area Wardens.
- Nominated Area Wardens are to ensure the centre is completely evacuated before the centre is secured.
- Evacuate away from the threat to a place not in a bushfire prone area.

IMPORTANT: If the safety of the evacuation roads cannot be guaranteed, take refuge in the centre and implement the shelter plan

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Appendix F

Shelter in place procedures



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Appendix F: Shelter in place procedures

F1.1 Details to be provided to emergency services

The following information should be provided to the emergency authorities if sheltering on-site is required whilst waiting for evacuation. A template for occupant information is provided below.

1. Nature of the emergency:

- o Immediacy can the bushfire be seen/ distance from the centre?
- Evidence of ember attack?
- o Evidence of spot fires?

2. Details of individuals sheltering:

- o Number of people
- Condition/state
- Special needs i.e. disabilities, medical conditions

3. Location:

- Address of centre (420 Joondalup Drive, Joondalup)
- Nearest crossroads (Collier Pass and Grand Boulevard)
- Exact location of shelter
- o Entry point to the centre

F1.2 Shelter in place procedures

Sheltering on site is based on an assessment by the Chief Warden or emergency authorities, or it is not safer to leave.

The following process will be undertaken:

- Communicate directly with all wardens.
- Advise emergency authorities of the decision to implement shelter in place and provide all information as detailed in Section F1.1.
- Chief warden to ensure all staff and children have moved to the safer place.
- Keep alert for any embers that could start fires in buildings or the grounds and alert authorities if any local fire cannot be extinguished.
- Close all doors, windows and vents, wet towels and use them to block smoke ingress.
- · Stay sheltered until it is safe outside.
- Monitor the building condition, keep calm and evacuate the buildings as soon as it is safe outside. Watch for the passing of the fire front and do not stay in a burning building.
- The fire front may be preceded by an increasing density of embers and similarly by the passing
 of the fire front. It will be extremely loud and windy but will quickly dissipate. Expect this and
 stay calm
- Monitor the condition of the building and extinguish any small fires if it is safe to do so.
- Plan to evacuate if advised by DFES or Police that fire is no longer a threat i.e. "all clear" or until
 evacuated off-site coordinated by Emergency Services.

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Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup

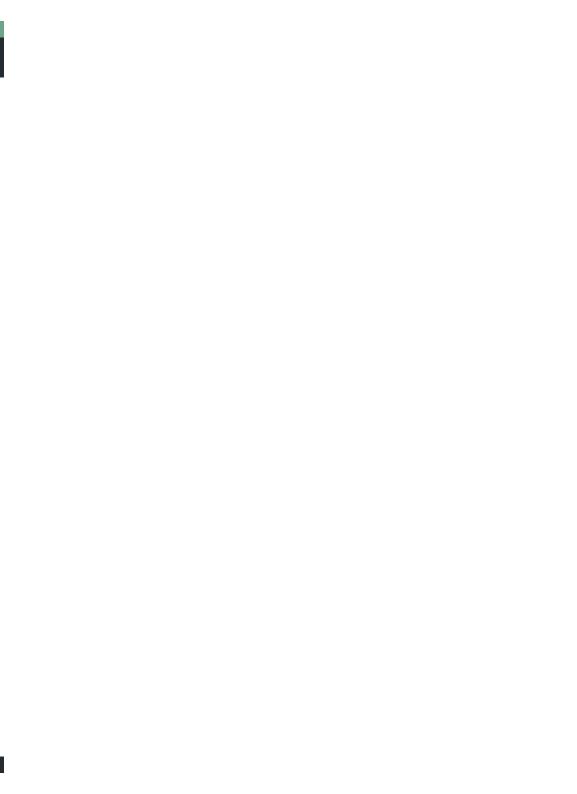


Date:						
Emergency control organisation						
Chief War	den					
Area Ward	lens					

Accommodation occupant details

No.	Occupant Name	Special needs	Transport	Phone number	Present	Accounted for
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
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20						

