Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1

PROPOSED DEVELOPMENT AT

4-12 LANGRIDGE STREET, COLLINGWOOD VIC

TOWN PLANNING

FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE. CONTRACTOR MUST VERIFY DIMENSION ON JOB BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS. ALL DIMENSIONS AND EXPOSINGS TO BE REPORTED TO BAYLEY WARD ARCHITECTURE + INTERIOR IMMEDIATELY. THIS DRAWING IS COPYRIGHTED.

GENERAL NOTES

Revision

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	15/05/20	AC
B	ISSUE FOR INFORMATION	01/06/20	AC
C	TOWN PLANNING ISSUE	23/06/20	AC
D	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

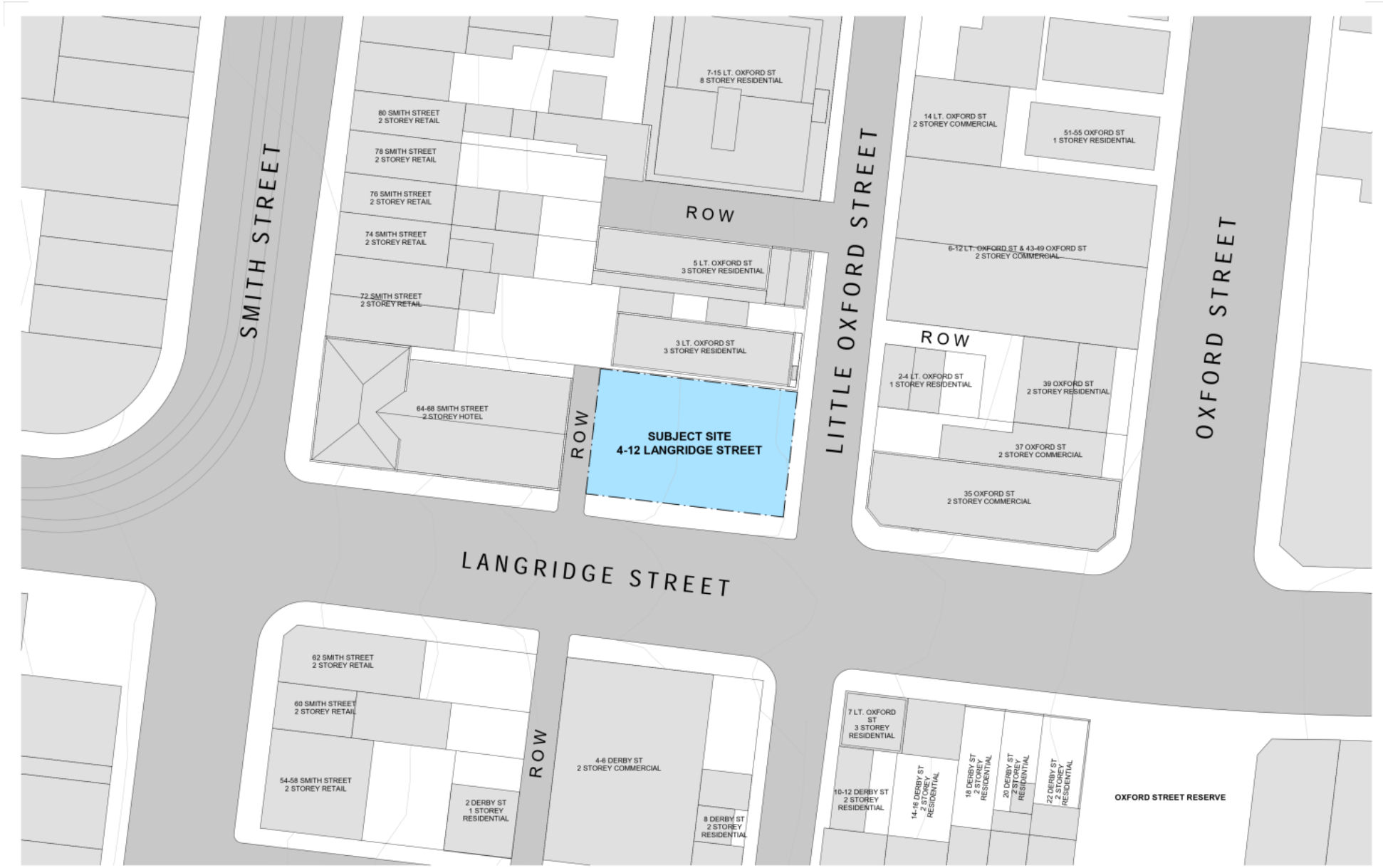
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222

BAYLEY WARD

Project No 1668
Drawing No TP0000
Drawing name COVER SHEET
Revision
Scale @ A1 50% @ A3
Drawn
Approved KG
Plot Date

Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



GENERAL NOTES

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	01/09/20	AC
B	TOWN PLANNING ISSUE	23/06/20	AC
C	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

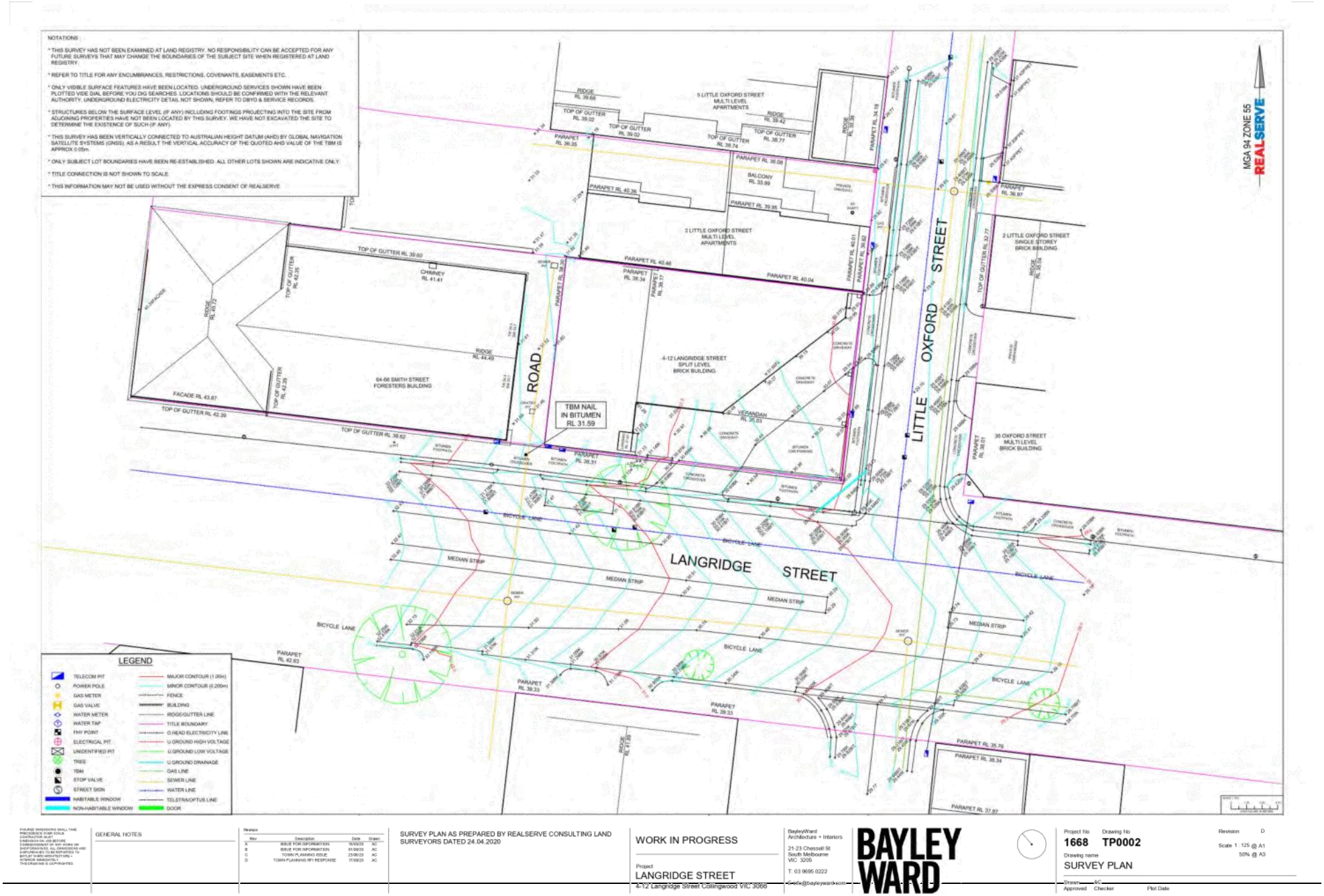
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: ada@bayleyward.com

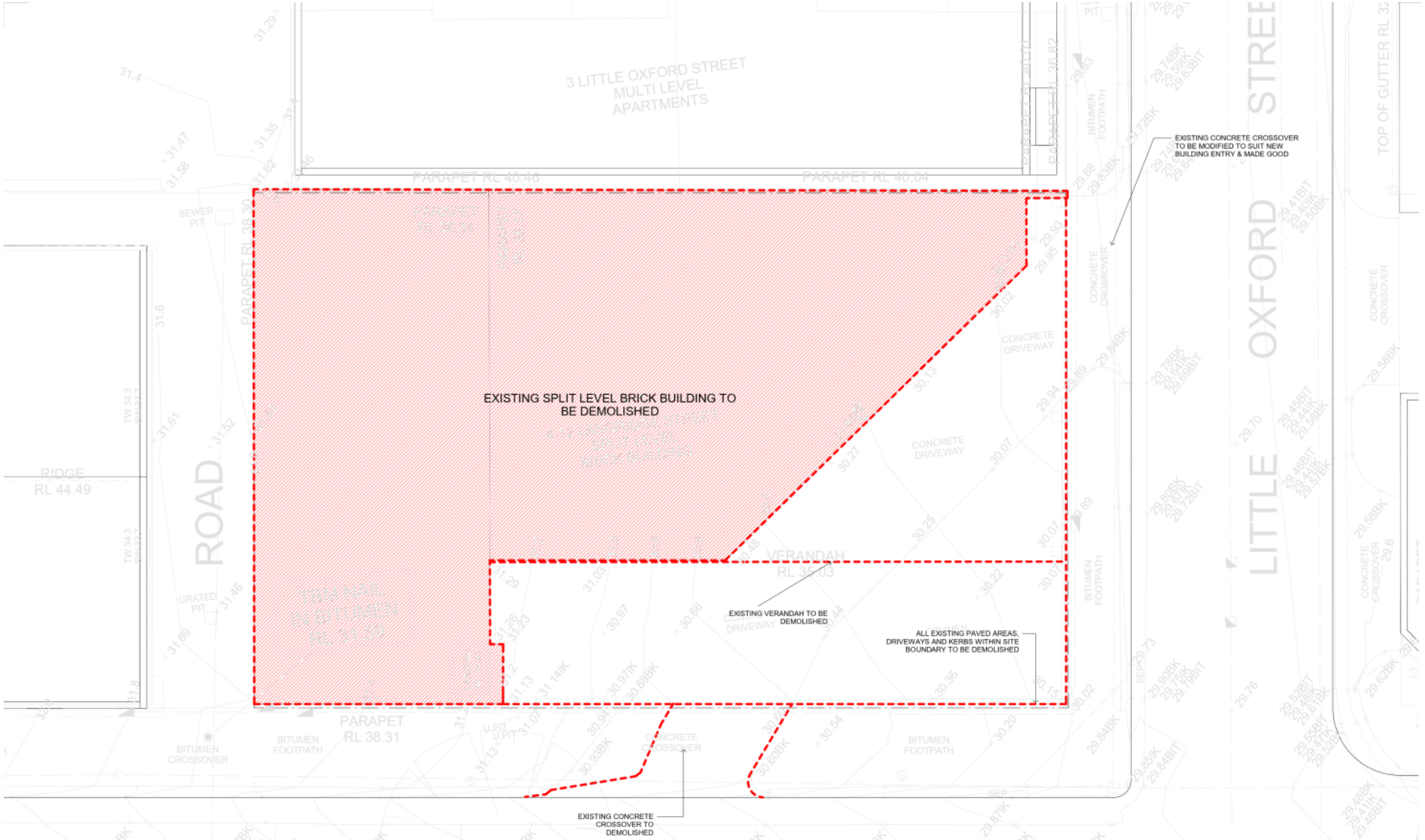
BAYLEY WARD

Project No 1668 Drawing No TP0001 Revision C
Drawing name SITE PLAN
Scale 1 : 200 @ A1
50% @ A3
Drawn AC Approved Checker Plot Date

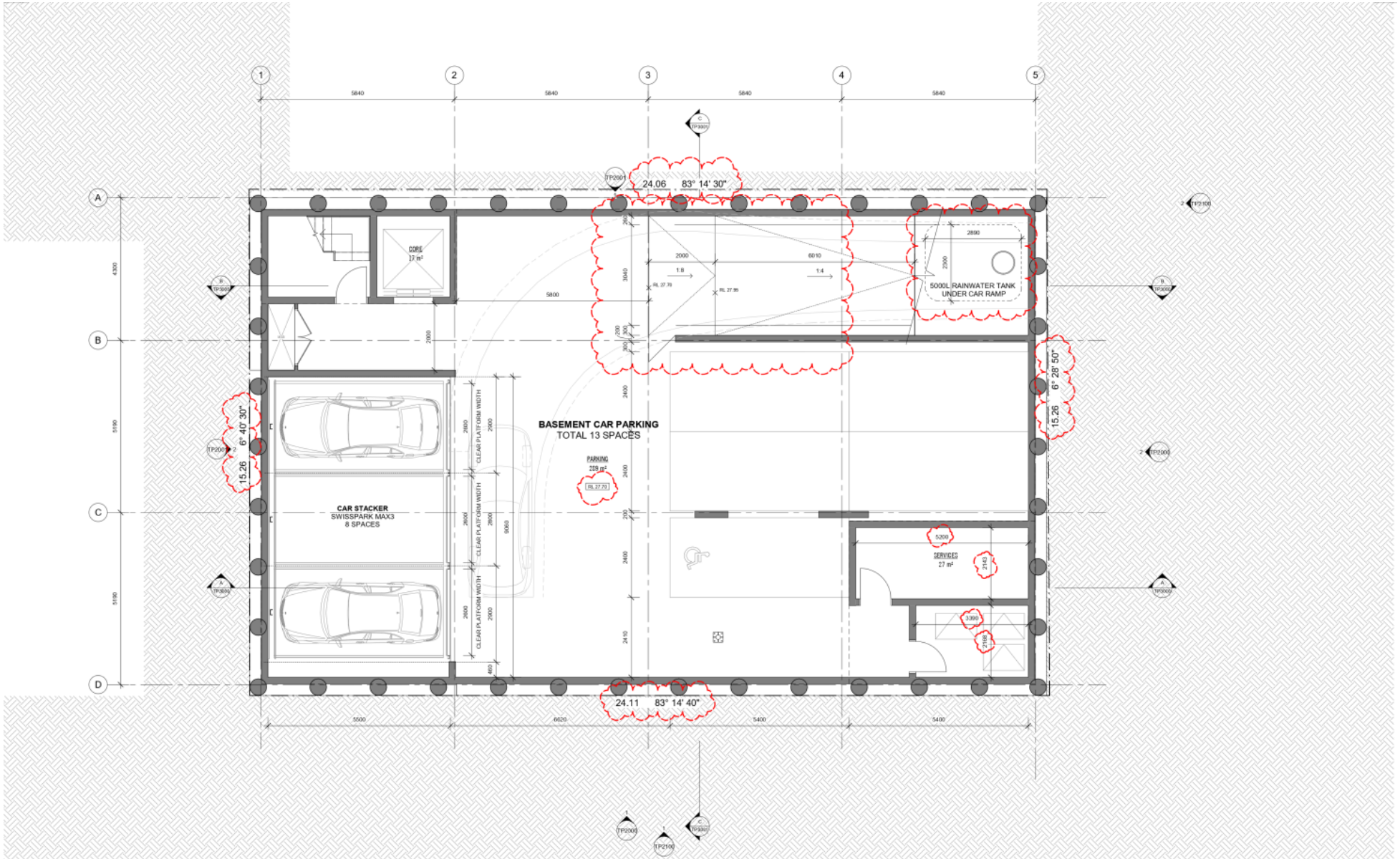
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



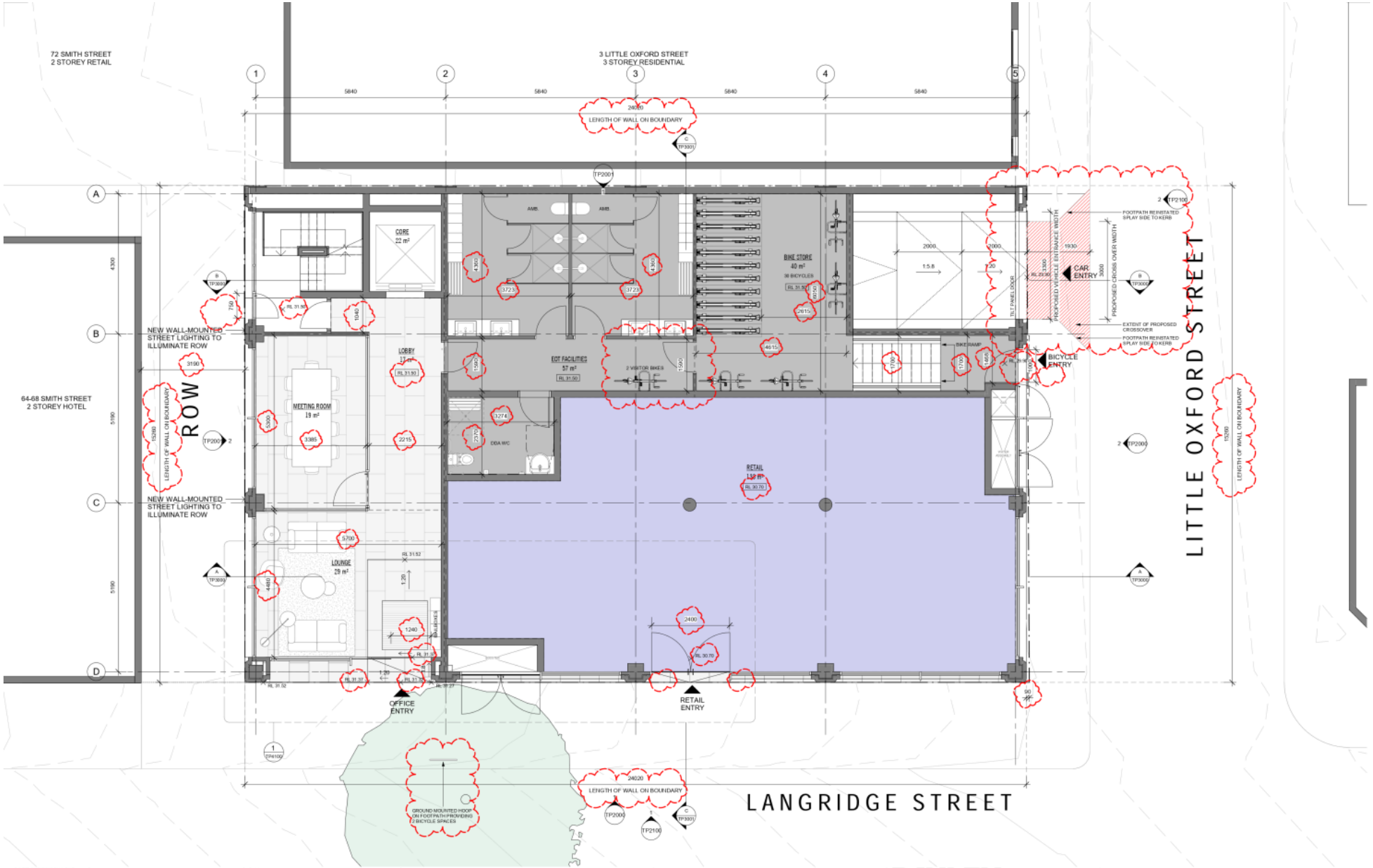
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



GENERAL NOTES

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
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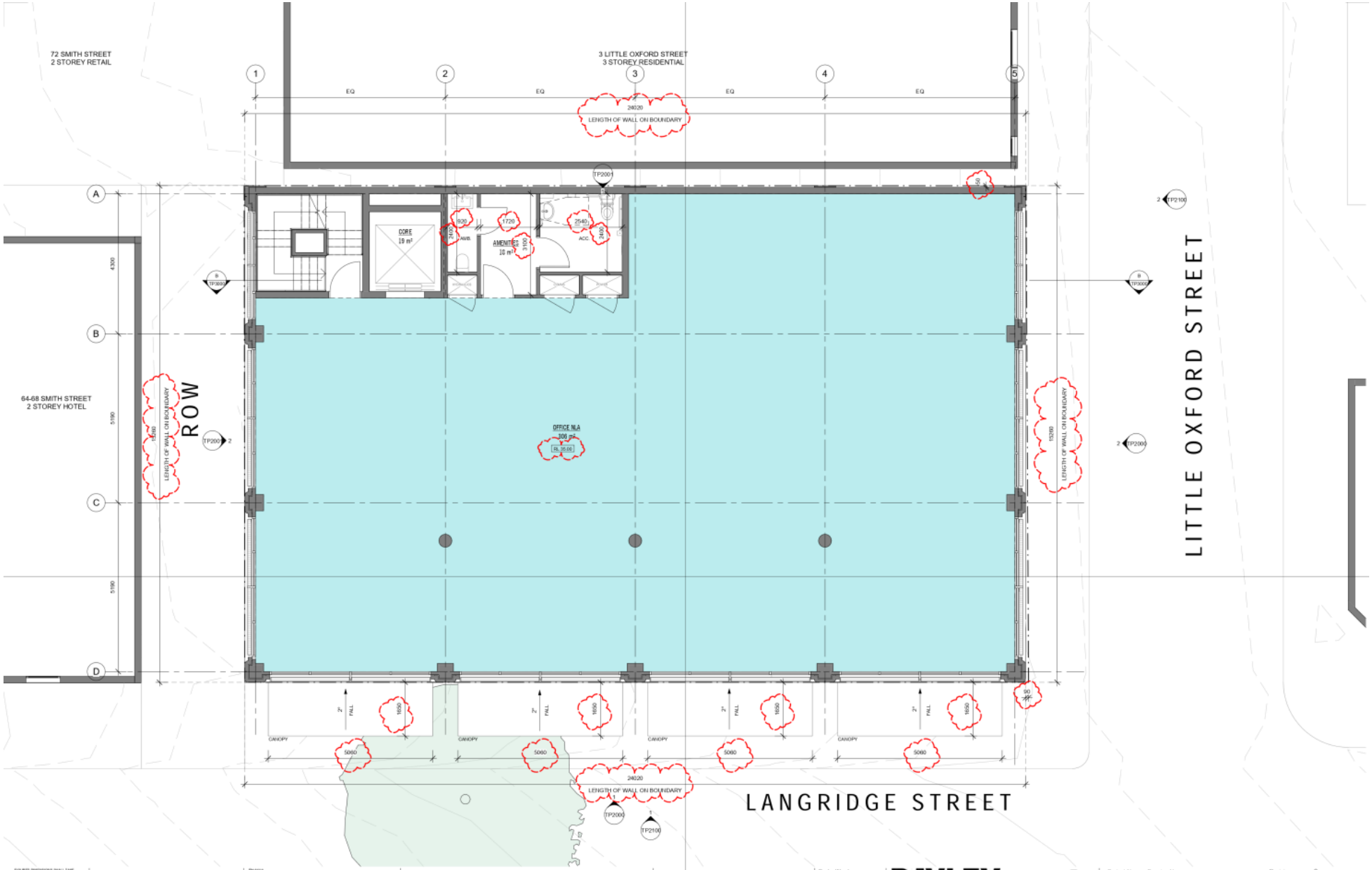
T: 03 9695 0222

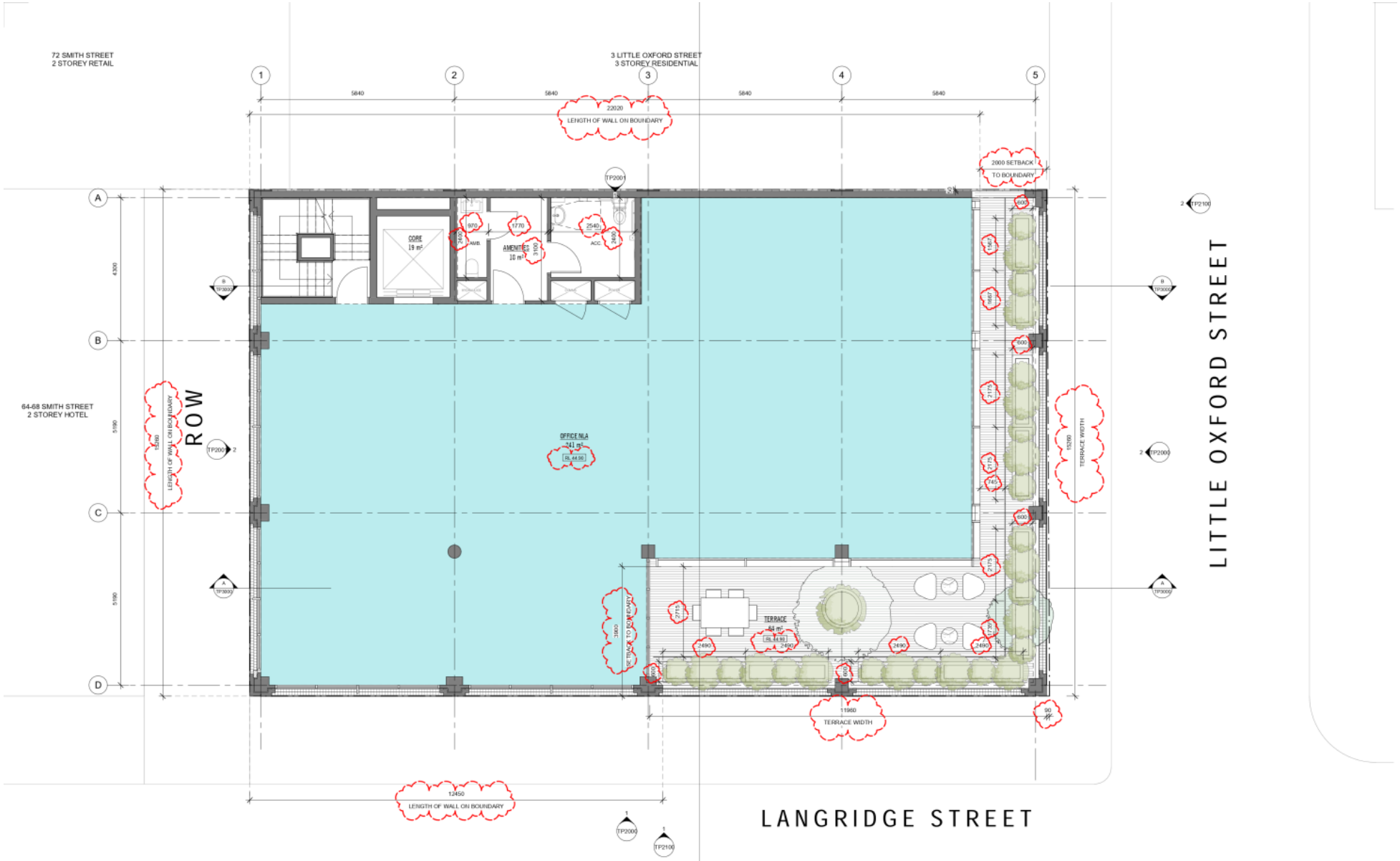
BAYLEY WARD

Project No 1668
Drawing No TP1000
Drawing name GROUND FLOOR PLAN
Revision G
Scale 1 : 50 @ A1
50% @ A3
Drawn AC
Approved AC
Plot Date

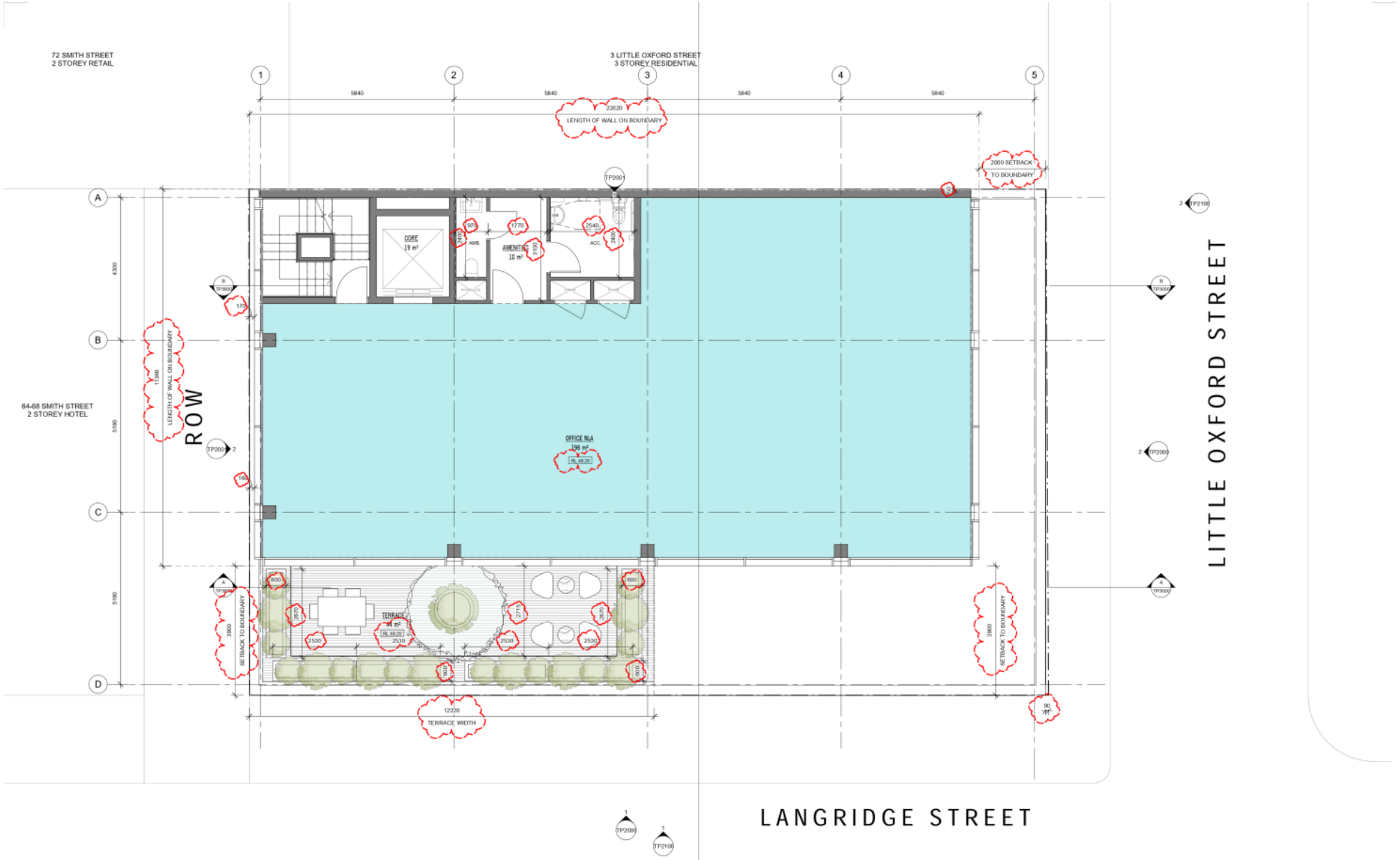
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



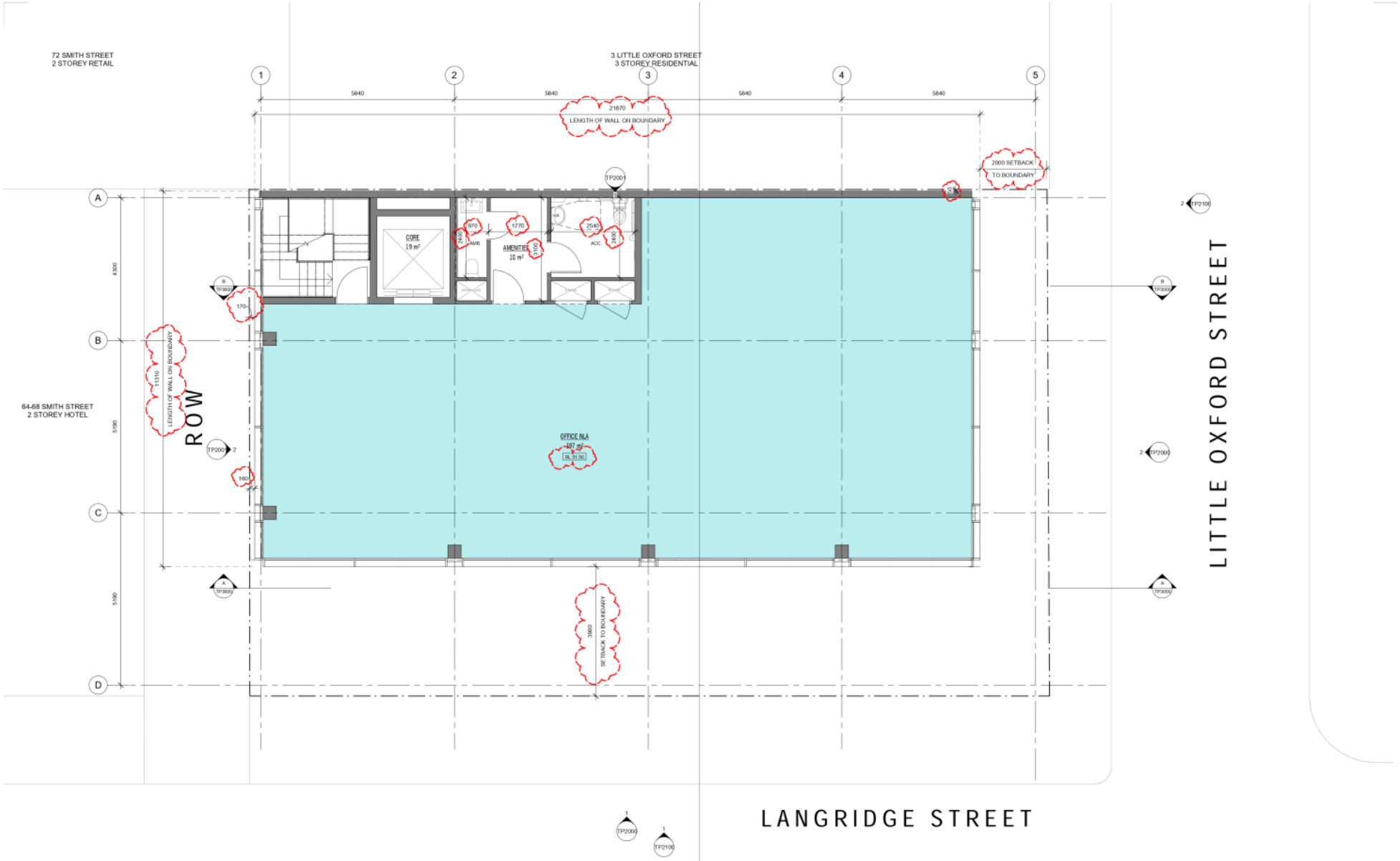
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



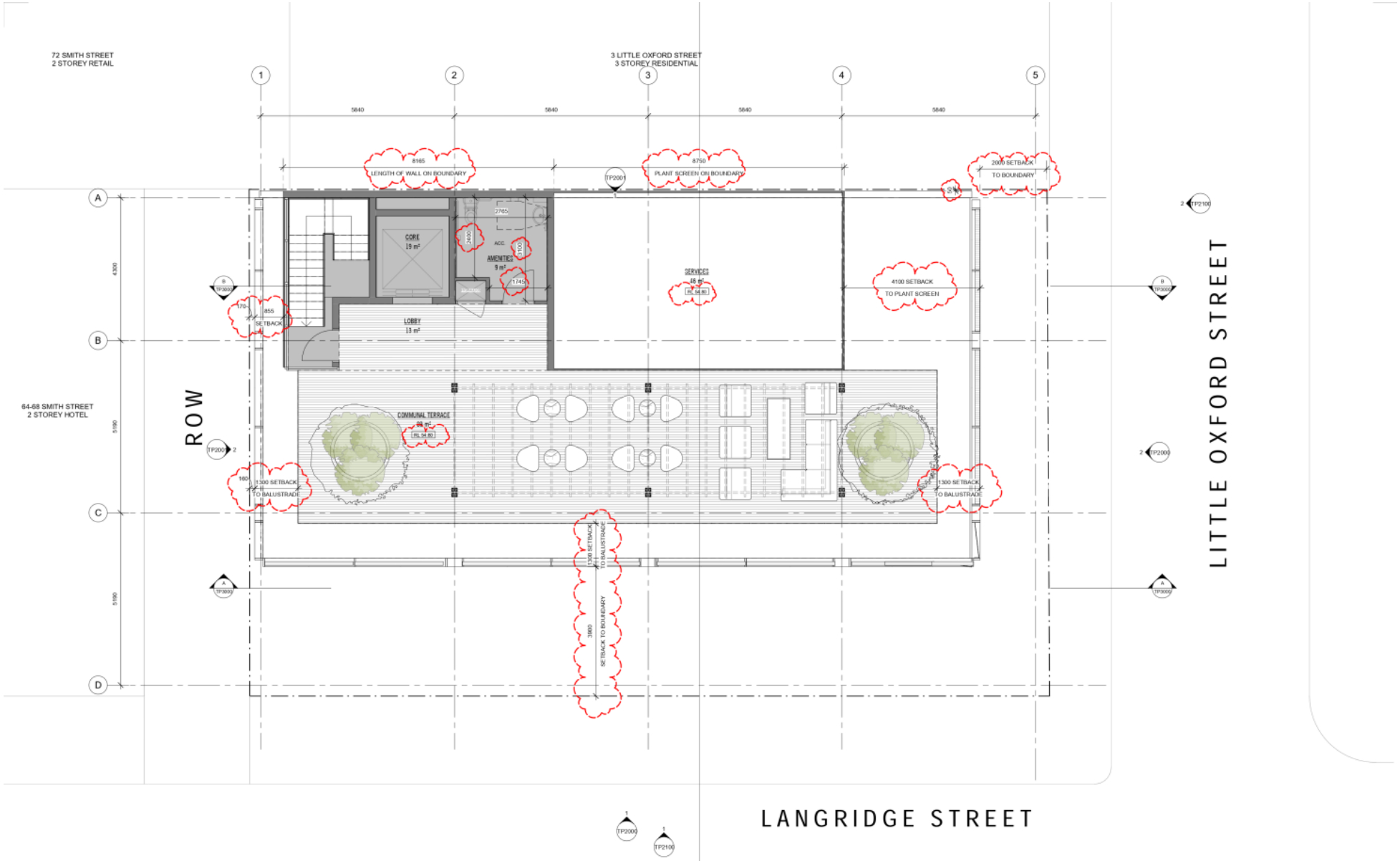
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



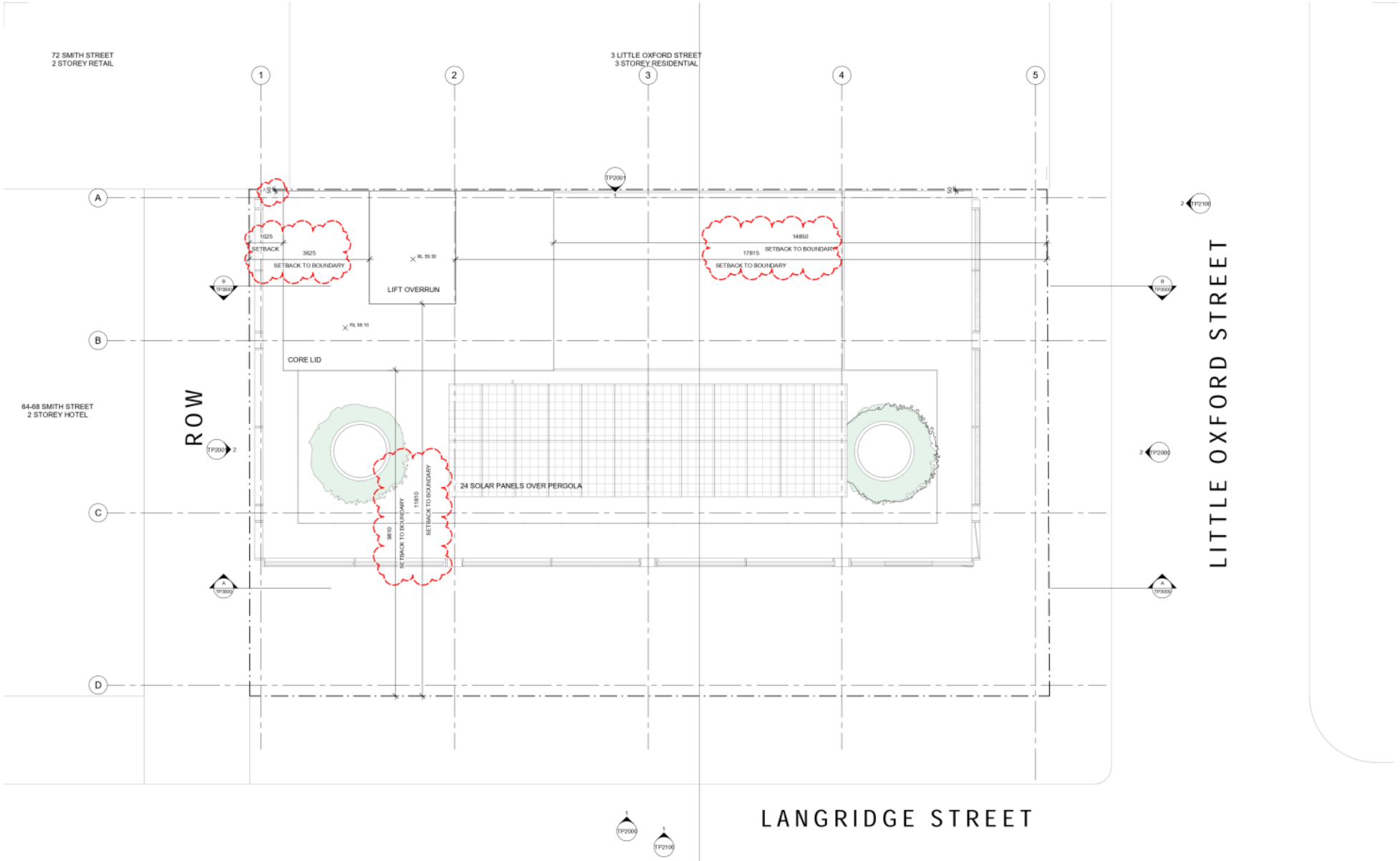
Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