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Appendix G

Bushfire Emergency Evacuation Plan



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Bushfire Emergency Evacuation Plan Part Lot 708 (No. 420) Joondalup Drive, Joondalup



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BUSHFIRE EMERGENCY EVACUATION PLAN Part Lot 708 (No. 420) Joondalup Drive, Joondalup



Role	Name
Chief Warden	
Deputy Chief Warden	
Area Warden (s)	
Traffic Warden	
Communications Officer	
First Aid Personnel	

Key Emergency Contacts	Number
Police	000
City of Joondalup	08 9400 4000
Department of Biodiversity Conservation and Attractions	08 9219 9000
Department of Fire and Emergency Services (DFES)	131 444
Emergency information	13 33 37

MONITORING FOR BUSHFIRES

Occupants should be aware of their surroundings and the potential for bushfire to occur to enable emergency response procedures to be enacted. Monitoring for bushfire threat should include:

- Ensuring mobile phones are switched on at all times in order to receive alerts.
- On days when the Fire Danger Rating (FDR) is 'high' or above, regularly check
 websites such as Emergency WA (www.emergency.wa.gov.au) or Department of
 Fire and Emergency Services (www.dfes.wa.gov.au), Department of Biodiversity,
 Conservation and Attractions (DBCA) Alerth. https://alerts.dbca.wa.gov.au/) or
 monitoring emergency services broadcaster (i.e. ABC radio) for bushfire in the
 vicinity of the centre. A fire warning level ('advice'; 'watch and act' or
 'emergency') will apply, and will trigger the emergency evacuation plan.
- Checking for smoke or fire nearby. If observed, emergency evacuation plan should be enacted. Note: you may observe a bushfire (or evidence of a bushfire i.e. smoke) before an official warning is received.

<u>IMPORTANT:</u> If fire can be seen or heavy smoke is close by, or embers are falling on the accommodation, it is too late to leave. Enact 'Shelter in Place' procedures.

Procedures based on Fire Warning Level

ON ADVICE OF A BUSHFIRE THREAT

Turn off evaporative air conditioners. Close roof vents and doors.

Assess situation and assign a delegate to monitor website or information line (if Department of Fire and Emergency Services (DFES), call on 13 DFES (13 33 37) or www.dfes.wa.gov.au and Emergency WA website: www.emergency.wa.gov.au).

Check availability of vehicles to evacuate occupants.

Account for whereabouts of your occupants at your accommodation unit.

EMERGENCY WARNING or YOU NOTICE A BUSHFIRE

Seek instructions from the Emergency Services Incident Controller (i.e. City of Joondalup or DFES) to determine if offsite evacuation is required and if public roads are safe to evacuate.

If yes, implement evacuation procedures and evacuate to location identified by Emergency Incident Controller via public road network.

If no, implement shelter in place procedures and remain within your accommodation unit until instructed otherwise by Emergency Services Incident Controller.

Monitor conditions in the building and observe the fire's passing, keep calm, block smoke ingress, keep hydrated.

Evacuate the buildings as soon as it is safe outside – do not stay in a burning building.

Evacuation Procedures

To facilitate the orderly offsite evacuation of the centre, the departure of occupants, should be phased if necessary, depending upon the number of children and the resources available. This can be achieved by:

- Evacuating the most vulnerable occupants first, such as the disabled, those with medical conditions and/or those likely to have breathing difficulty.
- Using private vehicles to evacuate the cebtre (where appropriate).

Implement the following procedures:

- Determine the route to be used for evacuation. This includes providing clear instructions on the direction of travel for vehicles
- Occupants to be instructed to evacuate via public road network i.e. south-east.

IMPORTANT: If conditions change during an evacuation and the safety of the evacuation roads cannot be guaranteed, return to the centre and shelter within the building.

Shelter in place

Shelter in place when the risk associated with evacuation is greater than surviving in place, or the threat is considered manageable and it may be safer for occupants to remain within their short-term accommodation. This will be determined by the Chief Warden or emergency services on advice that it is not safe to leave.