Attachment 1 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 1



GENERAL NOTES

WORK IN PROGRESS

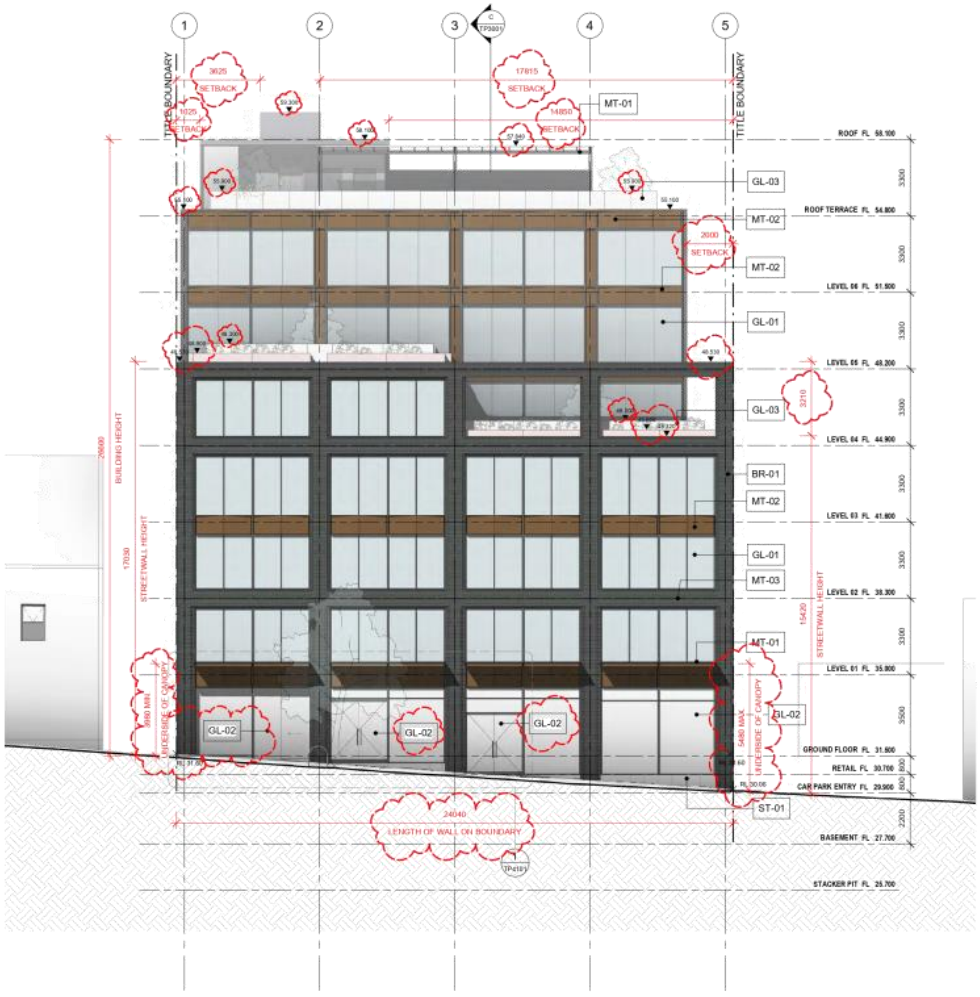
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222

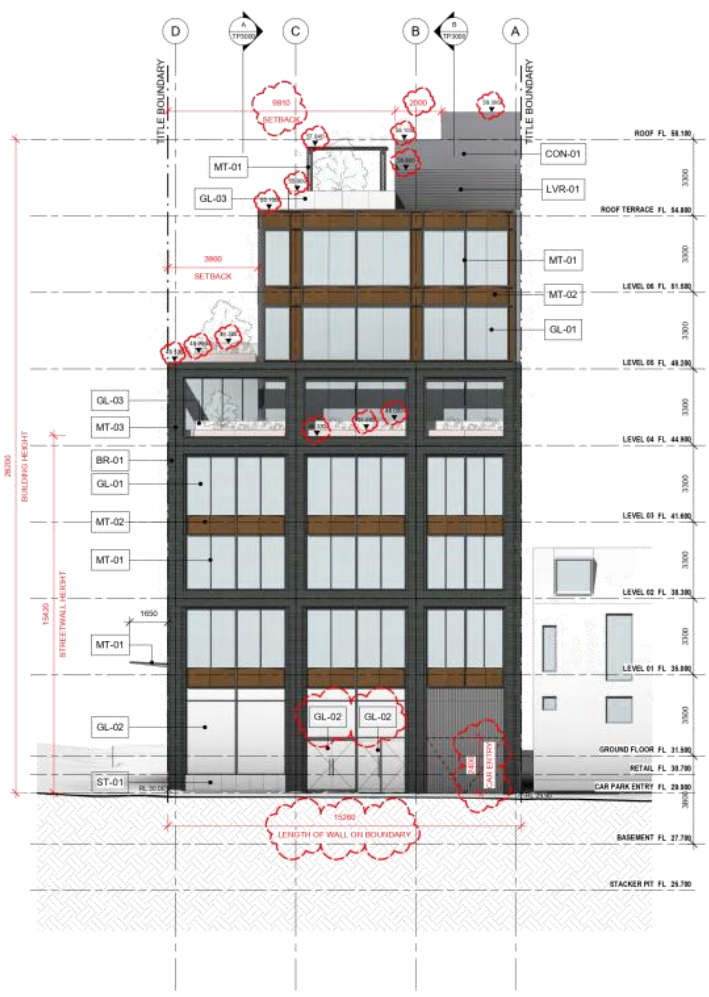
BAYLEY WARD

Project No 1668
Drawing No TP1010
Drawing name ROOF PLAN
Revision C
Scale 1 : 50 @ A1
50% @ A3
Drawn MS
Approved AC
Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2



1 SOUTH ELEVATION - LANGRIDGE ST
1 : 100



2 EAST ELEVATION - LT. OXFORD ST
1 : 100

GENERAL NOTES

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	15/05/20	AC
B	ISSUE FOR INFORMATION	01/09/20	AC
C	TOWN PLANNING ISSUE	23/06/20	AC
D	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

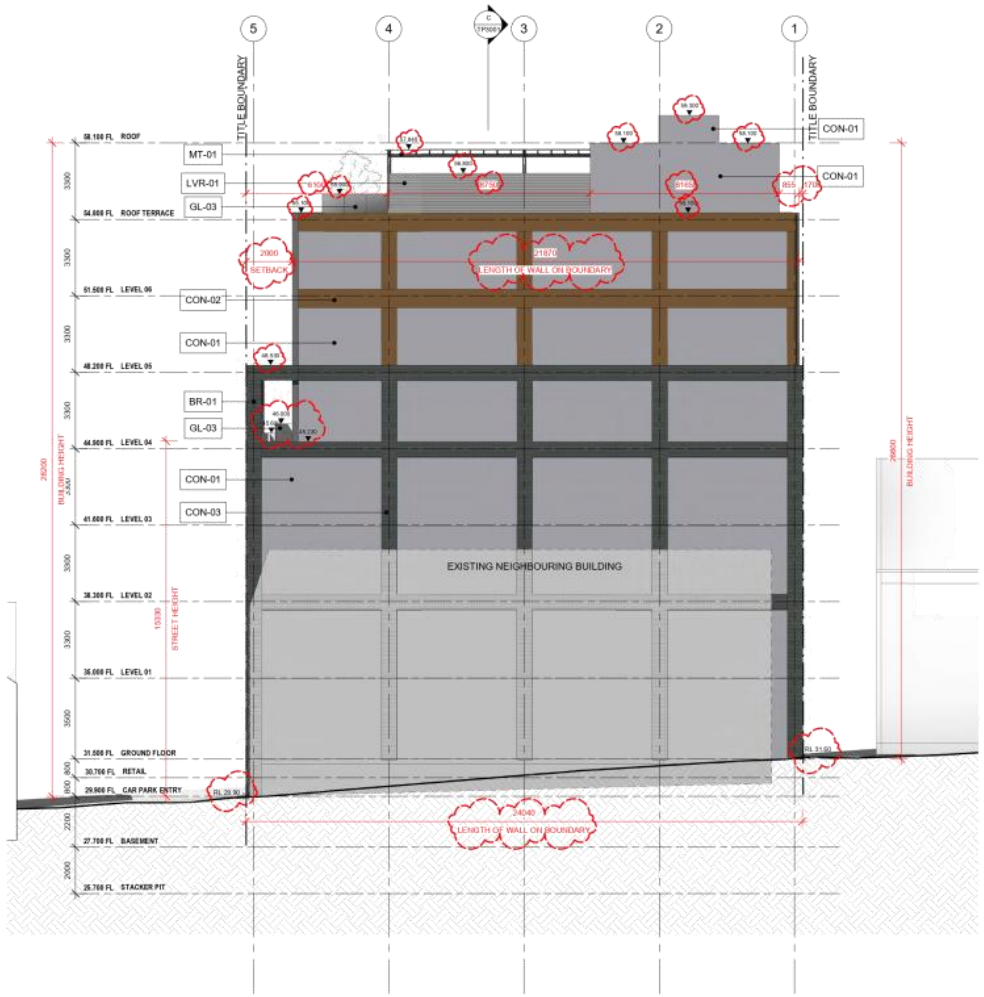
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
e: ade@bayleyward.com

BAYLEY WARD

Project No 1668
Drawing No TP2000
Revision D
Scale 1 : 100 @ A1
50% @ A3
Drawing name
SOUTH & EAST ELEVATIONS
Drawn AC
Approved
Checker
Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2



1 NORTH ELEVATION
1 : 100

2 WEST ELEVATION
1 : 100

GENERAL NOTES

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	15/05/20	AC
B	ISSUE FOR INFORMATION	01/09/20	AC
C	TOWN PLANNING ISSUE	23/06/20	AC
D	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

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BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
e: ada@bayleyward.com

BAYLEY WARD

Project No 1668
Drawing No TP2001
Revision D
Scale 1 : 100 @ A1
50% @ A3
Drawing name
NORTH & WEST ELEVATIONS
Drawn AC
Approved KG
Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2

BR-01

CHARCOAL BRICK
DARK MORTAR

MT-01

DARK GREY METAL

MT-02

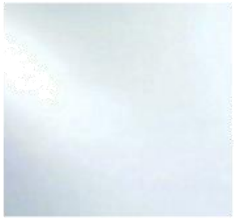
AGED BRASS FINISH

MT-03

AGED BRASS METAL TRIM
INLAYED TO BRICK

GL-01

SILVER LOW-E DOUBLE
GLAZING



GL-02

CLEAR DOUBLE GLAZING

GL-03

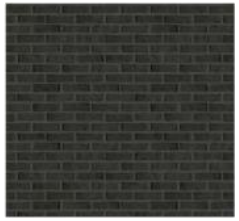
CLEAR GLASS BALUSTRADE

CON-01

OFF-FORM CONCRETE FINISH

CON-02

CONCRETE PAINTED TO
MATCH MT-02



CON-03

BRICK-FORMED CONCRETE
FINSH

ST-01

BLUESTONE CLADDING

LVR-01

DARK METAL LOUVRES (PLANT
SCREEN)

LVR-02

DARK METAL LOUVRES (GARAGE DOOR)

GENERAL NOTES

Rev	Description	Date	Drawn
A	TOWN PLANNING ISSUE	21/08/20	AC
B	TOWN PLANNING RFI RESPONSE	17/09/20	AC

WORK IN PROGRESS

Project
LANGRIDGE STREET
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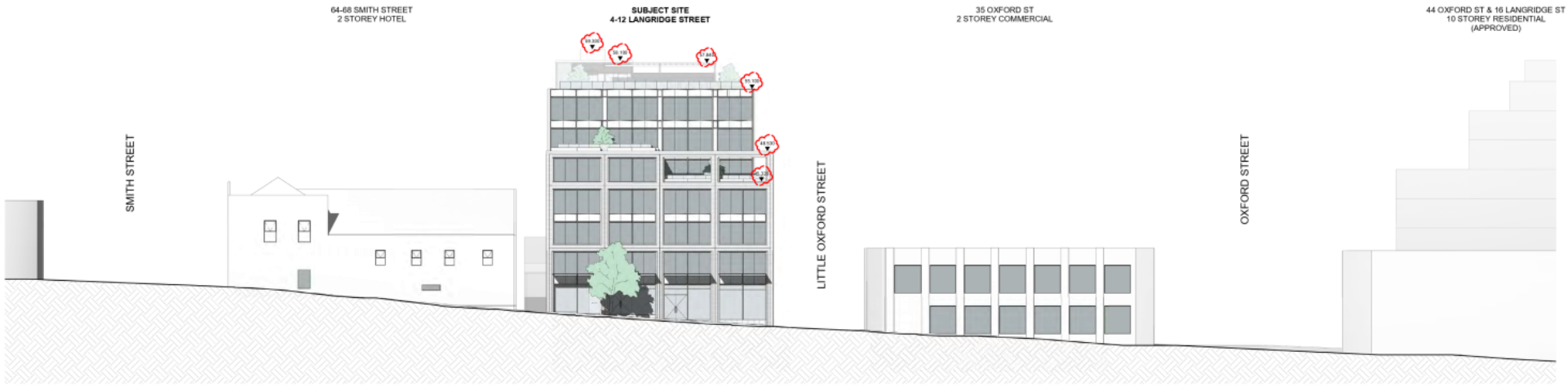
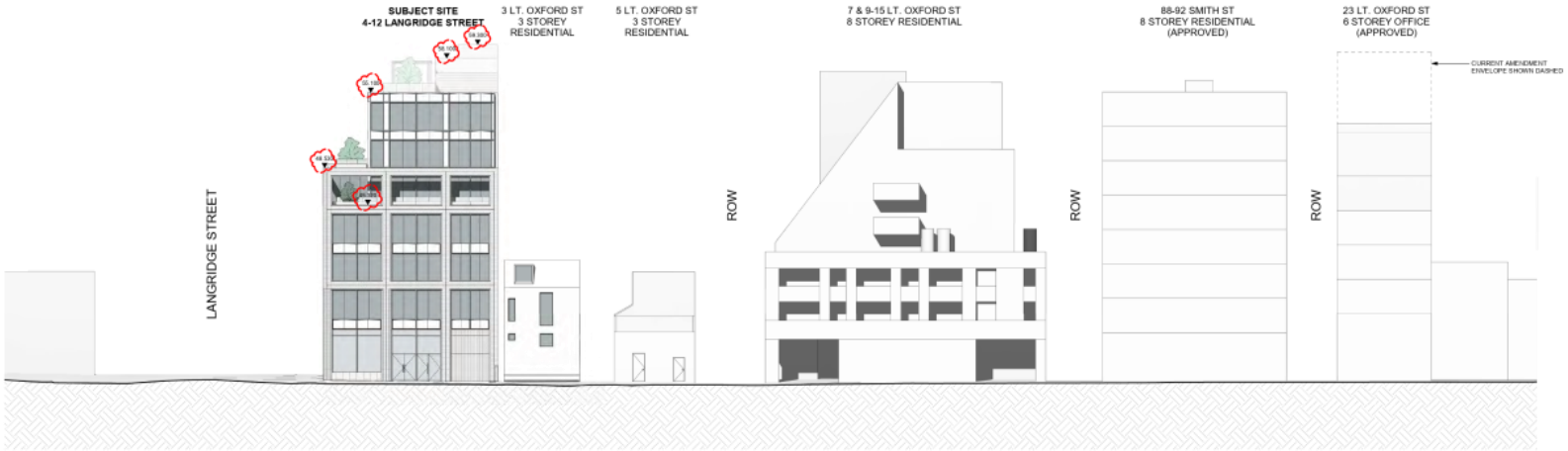
BAYLEY WARD

Project No 1668 Drawing No TP2010 Revision B
Drawing name MATERIAL SCHEDULE
Scale 1 : 100@ A1, 50% @ A3
Drawn AC Approved Checker Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2



1 LANGRIDGE STREET ELEVATION
1 : 200



2 LT OXFORD STREET ELEVATION
1 : 200

GENERAL NOTES

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	15/05/20	AC
B	ISSUE FOR INFORMATION	01/06/20	AC
C	TOWN PLANNING ISSUE	23/06/20	AC
D	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

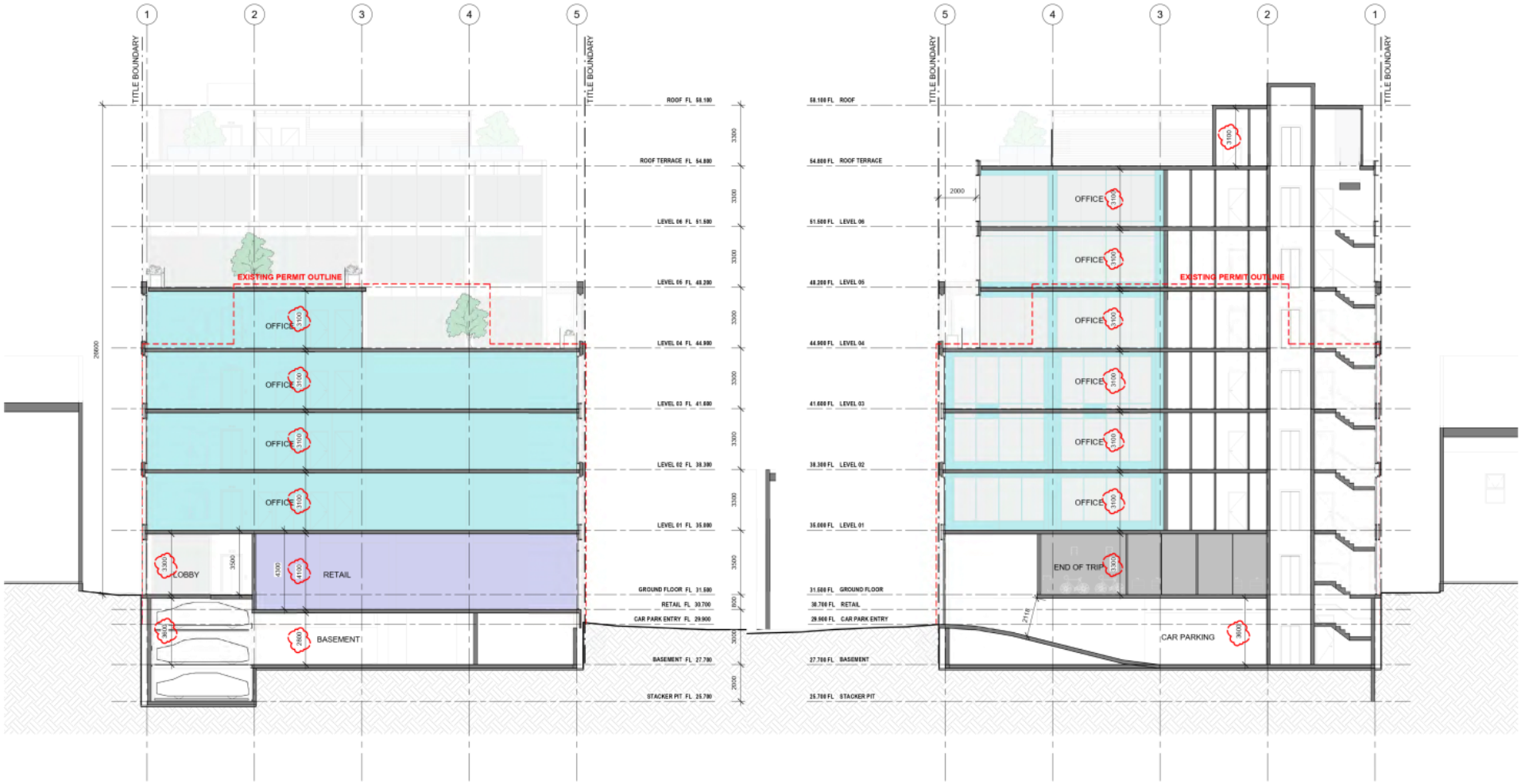
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard
Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
e: xxx@bayleyward.com

BAYLEY WARD

Project No 1668
Drawing No TP2100
Revision B D
Drawing name
STREETSCAPE ELEVATIONS
Scale 1 : 200 @ A1
50% @ A3
Drawn AC
Approved AC
Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2



A SECTION AA
1 : 100

B SECTION BB
1 : 100

GENERAL NOTES

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

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21-23 Chessell St
South Melbourne
VIC 3205
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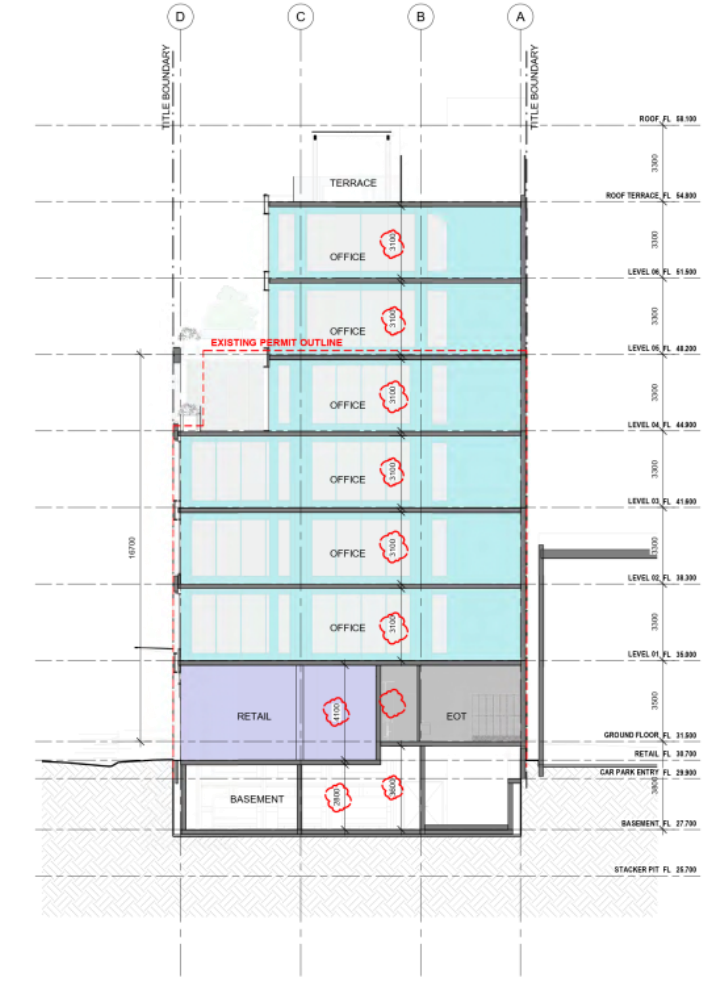
BAYLEY WARD

Project No 1668
Drawing No TP3000
Drawing name SECTION AA & BB
Revision H
Scale 1 : 100 @ A1
50% @ A3
Drawn KG
Approved KG
Plot Date

Attachment 2 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 2



C SECTION CC
1 : 100

GENERAL NOTES

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

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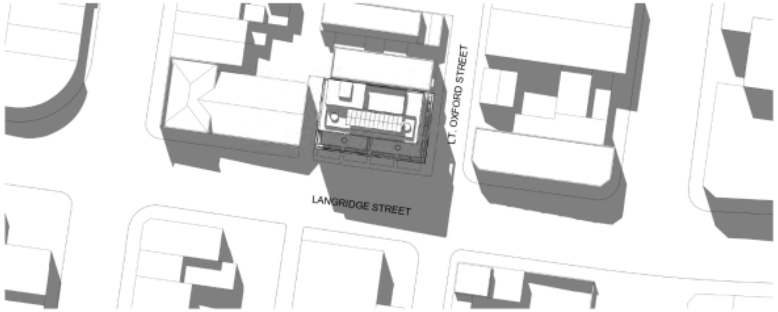
BAYLEY WARD

Project No 1668
Drawing No TP3001
Drawing name SECTION CC
Revision B
Scale 1 : 100 @ A1
50% @ A3

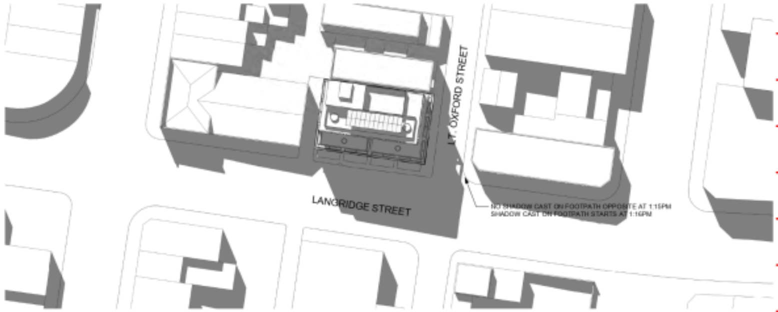
Attachment 3 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 3

1 SHADOWS - 22 SEPTEMBER -10AM
1 : 500



4 SHADOWS - 22 SEPTEMBER - 1PM
1 : 500

2 SHADOWS - 22 SEPTEMBER - 11AM
1 : 500



5 SHADOWS - 22 SEPTEMBER - 1:15PM
1 : 500

3 SHADOWS - 22 SEPTEMBER - 12PM
1 : 500

6 SHADOWS - 22 SEPTEMBER - 2PM
1 : 500

FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE. CONTRACTOR MUST DIMENSION ON JOB BEFORE COMMENCEMENT OF ANY WORK OR SHOP DRAWINGS. ALL DIMENSIONS AND DISCREPANCIES TO BE REPORTED TO BAYLEY WARD ARCHITECTURE + INTERIOR IMMEDIATELY. THIS DRAWING IS COPYRIGHTED.

GENERAL NOTES

Revision

Rev	Description	Date	Drawn
A	ISSUE FOR INFORMATION	26/03/20	AC
B	ISSUE FOR INFORMATION	30/03/20	AC
C	ISSUE FOR INFORMATION	15/05/20	AC
D	ISSUE FOR INFORMATION	01/06/20	AC
E	TOWN PLANNING ISSUE	23/06/20	AC
F	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

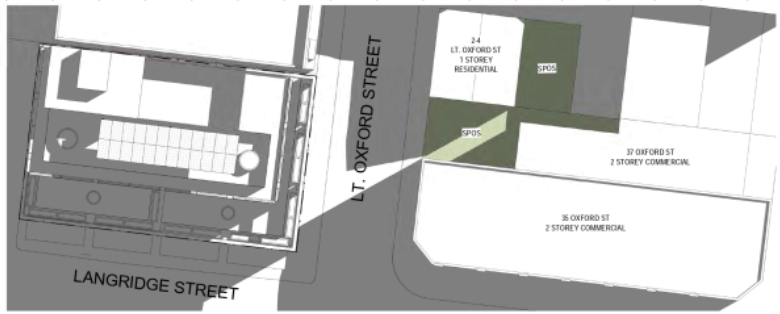
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard
Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: info@bayleyward.com

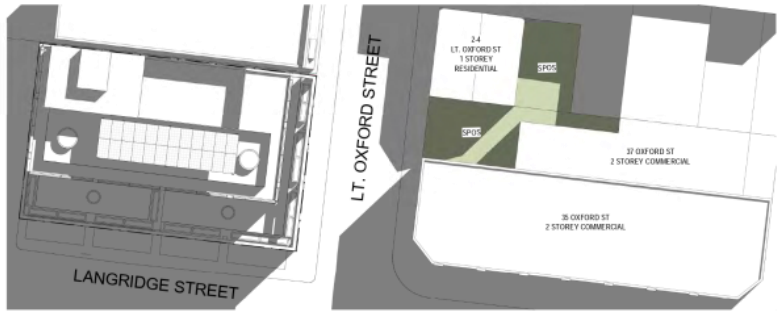
BAYLEY WARD

Project No 1668
Drawing No TP4000
Revision F
Scale 1 : 500 @ A1
50% @ A3
Drawing name
SHADOW DIAGRAMS
Drawn AC
Approved AC
Plot Date

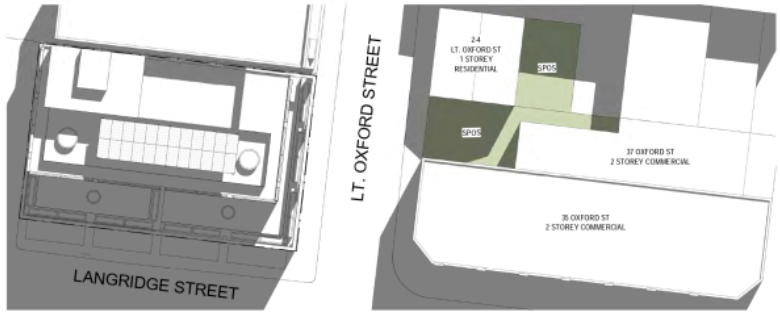
Attachment 3 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 3



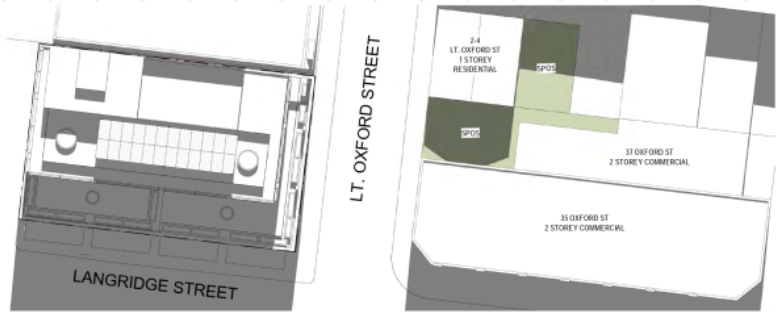
1 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 9AM
1 : 200



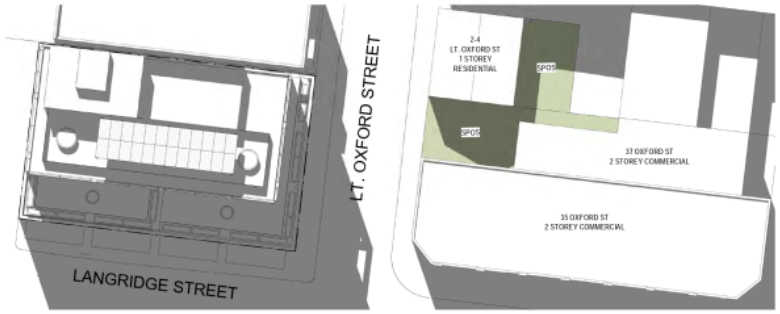
2 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 10AM
1 : 200



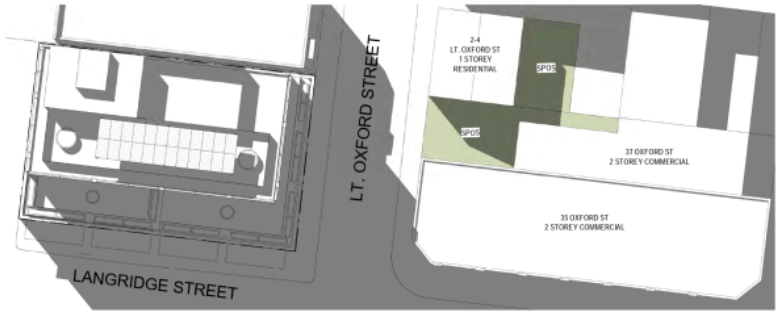
3 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 11AM
1 : 200



4 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 12PM
1 : 200



5 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 1PM
1 : 200



6 LT. OXFORD ST SHADOWS - 22 SEPTEMBER - 2PM
1 : 200

GENERAL NOTES

Rev	Description	Date	Drawn
A	TOWN PLANNING ISSUE	23/06/20	AC
B	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

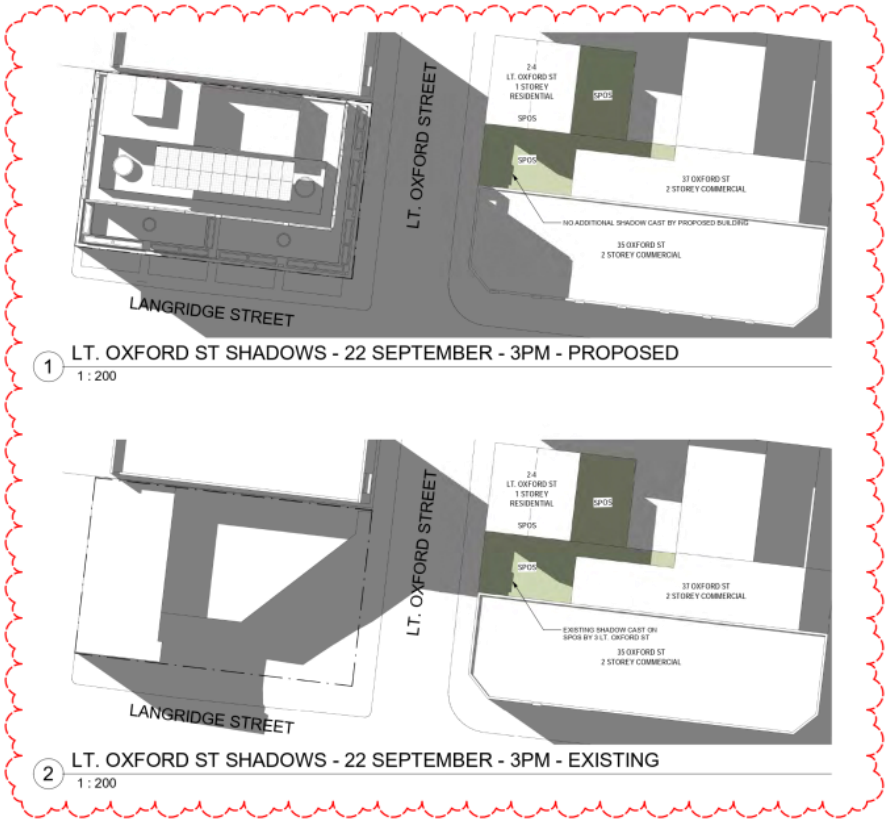
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: ade@bayleyward.com

BAYLEY WARD

Project No 1668 | Drawing No TP4001 | Revision B
Scale 1 : 200 @ A1, 50% @ A3
Drawing name
SHADOW DIAGRAMS - LT. OXFORD ST. SPOS
Drawn AC | Approved | Checker | Plot Date

Attachment 3 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 3



GENERAL NOTES

Rev	Description	Date	Drawn
A	TOWN PLANNING ISSUE	23/06/20	AC
B	TOWN PLANNING RFI RESPONSE	17/09/20	AC

WORK IN PROGRESS

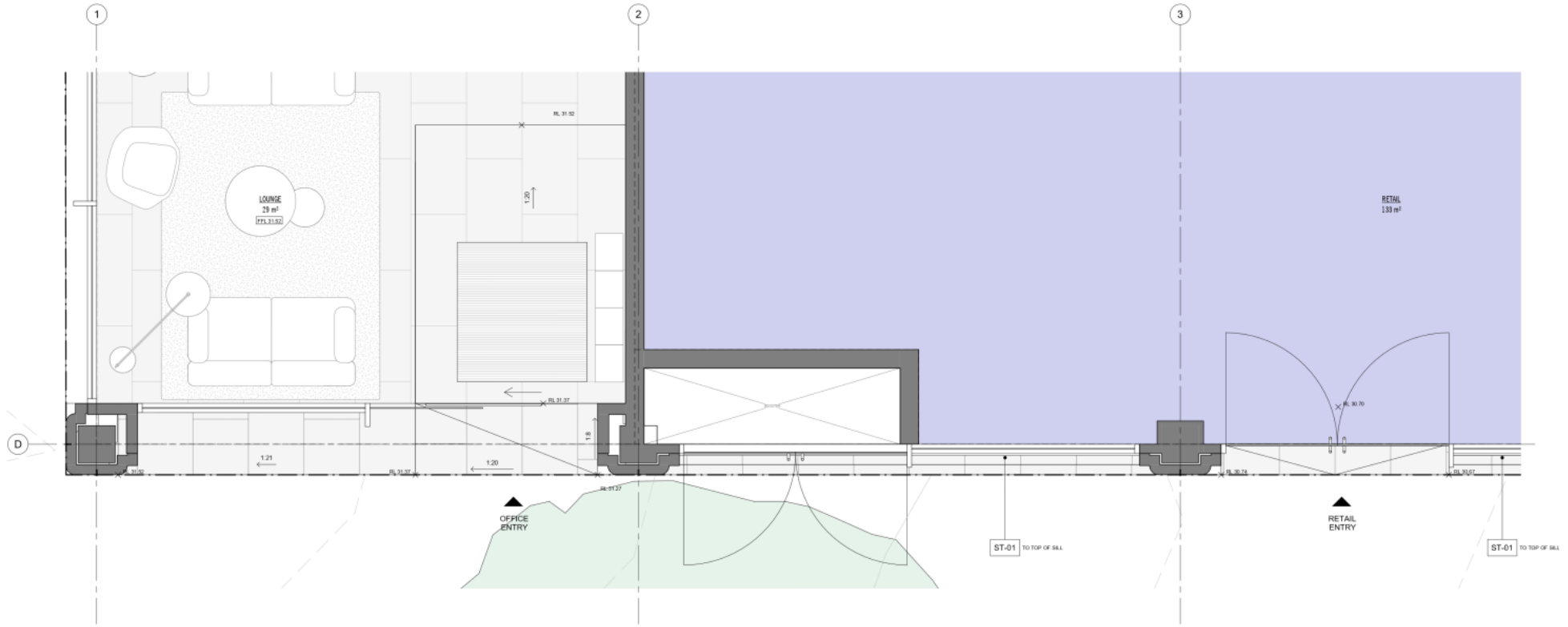
Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
e: xxx@bayleyward.com

BAYLEY WARD

Project No 1668 | Drawing No TP4002 | Revision B
Scale 1 : 200 @ A1, 50% @ A3
Drawing name
SHADOW DIAGRAMS - LT. OXFORD ST. SPOS
Drawn AC | Approved | Checker | Plot Date