Implement the following procedures:

- Advise emergency authorities of the decision to implement shelter in place and provide all information
- Chief Warden is to ensure that all persons that all staff and children are accounted for.
- Keep alert for any embers that could start fires in buildings or the grounds at the centre and alert authorities if any local fire cannot be extinguished.
- \bullet Close all doors, windows and vents, wet towels and use them to block smoke ingress.
- Stay sheltered until it is safe outside.
- Monitor the building condition, keep calm and evacuate the building as soon as it is safer outside. Watch for passing of the fire front and do not stay in a burning building.
- The fire front may be preceded by an increasing density of embers and similarly for the
 passing of the fire front. It will be extremely loud and windy but will quickly dissipate.
 Expect this and stay calm.
- Monitor the condition of the building and extinguish any small fires if it is safe to do so.
- Plan to evacuate if advised by DFES or Police that fire is no longer a threat i.e. "all clear" or until evacuated off-site by Emergency Services (or in coordination with).

ALL CLEAR After the fire has passed

Seek instructions from the Emergency Services Incident Controller - All clear.

Monitor the buildings for small fires for up to 24 hours.

Appendix H

Seasonal Checklist



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	SEASONAL CHECKLIST	COMPLIES (Y/N)
•	Prune all vegetation in accordance with the Standards for Asset Protection Zones (<i>Schedule 1 Guidelines for planning in bushfire prone areas V1.3</i>). TREES: No tall trees >5 m (trunk)s are to be within six (6) metres of a building and branches are not to overhang a building or be within three (3) metres. SHRUBS: No shrubs or trees up to 3 m are to be within three (3) metres of a building. GRASSES: No grasses within the site should exceed 100 mm and vegetation less than 0.5 m high is to be no closer than 2 m from the building.	
٠	Ensure all roof and building junctions are clear of litter.	
•	Check all roofs presents no gaps greater than 2 mm. By external inspection or observation of daylight in the roof cavity. Screen any gaps (steel mesh 2 mm aperture) or filled with mineral wool or non-flammable sealant.	
•	Ensure all building surfaces present no gaps greater than 2 mm, including deck boards.	
•	Ensure all window and door screens are steel mesh 2 mm aperture and unbroken.	
•	All buildings are free of flammable materials, none located within 3 m.	
•	All objects attached to the buildings are non-combustible or easily removable, and the removing mechanism is in working order.	
•	The hoses supplied for firefighting are protected from radiant heat (non-flammable fire reel cover) and are in working order.	
•	Fire Extinguisher charge levels are in working order and the instructions on use are attached.	
•	Smoke detectors are in working order.	
•	The Evacuation Diagram is clearly displayed on immediately next to all external doors.	
•	Emergency Contacts details are current and identified on the Evacuation Diagram.	
•	Ensure induction details for personnel during the bushfire season are up to date.	
	Date of inspection	
_		

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Appendix I
Preparation Checklist



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P	PREPARATION CHECKLIST – BUSHFIRE SEASON	COMPLIES (Y/N)
•	Ensure the Manager(s) is thoroughly familiar with the Bushfire Emergency Evacuation Plan.	
•	Ensure children, staff, relief staff and parents/carers have been made aware of the Bushfire Emergency Evacuation Plan.	
•	Ensure parents are aware of the site's procedures during a bushfire.	
•	Ensure supplementary transport arrangements have been established for assistance during a bushfire event.	
•	Ensure the Bushfire Emergency Evacuation Plan is reviewed prior to the bushfire season.	
•	Ensure the Manager(s) and Communications Officer are liaising with the relevant authorities, including (but not limited to) the Department of Fire and Emergency Services, the Department of Biodiversity, Conservation and Attractions, WA Police, local volunteer fire brigade, local government representative.	
•	Ensure the above authorities are aware of the safer place (assembly building) location.	
•	Ensure evacuation drills are practised prior to the start of the bushfire season and at least once per term during the bushfire season.	
•	Check the Department of Fire and Emergency Services website for any alerts.	
D	ate of inspection	

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