Attachment 3 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 3



GENERAL NOTES

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

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South Melbourne
VIC 3205
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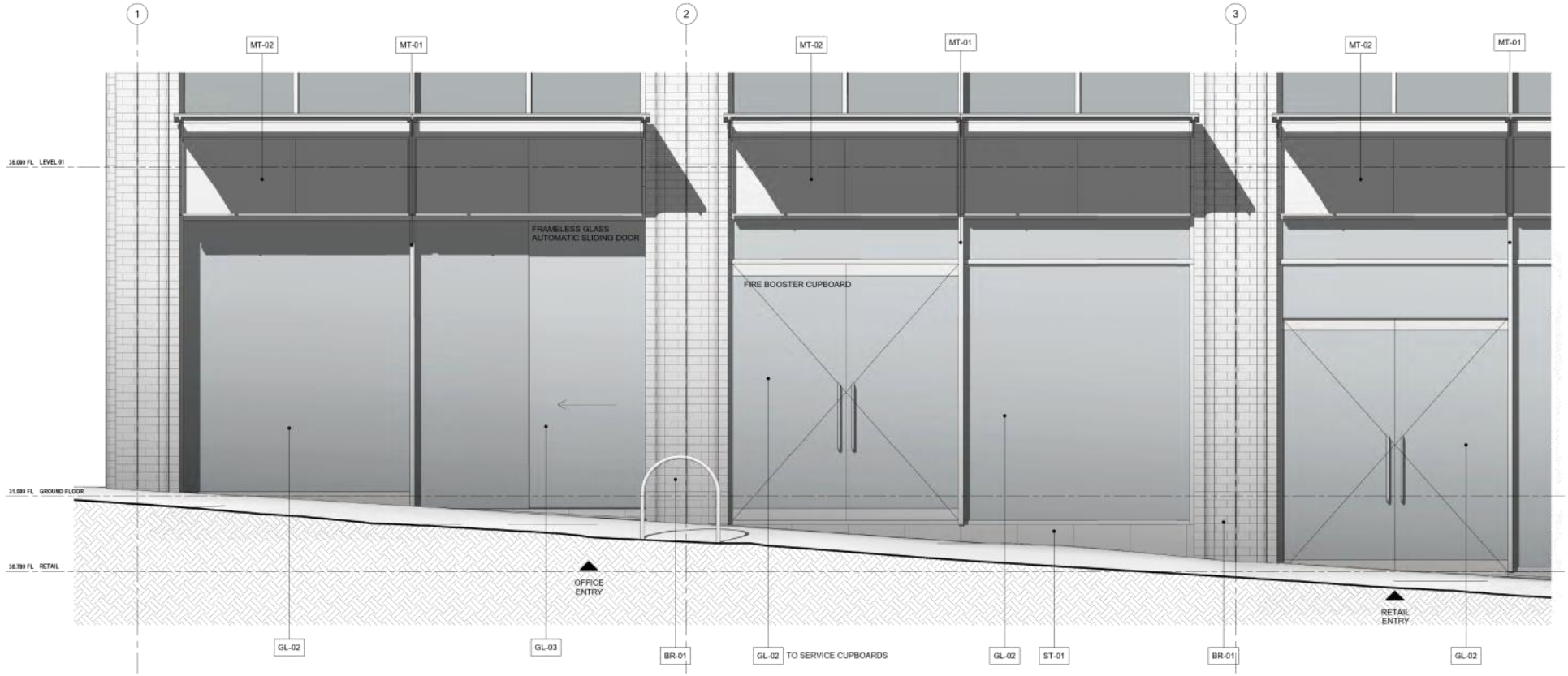
BAYLEY WARD

Project No 1668
Drawing No TP4100
Drawing name ENTRY DETAIL PLAN
Revision A
Scale 1 : 20 @ A1
50% @ A3

Attachment 3 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Decision Plans Part 3



GENERAL NOTES

Rev	Description	Date	Drawn
A	TOWN PLANNING RFI RESPONSE	17/08/20	AC

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

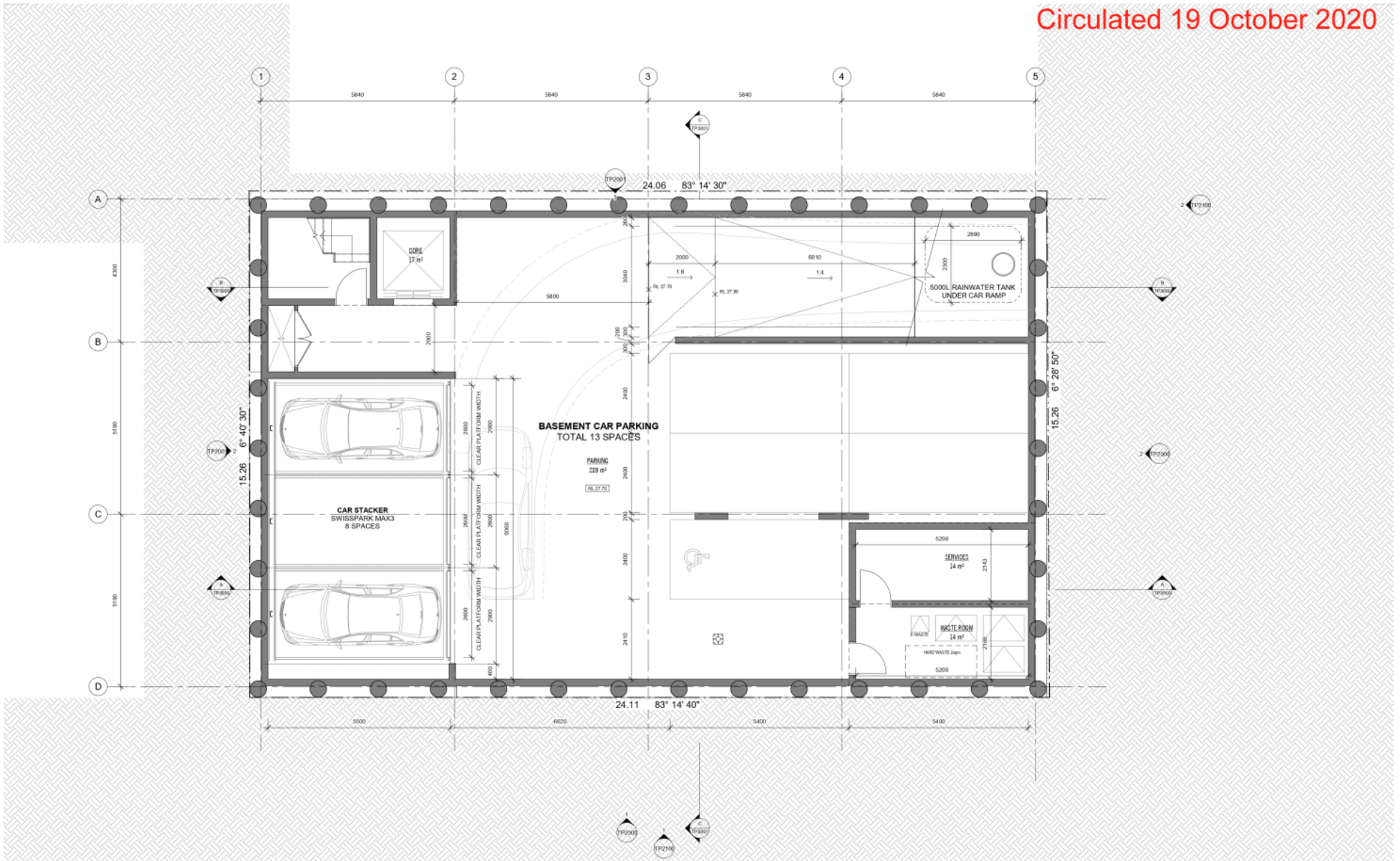
BayleyWard
Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: ada@bayleyward.com

BAYLEY WARD

Project No 1668 Drawing No TP4101 Revision A
Drawing name
ENTRY DETAIL ELEVATION
Scale 1 : 20 @ A1
50% @ A3
Drawn AC Approved Checker Plot Date

Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

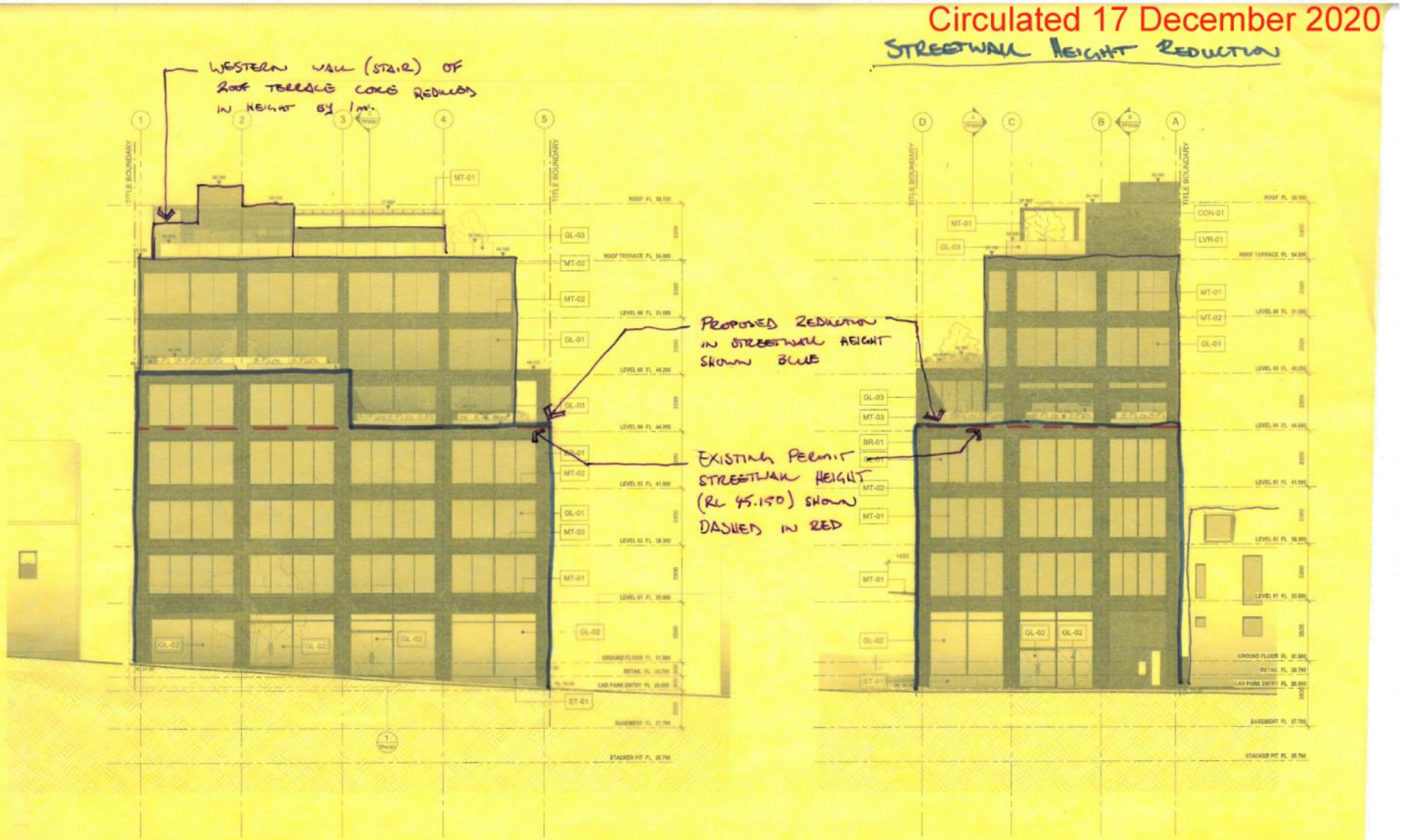
Circulated 19 October 2020



Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

Circulated 17 December 2020

STREETWALL HEIGHT REDUCTION



1 SOUTH ELEVATION - LANGRIDGE ST
1 : 100

2 EAST ELEVATION - LT. OXFORD ST
1 : 100

GENERAL NOTES

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Cheswell St
South Melbourne
VIC 3205
T: 03 9695 0202
E: info@bayleyward.com

BAYLEY WARD

Project No 1668
Drawing No TP2000
Drawing name SOUTH & EAST ELEVATIONS
Drawn AC
Approved
Checker
Plot Date

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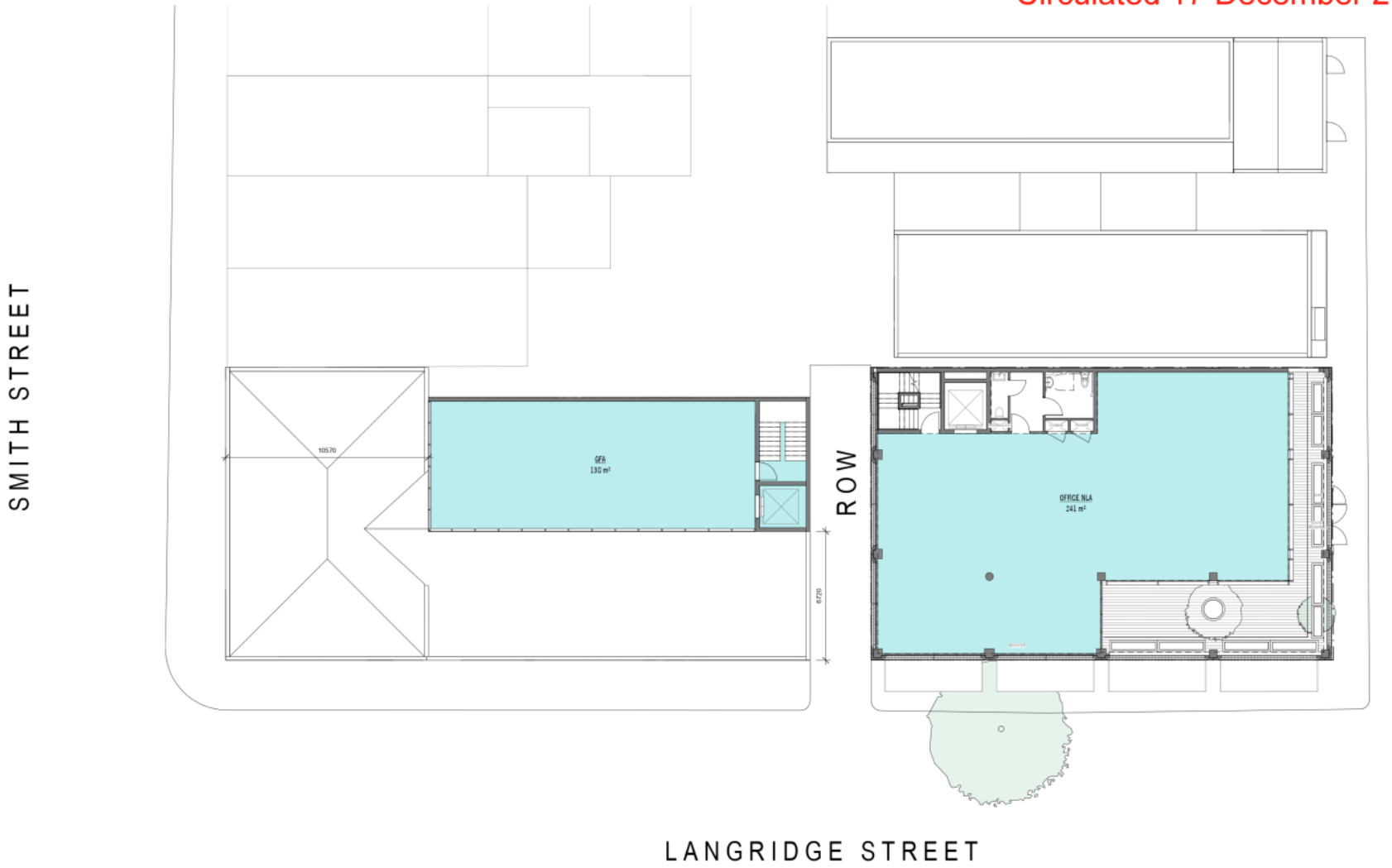
Circulated 17 December 2020



FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE. CONTRACTOR MUST VERIFY DIMENSION ON JOB BEFORE COMMENCING ANY WORK OR SHOP DRAWINGS. ALL DIMENSIONS AND DISCREPANCIES TO BE REPORTED TO BAYLEY WARD ARCHITECTURE + INTERIOR IMMEDIATELY. THIS DRAWING IS COPYRIGHTED.

GENERAL NOTES

Rev	Description	Date	Drawn

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: ada@bayleyward.com

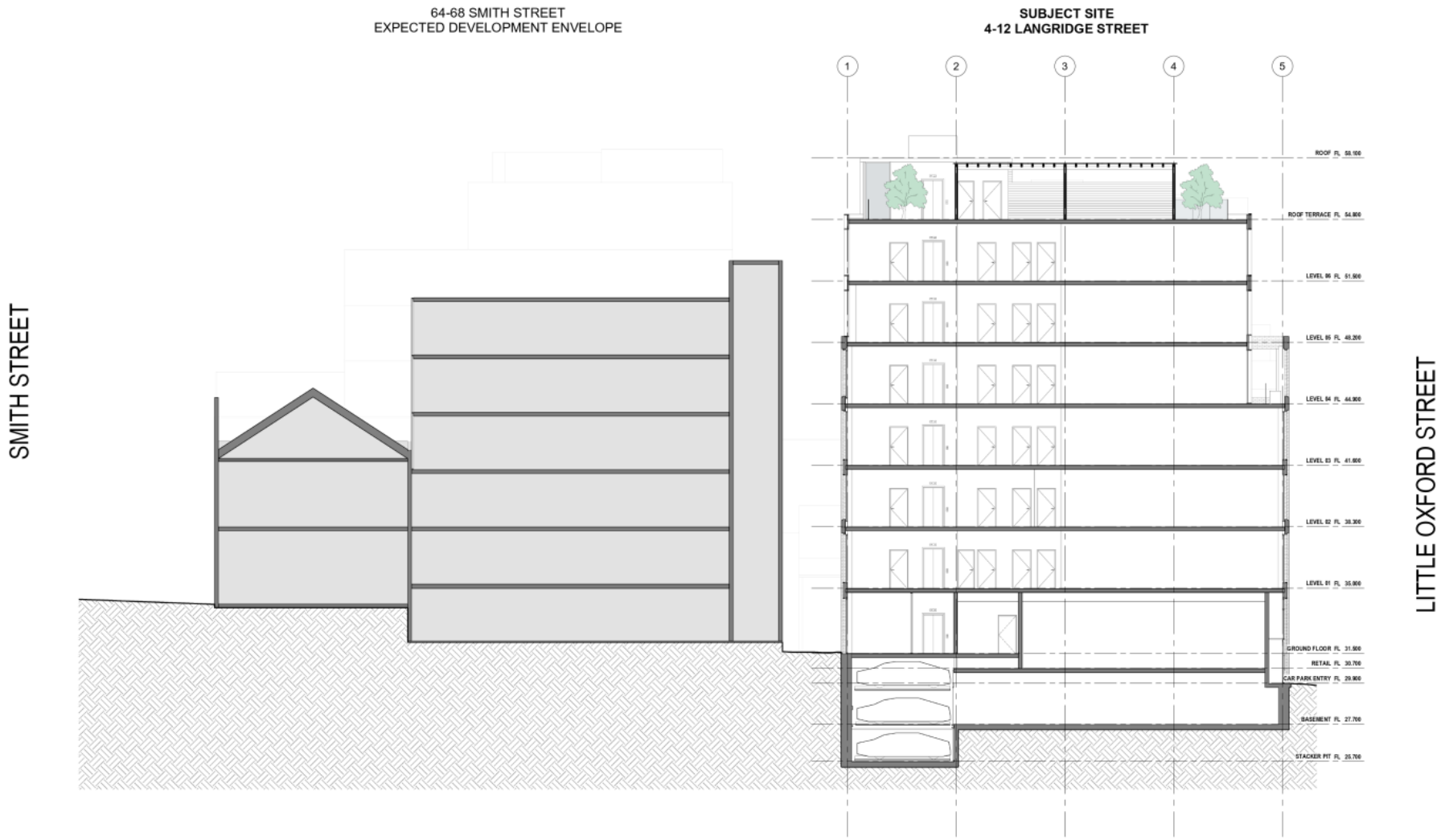
BAYLEY WARD

Project No 1668 Drawing No SK008 Revision
Scale 1 : 100 @ A1
50% @ A3
Drawing name
EQUITABLE DEVELOPMENT PLAN

Drawn MC
Approved Checker
Plot Date

Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

Circulated 17 December 2020



1 EQUITABLE DEVELOPMENT SECTION
1 : 100

FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE. CONTRACTOR MUST CHECK DIMENSION ON JOB BEFORE COMMENCING WORK OR SHOP DRAWINGS. ALL DIMENSIONS AND DISCREPANCIES TO BE REPORTED TO BAYLEY WARD ARCHITECTURE + INTERIOR IMMEDIATELY. THIS DRAWING IS COPYRIGHTED.

GENERAL NOTES

Revision
Rev Description Date Drawn

WORK IN PROGRESS

Project
LANGRIDGE STREET
4-12 Langridge Street Collingwood VIC 3066

BayleyWard Architecture + Interiors
21-23 Chessell St
South Melbourne
VIC 3205
T: 03 9695 0222
E: ask@bayleyward.com

BAYLEY WARD

Project No 1668
Drawing No SK009
Revision
Scale 1 : 100 @ A1
50% @ A3
Drawing name
EQUITABLE DEVELOPMENT SECTION
Drawn MC
Approved Checker
Plot Date

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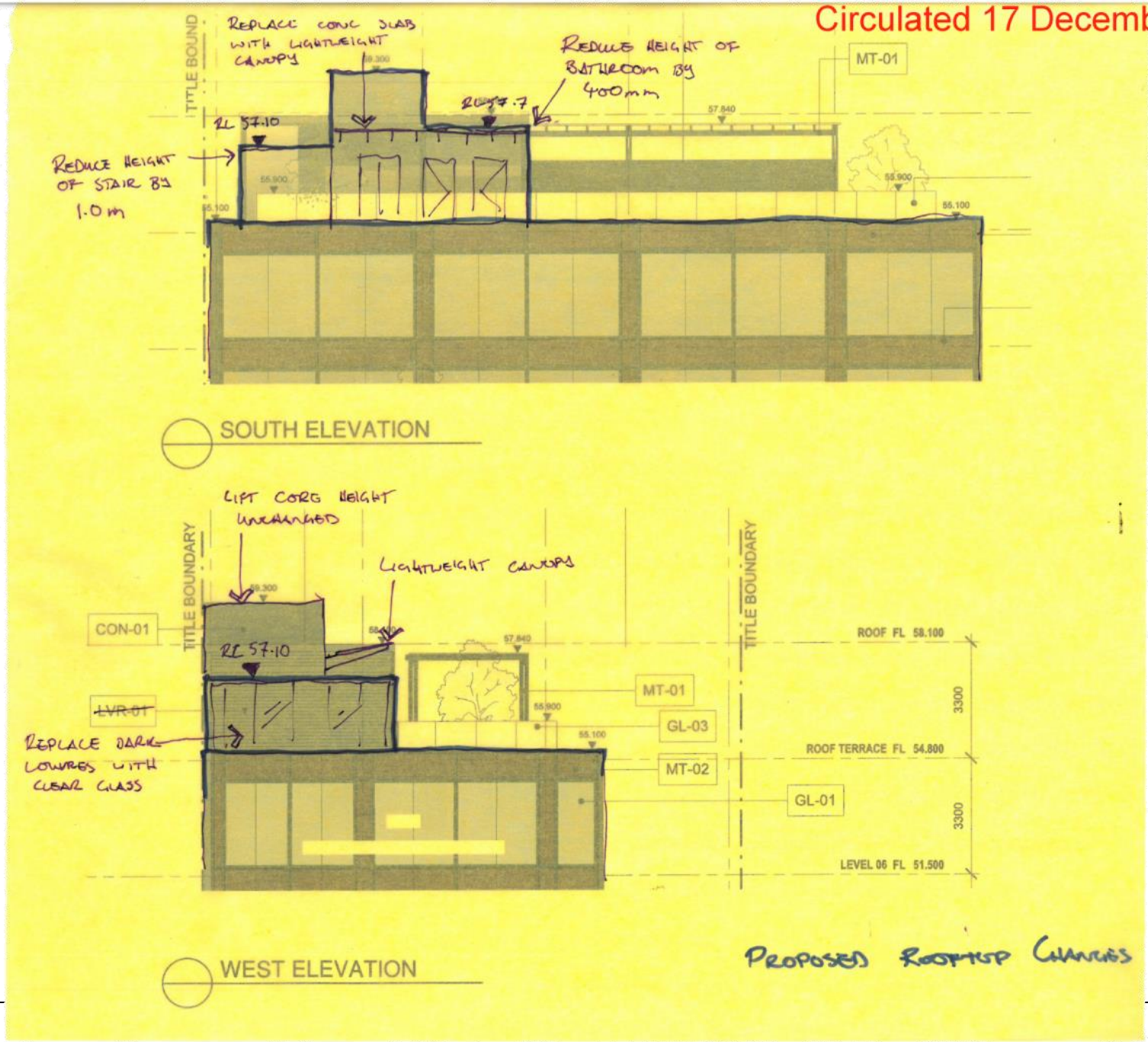
Circulated 17 December 2020



Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

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Circulated 20 January 2021

PROPOSED COMMERCIAL DEVELOPMENT

4-12 Langridge Street, Collingwood

SUSTAINABLE MANAGEMENT PLAN

&

WATER SENSITIVE URBAN DESIGN RESPONSE

FOR

MCLANGRIDGE PTY LTD

23 December 2020

File 1496A

ark resources

CONTENTS

APPENDICES

Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

Issue	Date	Prepared	Approved	Status
A	12 June 2020	LD	JT	Draft
B	16 June 2020	LD	JT	Final
C	18 December 2020	DO / MR / LD	JT	RFI Draft
D	23 December 2020	DO / MR / LD	JT	RFI Submission

Any enquiries regarding the use of this report should be directed to:

ARK RESOURCES PTY LTD
ABN 29 086 461 369
Suite 8, 10 Northumberland Street
South Melbourne VIC 3205
Australia

P: +61 3 9636 0280
W: arkresources.com.au
E: info@arkresources.com.au

1. Executive Summary

The proposed commercial development at 4-12 Langridge Street, Collingwood has been designed to meet the objectives of the City of Yarra's Sustainability Policy Clauses 19-03-3S and 22.17 (Environmentally Sustainable Development) of the City of Yarra Planning Scheme. This report demonstrates how the development meets the policy objectives of Clauses 22.17-2, 22.17-4, and 22.16 (WSUD Policy).

This report confirms that a combination of sustainable building management practices, design initiatives, fixtures, systems, appliances, materials and finishes will be integrated into the building in order to attain a 5.5 Star NABERS Energy rating and a **4 star** *Green Star Design & As Built* performance standard. The Green Star standard achieved is defined as Australian Best Practice in terms of environmental design.

The development also meets the *Best Practice* standard for Urban Stormwater Quality and is therefore also consistent with the City of Yarra's Stormwater Management objectives.

Accordingly, the performance outcomes achieved by the proposed development considered to be appropriate for a commercial development of this scale.

2. Introduction

Ark Resources has been engaged by Mclangridge Pty Ltd to provide advice in relation to environmentally sustainable development outcomes from the proposed commercial development at 4-12 Langridge Street, Collingwood.

This report contains a summary of:

- Environmental objectives adopted for the development; and
- Sustainable design initiatives integrated into the design of the project.

Performance outcomes in this report are based on:

- Architectural plans prepared by Bayley Ward set out below:

Description	Drawing No.	Revision	Date
Cover Sheet	TP0000	D	17/8/2020
Site Plan	TP0001	C	17/8/2020
Survey Plan	TP0002	D	17/8/2020
Demolition Plan	TP0003	C	17/8/2020
Basement 1	TP0099	G	17/8/2020
Ground Floor Plan	TP1000	G	17/8/2020
Level 01-03 Plan	TP1001	G	17/8/2020
Level 04 Plan	TP1004	E	17/8/2020
Level 05 Plan	TP1005	F	17/8/2020
Level 06 Plan	TP1006	F	17/8/2020
Level 07 Plan	TP1007	F	17/8/2020
Roof Plan	TP1010	C	17/8/2020
South & East Elevations	TP2000	D	17/8/2020
North & West Elevations	TP2001	D	17/8/2020
Material Schedule	TP2010	B	17/8/2020
Streetscape Elevations	TP2100	D	17/8/2020
Section AA & BB	TP3000	H	17/8/2020
Section CC	TP3001	C	17/8/2020
Shadow Diagrams	TP4000	F	17/8/2020
Shadow Diagrams	TP4001	B	17/8/2020
Shadow Diagrams	TP4002	B	17/8/2020
Entry Detail Plan	TP4100	A	17/8/2020
Entry Detail Elevation	TP4101	A	17/8/2020

3. Site Description

The proposed development comprises:

- Ground floor retail tenancy with a NLA of approximately 133m^2; and
- Upper level office tenancies with a total NLA of approximately 1,551m^2

The building comprises the following uses:

Level	Use
Basement	• Stacker carparking, waste room, services
Ground Floor	• Retail tenancy, Office lobby and meeting room, bike parking and end-of-trip facilities
Level 1 - 6	• Office tenancies
Roof	• Roof terrace, services, solar PV system

The site is located within the City of Yarra.

The development site has an area of approximately 366m^2 and currently contains a single-storey commercial building. The surrounding buildings are a mix of residential and commercial use.

An image of the site and the surrounding locale is shown below.

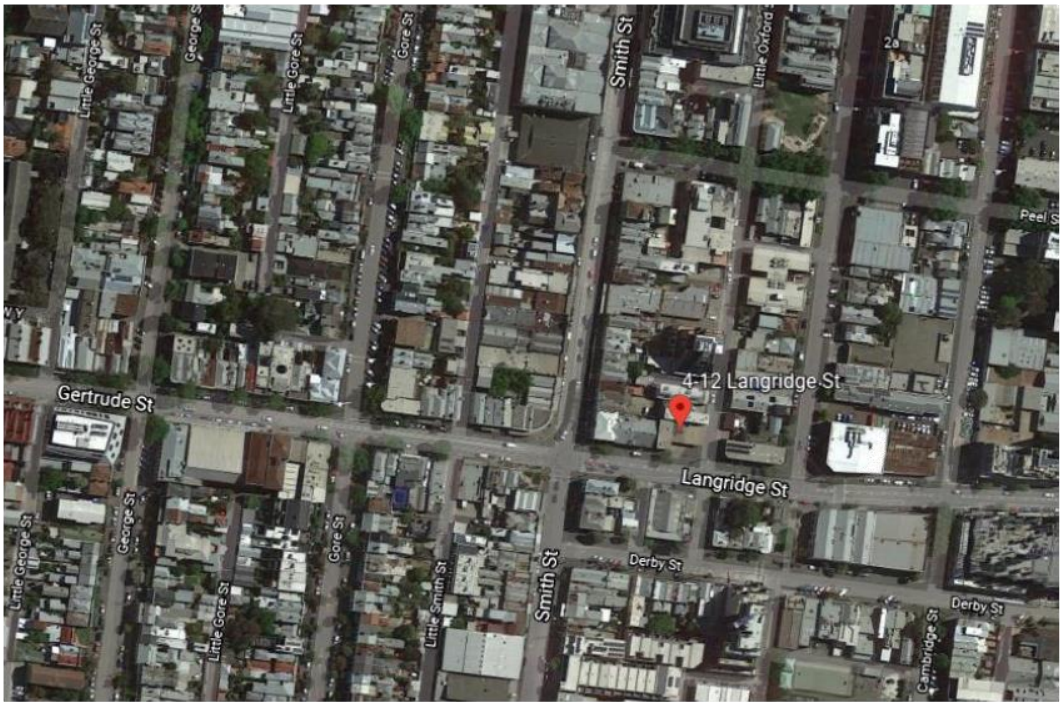


Image ©Google Earth™ (accessed June 2020)

4. Summary of Key ESD Initiatives

The following key sustainable design initiatives have been incorporated into this project:

- Rainwater harvesting system for toilet flushing and irrigation;
- 8.4kWp rooftop solar photovoltaic system;
- High-performance glazing and energy efficient building services, appliances and fixtures; and
- Environmentally preferable internal finishes.

An assessment of sustainable design outcomes of the proposed development has been undertaken with *Green Star Design & As Built* and *STORM* benchmarking tools based on the proposed architectural design and the building services and materials initiatives considered feasible at this stage of the design process.

The information presented in this report demonstrates that:

- The development will achieve a 4 star Green Star Design & As Built v1.2 rating;
- The office component of the development will achieve a 5.5 Star NABERS Energy rating;
- The development meets the *Best Practice* standard for stormwater quality.

5. Daylight Modelling Results

Daylight modelling of all office spaces has been undertaken to demonstrate compliance with Green Star Design & As Built v1.2. Based on current assumptions this simulation indicates that **2 points** are achievable under the daylight credit 12.1.

The Green Star daylight standard is set out below.

Green Star

A specified proportion of the nominated area must be shown to have a Daylight Factor (DF) of at least 2.0% at finished floor level (FFL), or at 720mm above FFL) under either a CIE overcast sky or a CIE uniform sky. Up to 2 points are available where a percentage of the nominated area receives high levels of daylight:

- 40% of the nominated area – 1 point
- 60% of the nominated area – 2 points

Space	Level	Area	% Floor > DF of 2.0
Office	Level 1	306	50.7
Office	Level 2	306	58.2
Office	Level 3	306	65.6
Office	Level 4	241	73.5
Office	Level 5	196	92.1
Office	Level 6	197	92.7
Building Average			**69.2**

Refer to Appendix G for modelling assumptions and detailed results.

6. NABERS Energy Rating

Computer simulation of thermal performance and energy efficiency has been undertaken using *IES Virtual Environment* software in accordance with the NABERS Energy protocol and has confirmed that the development can achieve a NABERS rating of **5.5 stars**. Further modelling will be undertaken during the development phase to guide the specification of building materials and systems to ensure the 5.5 star rating is achieved. The NABERS reverse calculator and proposed building services design parameters are provided in Appendix F.

7. Green Star

The Green Star Design & As Built (Version 1.2) tool has been used as a benchmarking framework for the proposed scheme and demonstrates that the development has the preliminary design potential to achieve a **4 star** standard[1].

A detailed Green Star assessment has been undertaken to confirm the credits achievable by the proposed scheme.

Please note that this analysis is based on the best information currently available in relation to the technical and commercial feasibility of the initiatives proposed. Further investigation will be undertaken during design development which may result in change to the package of initiatives specified in order to meet the 4 star Green Star standard.

The initiatives which contribute to the 4 star Green Star rating are detailed in Section 7.1 below.

7.1. Green Star Criteria

The key design elements and processes which underpin the preliminary Green Star rating are summarised in the table below. The design attributes will be incorporated into the design in accordance with the technical criteria for each credit set out in the Green Star Design & As Built v1.2 Technical Manual.

Further information in relation to key performance outcomes is provided in the Appendices to this report as referenced in the right hand column of the table.

Green Star Element	Design Attribute	Reference
Management	• **Design Intent Report prepared** • **Provide floor-by-floor metering; plus independent metering for all loads >5% of annual building energy use or 100kW; and metering for common water use consuming 10% of development's water use** • **Comprehensive project-specific environmental management plan implemented during construction**	**Conditional Requirements**

[1] Note that a minimum of 45 points must be achieved for a 4 star Green Star rating to be achieved. The development will attain a 4 star Green Star standard however certification of the rating with the Green Building Council will not be undertaken.

Green Star Element	Design Attribute	Reference
	• Green Star Accredited Professional involved from outset to completion • Comprehensive commissioning of building systems • Comprehensive tuning of building systems • Detailed Operations and Maintenance Manual prepared • Detailed guide to building systems provided to building management and tenants • Measurement and reporting of energy and water consumption for at least 80% of GFA by Owners Corporation/property manager • Head contractor to have current ISO 14001 certification • Operational Waste Management Plan prepared including targets and monitoring	
Indoor Environmental Quality	• **Lighting systems comprise flicker free luminaires and a Colour Rendering Index (CRI) greater than 80** • **Strategies to reduce glare incorporated into the design**	**Conditional Requirements**
	• Ventilation systems to comply with ASHRAE 62.1, and pre-cleaned prior to handover • Exhaust systems to directly exhaust pollutants to exterior • Reverberation times in nominated areas must be below maximum stated in Table 1 of AS/NZ 2107:2016 • Lighting systems designed to meet best practice illuminance levels • Average ceiling illuminance of at least 30% of working plane and 90% of ceiling to have reflectance of at least 0.75 • Lighting systems designed for task lighting and brightness control • Primary spaces to have access to high levels of daylight • 60% of primary spaces to have high quality views • Specification of low VOC paints, adhesives, sealants and carpets • Specification of low formaldehyde engineered wood products • Requires PMV between -1 & +1; OR ASHRAE 55 - 80% acceptability	
Energy	• **Commit to minimum 4.5 stars NABERS for Class 5 areas**	**Conditional Requirement**

	• Project to achieve minimum 5.5 star NABERS rating
	• 8.4kWp photovoltaic system
	  ○ Embodied ecological impacts of PV array and support racking will be reduced through use of 350Wp 60-cell modules with efficiency over 40% greater than standard PV modules
	  ○ Embodied impacts of PV modules will be further reduced by procurement from a manufacturer with an above average rating on the current version Silicon Valley Toxics Coalition Solar Scorecard
		Section 0
		Appendix F
		Appendix A

Transport	• Accessible public transport options • Reduced car parking - 13 spaces provided • 30 staff and visitor bicycle racks. More than 20% of the racks provide horizontal storage, installed at grade • End of trip cyclist facilities for staff including 4 showers and 28 lockers • Local amenities within walking distance	

Green Star Element	Design Attribute	Reference

Water	• Water efficient fixtures (WELS 5 star taps, 4 star toilets, 3 star showers)
	• Water efficient dishwashers
	• A rainwater harvesting system will be installed comprising:
	  ○ Stormwater runoff collected from Level 6 and 7 roof areas plus Level 7 terrace (catchment area of approx. 233m2);
	  ○ Filtration and treatment of all rainwater prior to draining into the tank
	  ○ A total storage volume of 5,000 litres;
	  ○ Re-use of water for toilet flushing in ground and level 1 toilets; and
	  ○ Re-use of water for sub-soil drip irrigation system with moisture sensors and timers
	• Cooling towers not used
	• Water-efficient sub-soil drip irrigation system with moisture sensors and timers
	• Fire test system water storage and re-use
		Appendix A

Materials	• 90% of permanent formwork, pipes, flooring, blinds and cable PVC products to meet Best Practice Guidelines for PVC in the Built Environment • Documentation provided on product sustainability credentials for 3% of materials used on the project • Concrete mixes to incorporate at least 50% reclaimed water • 5% reduction in mass of steel reinforcement • Steel to be sourced from Responsible Steel Maker • Divert 90% of demolition and construction waste from landfill. Waste contractors to have compliance measures audited • Feature timber products to be sourced from FSC accredited sustainably harvested plantations	
Land Use & Ecology	• **No endangered or vulnerable species on site at time of purchase** • **Site does not contain old growth forest or wetland of High National Importance**	**Conditional Requirements**
	• Site has been previously developed • All non-trafficable roofs to have initial solar reflectance index of 82.	
Emissions	• **All outdoor lighting to comply with AS4282:1997 for light spill to inhabited boundaries.**	**Conditional Requirement**
	• Design to have an upward light output ratio <5% • Strategies to minimise Legionella impacts from cooling systems implemented	
Innovation	Particularly subject to design development but may include: • Credit 30C: Improving Green Star Benchmarks – Air tightness testing of representative spaces before handover. Air tightness testing to be carried out in accordance with the requirements set out in AS/NZS ISO 9972:2015 Thermal performance of buildings – Determination of air permeability of buildings – Fan pressurisation method. (GBCA Innovation Challenge 2020 approved) • Credit 30D: Main contractor provides high performance site office (GBCA Innovation Challenge 2020 approved)	

7.2. Green Star Preliminary Design Rating

Based on the design attributes and performance outcomes set out above, the following Green Star pathway has been prepared which confirms that the development has the preliminary design potential to achieve a 4 star Green Star standard.

Green Star - Design & As Built v1.2

Project:	4-12 Langridge Street Collingwood
Current Rating:	4 Star - Best Practice

REV B
16/12/2020

Points Available	Total Score Targeted
100	45.0

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	Points Available	4* pathway
Management				14	
Green Star Accredited Professional	To recognise appointment and active involvement of Green Star AP to ensure rating tool is applied effectively and as intended.	1.0	Accredited Professional	1	1
Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Performance Targets	-	Complies
		2.2	Building Commissioning	1	1
		2.3	Building Systems Tuning	1	1
Building Information	Information facilitating understanding of building systems, O&M requirements and targets to optimise performance.	4.1	Building Information	1	1
Commitment to Performance	To recognise practices that encourage building owners, building occupants and FM teams to set targets and monitor	5.1	Environmental Building Performance	1	1
Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering	-	Complies
		6.1	Monitoring Systems	1	1
Responsible Building Practices	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	Complies
		7.1	Formalised Environmental Management System	1	1
Operational Waste	Performance Pathway	8A	Performance Pathway - Specialist Plan	1	1
Total				14	8

Indoor Environment Quality				17	
Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.1	Ventilation System Attributes	1	1
		9.3	Exhaust or Elimination of Pollutants	1	1
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.2	Reverberation	1	1
Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.0	Minimum Lighting Comfort	-	Complies
		11.1	General Illuminance and Glare Reduction	1	1
		11.2	Surface Illuminance	1	1
		11.3	Localised Lighting Control	1	1
Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	-	Complies
		12.1	Daylight	2	2
		12.2	Views	1	1
Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1	Paints, Adhesives, Sealants and Carpets	1	1
		13.2	Engineered Wood Products	1	1
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	1
Total				17	12

Energy				22	
Greenhouse Gas Emissions	D. NABERS Pathway	15D.0	Conditional Requirement: NABERS Pathway	-	Complies
Max.5pts achievable via		15D.1	NABERS Energy Commitment Agreement Pathway	20	4
Total				21	4

Transport					**10**	
Sustainable Transport	Prescriptive Pathway	17B.1	Access by Public Transport		3	1
		17B.2	Reduced Car Parking Provision		1	0.5
		17B.4	Active Transport Facilities		1	1
		17B.5	Walkable Neighbourhoods		1	1
Total					**7**	**3.5**

Water					**12**	
Potable Water	Prescriptive Pathway	18B.1	Sanitary Fixture Efficiency		1	1
		18B.3	Heat Rejection		2	2
		18B.4	Landscape Irrigation		1	1
		18B.5	Fire System Test Water		1	1
Total					**6**	**5**

Materials					**14**	
Life Cycle Impacts Points from operational energy reductions capped at 3 out of the 6 points available for	Prescriptive Pathway - Life Cycle Impacts	19B.1	Concrete		3	0.5
		19B.2	Steel		1	1
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1	Structural and Reinforcing Steel		1	1
		20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables		1	1
Sustainable Products	To encourage sustainability and transparency in product specification.	21.1	Product Transparency and Sustainability		3	1
Construction and Demolition Waste	Fixed Benchmark	22A	Fixed Benchmark		1	1
Total					**12**	**5.5**

Land Use & Ecology				6	
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable Species	-	Complies
Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement	-	Complies
		24.1	Reuse of Land	1	1
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.0	Heat Island Effect Reduction	1	1
Total				**6**	**2**

Emissions				5	
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Stormwater Peak Discharge	1	1
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Bodies	-	Complies
		27.1	Light Pollution to Night Sky	1	1
Microbial Control	To recognise implementation of systems to minimise impacts associated with harmful microbes in building systems.	28.0	Legionella Impacts from Cooling Systems	1	1
Total				**5**	**3**

Innovation					**10**
Improving on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on benchmark required to achieve full points.	30C	Improving on Green Star Benchmarks		
Innovation Challenge	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	30D	Innovation Challenge		10
Total					**10**

		4* pathway
CORE POINTS	100	43.0
CATEGORY PERCENTAGE SCORE		43.0
INNOVATION POINTS	10	2.0
TOTAL SCORE TARGETED		45.0
Green Star rating		4 Star

8. Conclusion

This report provides details of a comprehensive package of sustainable design features which will be integrated into the design and specification of the proposed development in order to improve environmental outcomes during occupation.

In terms of performance outcomes, the analysis presented in this report demonstrates that the proposed development will:

- Attain a 4 star Green Star standard based on the Design & As Built v1.2 rating tool
- Achieves a 5.5 star NABERS Energy rating
- Attain the *Best Practice* standard for urban stormwater quality

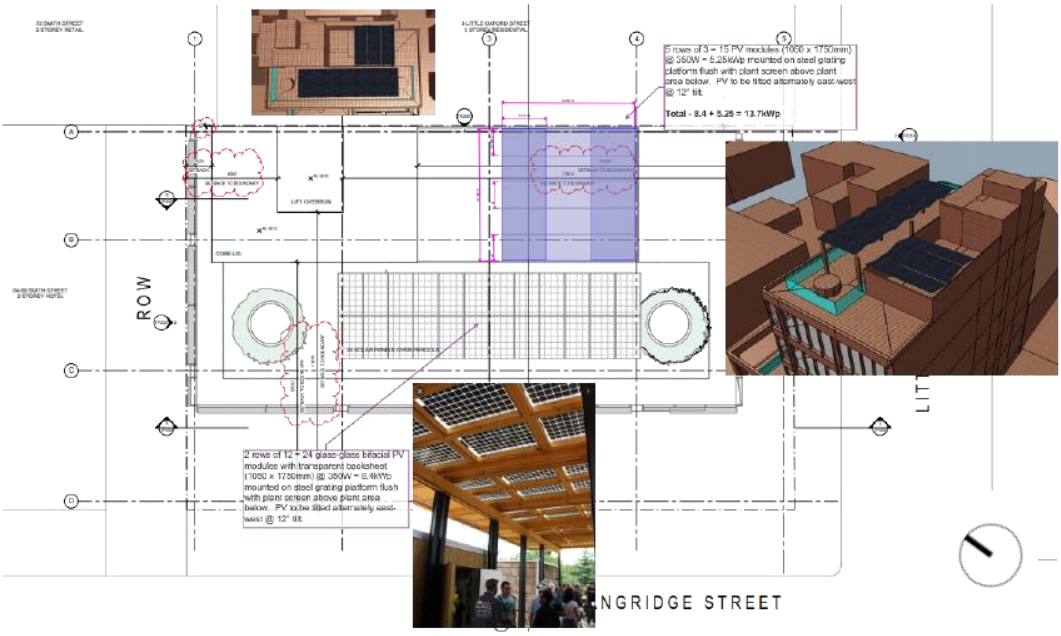
Accordingly, the performance outcomes achieved by the proposed development considered to be appropriate for a commercial development of this scale and are consistent with the objectives set out in Clauses 19.03-3S, 22.16 and 22.17 of the Yarra Planning Scheme.

Jan Talacko
Director

Appendix A. Solar Photovoltaic System

High-efficiency bi-facial solar PV modules with a total capacity of 8.4kWp DC and an inverter capacity of 25kW AC will be installed as an unshaded pergola and high-efficiency solar PV modules with a total capacity of 5.25kWp DC and an inverter capacity of 25kW AC will be mounted on a steel grating platform flush with the plant screen as per the preliminary layout indicated below.

PV modules will be oriented in pairs/rows of 3 to the east and west at 12° tilt and have at least 350Wp capacity. High-efficiency modules deliver more compact arrays with inherently lower embodied ecological impact per unit of generation than standard efficiency modules.

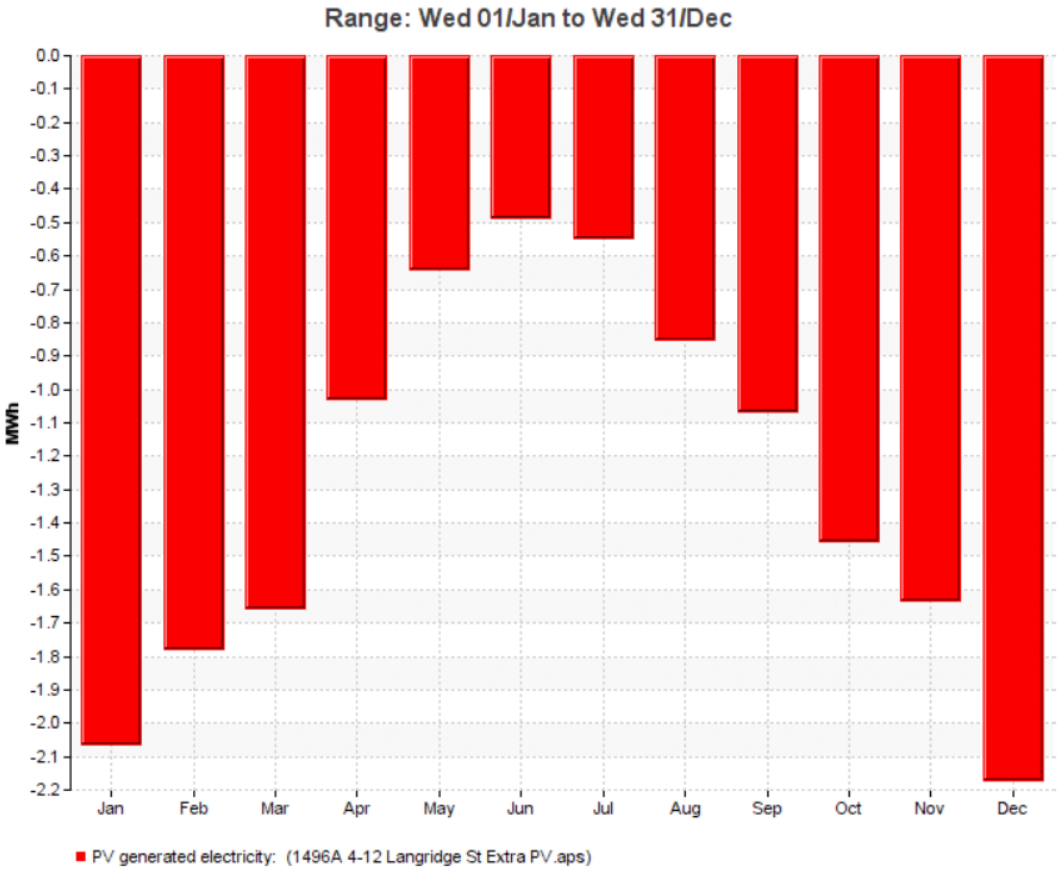


Rooftop PV Array – 24 Bi-facial PV panels and 15 PV panels @ 350W each panel

The undulating east-west configuration prevents self-shadowing of the array and provides a low-profile installation with maximised packing factor. It also helps maximise self-consumption due to its flatter and broader power output yield profile.

Solar PV modelling

Total yield of this array will be 15.39MWh per annum. Array output will be allocated proportionately between landlord and office tenancy loads.



IES Monthly Output 13.65kW East-West orientation

Appendix B. STORM Results

Melbourne Water STORM Rating Report

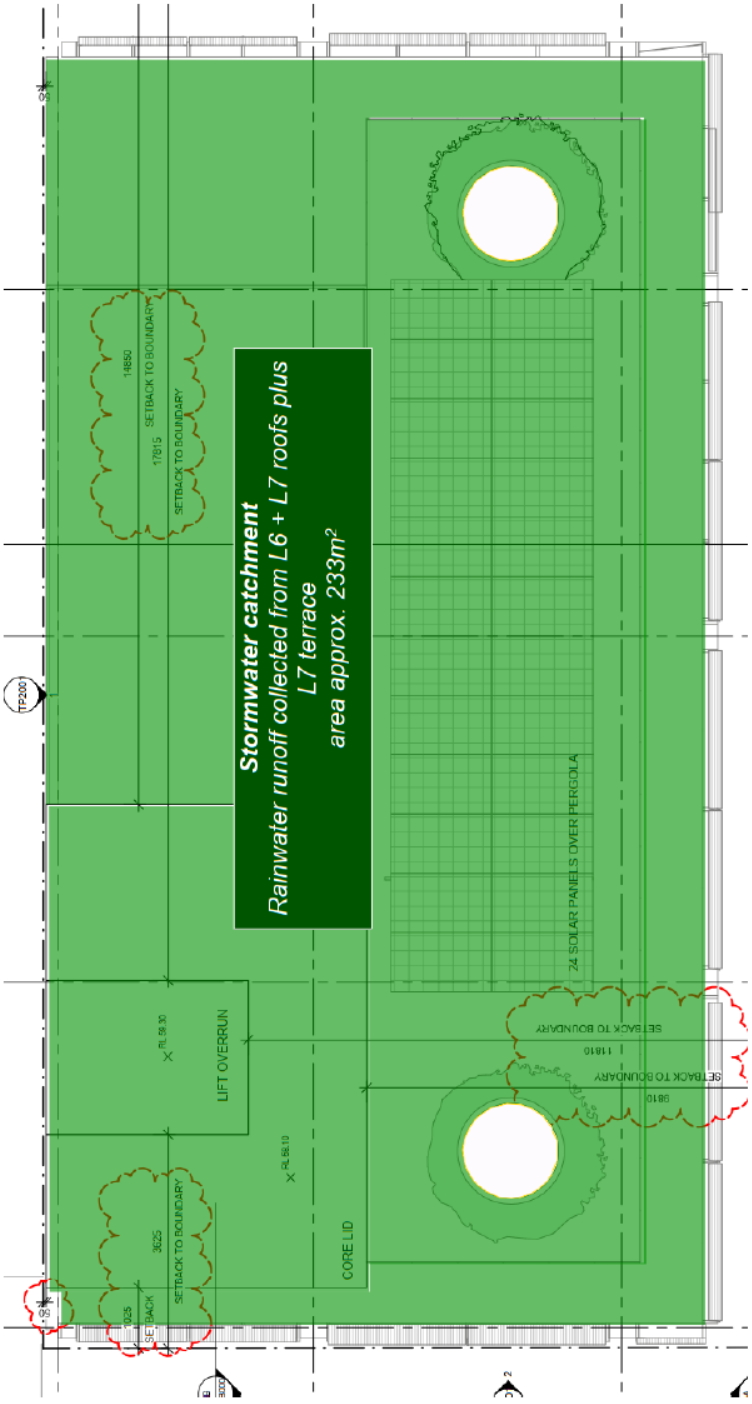
TransactionID:	1081380
Municipality:	YARRA
Rainfall Station:	YARRA
Address:	4-12 Langridge Street
	Collingwood
	VIC
Assessor:	HM
Development Type:	Commercial/Retail
Allotment Site (m2):	366.00
STORM Rating %:	104

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roofs L6+L7, L7 terrace	233.00	Rainwater Tank	5,000.00	10	159.50	78.70
Remaining Impervious	124.00	None	0.00	0	0.00	0.00

Date Generated: 17-Dec-2020 Program Version: 1.0.0

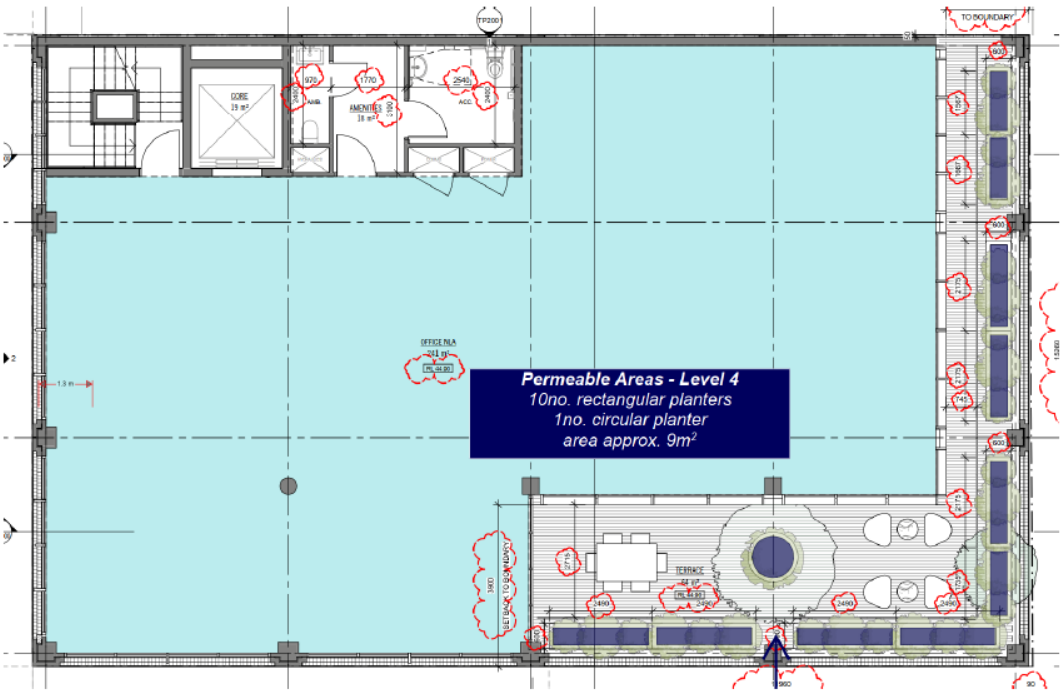
Note that as a consequence of the rainwater harvesting and re-use system the post development peak stormwater discharge will be less than pre-development as the site is currently 100% impervious surface

B.1 RAINWATER CATCHMENT AREAS

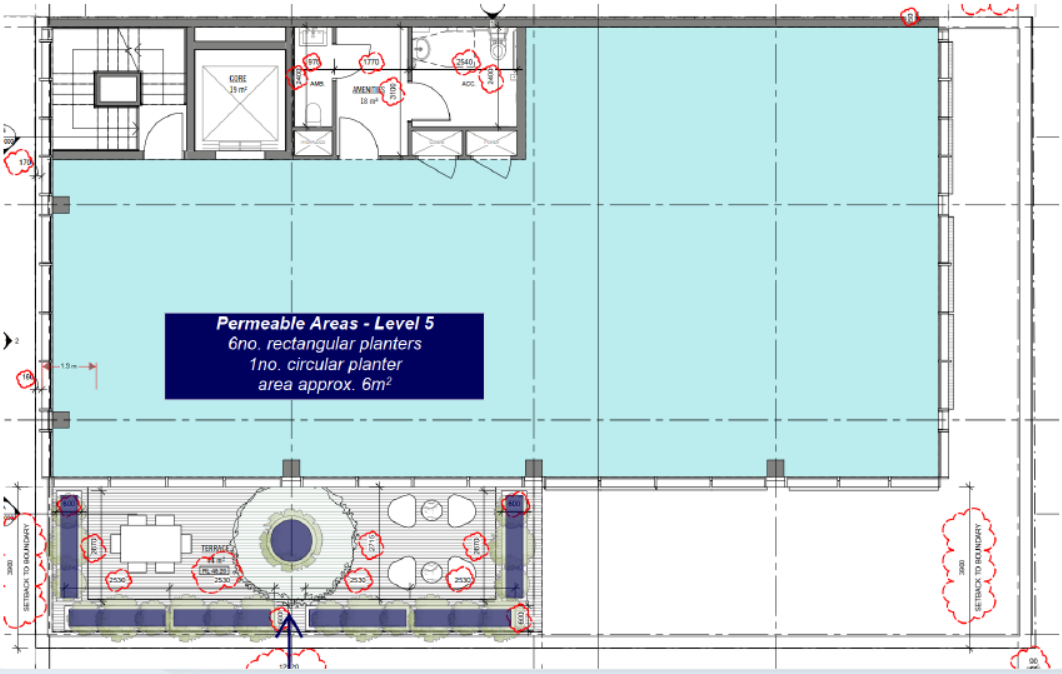


B.2 50% PERMEABLE AREA PLANTER BOXES

Level 4

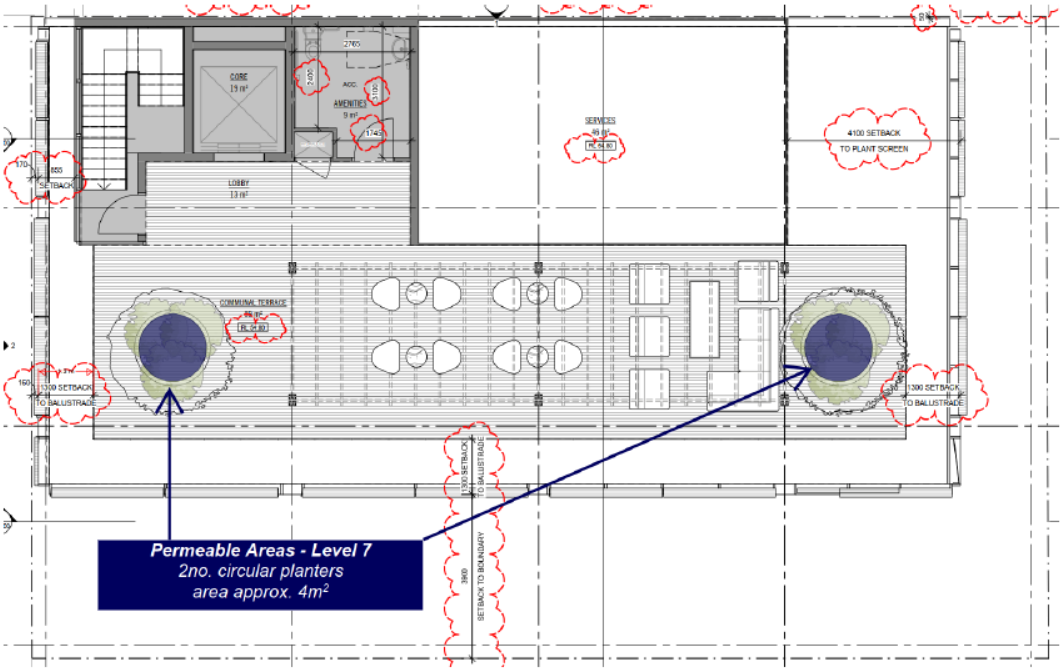


Level 5



Attachment 4 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Without Prejudice Sketch Plans and Reports

Level 7



Appendix C. Rainwater Harvesting

Property 4-12 Langridge Street, Collingwood
Version

box 1

Inputs:

Commercial	Floor Area - NLA (m2)	439	
	PPL [M / F]	22	22
	Flush/Person/Day [M - Urinal]	2	
	Flush/Person/Day [M / F - WC]	0.3	2.3
	Litres/Flush [Urinal / WC]	1	3.3
	Total Daily usage (litres)	232.23	
Residential	PPL	0	
	Flush/Person/Day	5	
	Litres/Flush	3.3	
	Total Daily usage (litres)	0	
Development	Total Daily usage (litres)	232	
	Roof area (m2)	237	
	Collection Evaporation	5%	
	Tank Capacity (litres)	5,000	
	Irrigation Area (m2)	116	
	T'off if Total Rain (mm)	10	
	in the last	5 days	

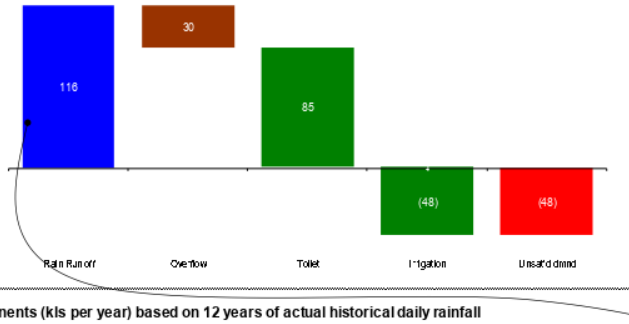
Recalc, update pivots, table and graphs

Irrigation Schedule

l /m2	S	M	T	W	Th	Fr	S
Jan	10	y			y		
Feb	10	y			y		
Mar	10	y			y		
Apr	5	y					
May	5		y				
Jun	5		y				
Jul	5			y			
Aug	5			y			
Sep	5				y		
Oct	5				y		
Nov	10					y	
Dec	10	y				y	

box 2

System components (kls per year)



box 3

System components (kls per year) based on 12 years of actual historical daily rainfall

12 years of Averages
(k l)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Rain Run off	8	10	7	11	10	8	8	10	9	12	12	12	116
Overflow	(1)	(4)	(2)	(3)	(2)	(2)	(1)	(2)	(2)	(4)	(4)	(4)	(30)
Rain Water saved	7	7	5	8	7	7	7	9	7	8	7	8	86
Toilet	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(85)
(Shortfall)/Surplus before Irrigation	(1)	0	(2)	1	0	(0)	(0)	1	(0)	1	1	1	1
Irrigation	(9)	(7)	(9)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(8)	(49)
Unsatisfied Demand	(9)	(7)	(11)	(1)	(2)	(2)	(2)	(0)	(2)	(1)	(3)	(7)	(48)

Actual Years
(k l)

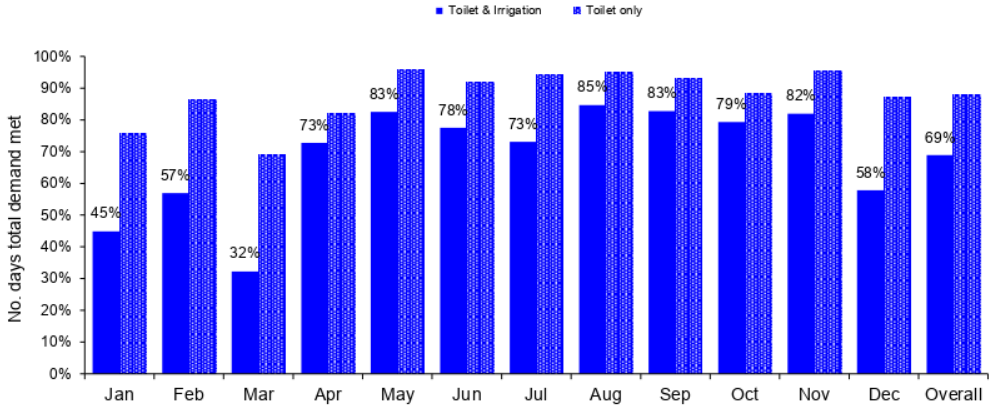
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Rain Run off	81	132	137	142	136	89	111	140	133	99	95	94	1,390
Overflow	(8)	(34)	(40)	(50)	(51)	(4)	(25)	(51)	(49)	(14)	(14)	(19)	(359)
Rain Water saved	73	98	97	91	85	86	86	89	83	85	82	75	1,031
Toilet	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(85)	(1017)
(Shortfall)/Surplus before Irrigation	(12)	13	12	7	0	1	1	5	(1)	(0)	(3)	(10)	13
Irrigation	(55)	(42)	(41)	(46)	(50)	(49)	(52)	(48)	(51)	(44)	(57)	(56)	(590)
Unsatisfied Demand	(67)	(29)	(29)	(39)	(49)	(48)	(50)	(43)	(52)	(44)	(60)	(65)	(577)

box 4

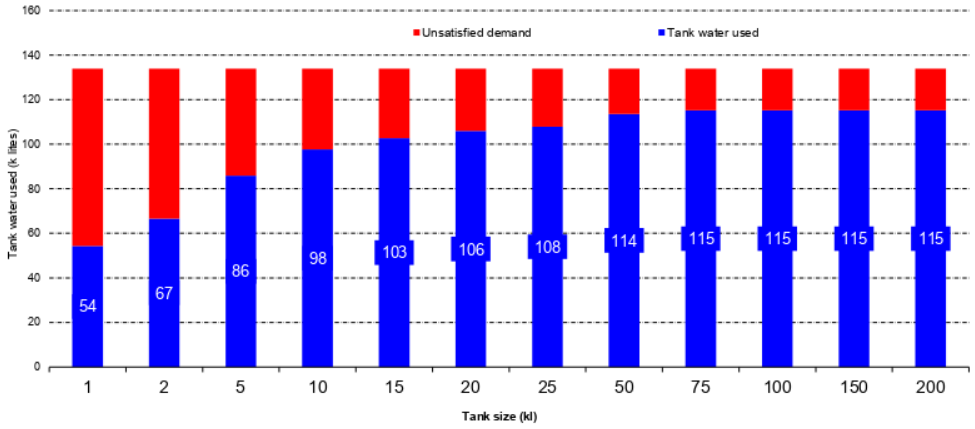
Reliability of supply (daily demand met)- Tank size what ifs

Tank	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Overall
1k	30%	34%	22%	49%	48%	49%	52%	55%	54%	58%	50%	37%	45%
2k	34%	39%	25%	59%	59%	61%	59%	69%	66%	70%	59%	41%	54%
5k	45%	57%	32%	73%	83%	78%	73%	85%	83%	79%	82%	58%	69%
10k	55%	63%	39%	77%	90%	91%	91%	89%	90%	83%	88%	74%	77%
20k	69%	70%	56%	78%	90%	94%	94%	93%	91%	86%	88%	78%	82%
50k	74%	76%	65%	82%	97%	100%	97%	95%	94%	90%	98%	84%	88%
100k	78%	76%	65%	82%	97%	100%	97%	95%	94%	90%	98%	89%	89%
200k	78%	76%	65%	82%	97%	100%	97%	95%	94%	90%	98%	89%	89%

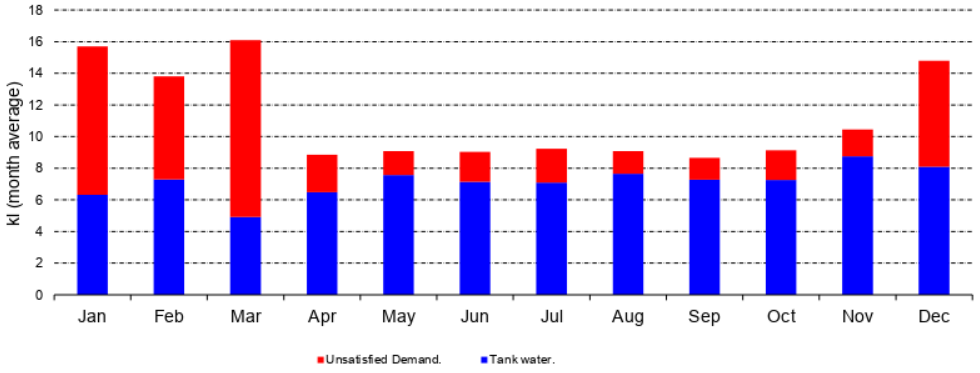
Graph 2 - Reliability of supply from tank (average across 12 years)



Graph 3 -Tank water used (per year) V Tank size
Kls per year



Graph 4 - Tank water used v unsatisfied demand
by month (kls per month)



Appendix D. WSUD Maintenance Program

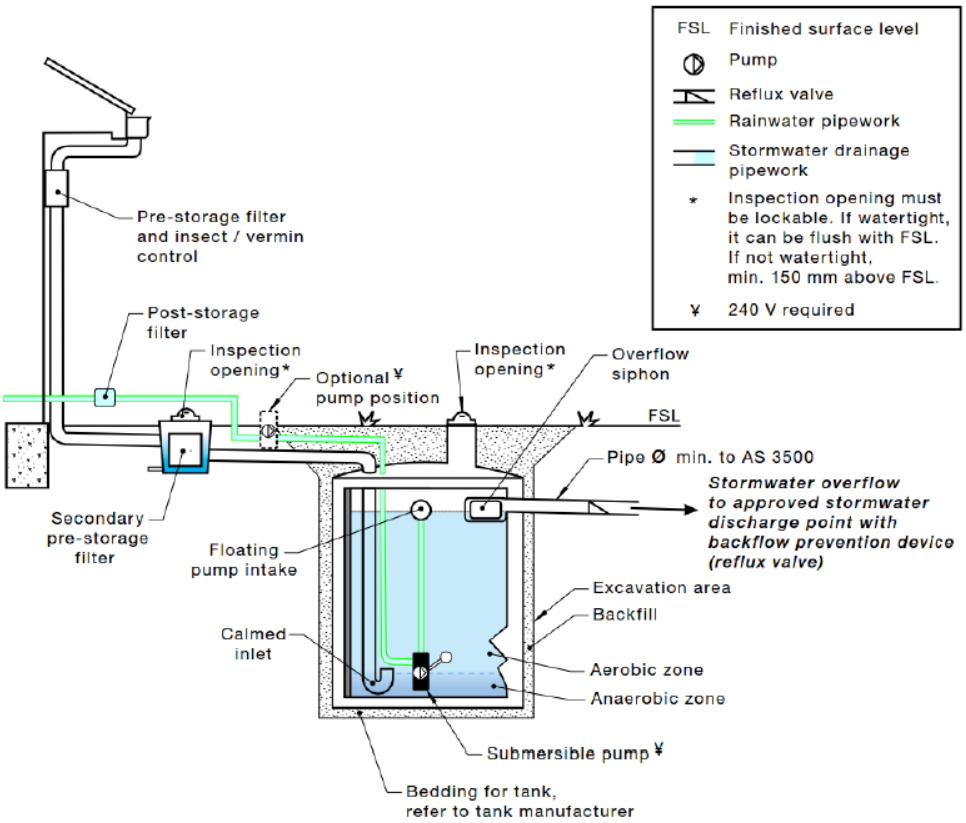
Once installed, a systematic maintenance program will be implemented by the owner's corporation maintenance contractor to ensure the rainwater harvesting system operates as designed and water quality is maintained.

The scope of the maintenance program will include inspection and rectification of issues associated with:

- Roof gutters and downpipes
- First flush screens and filtration devices
- Pumps
- Distribution pipework and reticulation systems
- Overflow systems

Inspections of the system and any maintenance works required will be undertaken on a quarterly basis or as per manufacturers guidelines.

The rainwater harvesting system will be installed in accordance with the guidelines set out in the Rainwater Design & Installation Handbook published by the National Water Commission[2]. A schematic diagram of the rainwater tank installation is provided below.



[2] Rainwater Design & Installation Handbook, National Water Commission, 2008

D.1 MAINTENANCE CHECKLIST

Rainwater Tank Element	Inspection Item	Y/N	Likely Maintenance Task
Roof gutters and downpipes	Is there leaf litter or debris in the gutters?		Remove by hand and dispose responsibly
First flush diverter	Is there anything blocking the first flush diverter (Leaves etc.)?		Remove by hand and dispose responsibly
Potable mains back up device	Is the potable mains back up switch operating correctly?		Repair or replace devise. Consider a manual switching device.
Mesh cover	Has the mesh cover deteriorated or have any holes in is?		Replace mesh cover.
Tank volume	Is there large amounts of sediment or debris sitting in the bottom of the tank, reducing the volume available in the tank to store water?		Remove sediment and dispose responsibly.
Pump	Is the pump working effectively? Have you heard it on a regular basis?		Check the potable mains back up is not permanently on. Repair or replace pump.
Pipes and taps	Are pipes and taps leaking?		Repair as needed.
Overflow	Is the overflow clear and connected to the storm water network?		Remove blockages and/or restore connections to stormwater network.

Maintenance Frequency												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All tasks	x			x			x			x		

Appendix E. Site Management Plan

During the construction phase, the key pollutants at risk of entering the stormwater system include:

- Sediments (soil, sand, gravel and concrete washings); and
- Litter, debris etc.

These pollutants arise from factors such as dirt from construction vehicles, stockpiles located close to surface runoff flow paths, and surface runoff from disturbed areas during earthmoving and construction works. It is therefore important to have measures that either prevent or minimise the pollutant loads entering stormwater system during construction.

In order to mitigate the impacts of the above pollutants on the stormwater system, the following stormwater management strategies will be implemented during the construction phase as appropriate:

- Installation of onsite erosion and sediment control measures. All installed control measures shall be regularly inspected & maintained to ensure their effectiveness. Such measures may include (but not limited to):
- Silt fences
- sediment traps
- hay bales
- geotextile fabrics
- Where possible, litter bins with a lid will be used to prevent litter from getting blown away and potentially entering stormwater drains.

Additionally, the following work practices shall be adopted to reduce stormwater pollution:

- Site induction by the head contractor/ builder to make personnel aware of stormwater management measures in place
- Employ suitable measures to reduce mud being carried off-site into the roadways such as installing a rumble grid/ gravel/ crushed-rock driveway (or equivalent measure) to provide clean access for delivery vehicles, removing mud from vehicle tyres with a shovel etc.
- Safe handling and storage of chemicals, paints, oils and other elements that could wash off site to prevent them from entering stormwater drains.
- Where practicable, stockpiles will be covered, located within the site's fence and away from the lowest point of the site where surface runoff will drain to. This initiative will minimise erosion.

Accordingly, the measures presented above are considered appropriate for the proposed development at this stage of the project. The measures will reduce the pollutants entering stormwater system from the site during construction works thereby protecting waterways.

Appendix F. NABERS Assumptions

NABERS

Office of Environment and Heritage
59 Goulburn Street
Sydney NSW 2000
T (02) 8995 6590
E info@environment.nsw.gov.au
nabers.gov.au

NABERS Energy for offices Reverse Calculator

Version: 13 Date: Nov-19

The NABERS Energy for offices reverse calculator helps you calculate the maximum amount of energy an office building can use to achieve a star rating that you specify. To ensure you achieve the rating, you should allow a factor of safety, and not design to the minimum figure for each star band. The output is the maximum amount of energy allowed to be used to achieve the rating you nominate.

Base Building

1. ENTER THE STAR RATING YOU WISH TO ACHIEVE

5.5 STARS

2. ENTER THE BASE BUILDING INFORMATION

Building Postcode		3066
Hours each week with occupancy levels of 20% or more (hrs/week)		50
Net Lettable Area of the building (m2)		1552
Percentage Breakdown of Energy Consumption:	Electricity	92%
	Gas	8%
	Coal	
	Diesel	

RESULTS

NABERS ENERGY

Benchmarking factor at selected rating NA

Maximum Allowable Energy Consumption

Electricity	55,517	kWh per annum
Gas	17,379	MJ per annum
Coal	-	kg per annum
Diesel	-	L per annum

Max total energy use in MJ	217,240	MJ per annum
Max total energy intensity	140	MJ/m2 per annum
Electricity energy intensity	129	MJ/m2 per annum
Gas energy intensity	11	MJ/m2 per annum
Coal energy intensity	-	MJ/m2 per annum
Diesel energy intensity	-	MJ/m2 per annum
Max total greenhouse emissions (raw), Scope 1, 2 & 3	63,140	kg CO2 per annum
Max greenhouse emissions intensity (raw), Scope 1, 2	41	kg CO2/m2 per annum
Electricity greenhouse emissions (raw), Scope 1, 2 & 3	62,179	kg CO2 per annum
Gas greenhouse emissions (raw), Scope 1, 2 & 3	961	kg CO2 per annum
Coal greenhouse emissions (raw), Scope 1, 2 & 3	-	kg CO2 per annum
Diesel greenhouse emissions (raw), Scope 1, 2 & 3	-	kg CO2 per annum
Max total greenhouse emissions (raw), Scope 1 & 2	57,521	kg CO2 per annum
Max greenhouse emissions intensity (raw), Scope 1 & 2	37	kg CO2/m2 per annum
Electricity greenhouse emissions (raw), Scope 1 & 2	56,627	kg CO2 per annum
Gas greenhouse emissions (raw), Scope 1 & 2	893	kg CO2 per annum
Coal greenhouse emissions (raw), Scope 1 & 2	-	kg CO2 per annum
Diesel greenhouse emissions (raw), Scope 1 & 2	-	kg CO2 per annum

F.1 PROPOSED BUILDING SERVICES DESIGN PARAMETERS

Air-Conditioning System

- Type: High-efficiency air-cooled VRF – 3-pipe heat recovery
  - Fully-inverter driven scroll compressors
  - Ducted fan-coil units with maximum 3m of flexible duct
  - Inverter driven DC motor indoor fan coil units
  - Centralised fresh air AHU incorporating cross-flow plate heat-exchanger with 75% efficiency.
- Seasonal Energy Efficiency Rating (SEER) calculated in accordance with AS 3823.4 2014 Amendment 1 for inverter-driven AC in '**Commercial Cold**' climate:
  - **Minimum** SEER of any outdoor unit chassis combination: **6.5**
  - **Minimum weighted average** SEER of all outdoor unit chassis combinations: **6.8**
- Integrated control features:
  - Variable evaporator temperature (6°-15° range) in response to load
  - Plug-and-play commissioning
  - Proportional allocation of tenant energy charges
- Details about equipment and services used, including modelling assumptions made, are provided in Table 1 below.

Item	NABERS Energy Model
Climate Data	Melbourne Test Reference Year (TRY) - VIC_MelbourneRO_71_TRY.fwt Climate Zone 6 (Melbourne)
Operating Conditions	Heating 21°C in all conditioned areas as per NCC 2019 JV3 methodology.
	Cooling 24°C in all conditioned areas as per NCC 2019 JV3 methodology.
Plant Operating Profile	Operational schedule as shown on Appendix 6.1 (Office – Base Building), which is equivalent to 50 hours per week
Internal Gains People	No of people calculated in accordance with default figures of the NABERS Handbook for Estimating Energy Ratings version 1.2 July 2019 as shown on Appendix 6.1 (Office – Base Building) • Office: 10m² per person. • Internal heat gain values as per JV3 values: • Sensible heat gain: 75 W/person • Latent heat gain: 55 W/person Building occupant daily diversity profile modelled according to NABERS Handbook for Estimating Energy Ratings version 1.2 July 2019 as shown on Appendix 6.1 (Office – Base Building).
Lighting	Unless otherwise stated, installed aggregate illumination power is not more than 90% of the maximum illumination power based on the maximum allowable lighting power densities defined in Table J6.2a of NCC2019 10% better than Maximum Illumination Power Density per NCC 2019 Section J (default NCC values scheduled below) • Office (Commercial Spaces): 4.5 W/m² (sensible gains only- no electrical loads) • Common Area Toilets, EoT 3.0 W/m² for toilets • Storage Room: 1.5 W/m² • Plant Room: 2.0 W/m² • Stairs: 2.0 W/m²

Item	NABERS Energy Model
	• Corridor/ Circulation: 5.0 W/m² • Lobby: 9.0 W/m2 • Carpark - entry zone (first 15 m of travel) during the daytime 11.5W/m2 • Carpark - entry zone (next 4 m of travel) during the day 2.5W/m2 • Carpark - entry zone (first 20 m of travel) during night-time 2.5W/m2 • Lighting operating power derated from 100% to 90% where motion detectors control an area of 200 m² or less, and motion sensors control groups of more than 6 fittings (common areas and toilets). • During daylight hours, Lighting operating power derated from 100% to 50% for light fittings adjacent to windows (4m perimeter zone) to account for daylight sensors and dimming control Operation schedule as per NABERS non-after-hours automated lighting
HVAC system	Air Conditioning System VRF system with part load efficiency equivalent to LG Multi V5 Heat Recovery system modelled with 10% derating allowance for pipe length (part load efficiency modelled according to Heating and Cooling Capacity Tables from Engineering Databook) Heat Recovery System (outside air): Outside air heat recovery/ air handling unit with sensible efficiency of 75% CO_2 sensors with DCV ventilation system (<800PPM) VRF Indoor Unit fan power 0.35 W/L/s VRF indoor units with variable speed with a minimum 85% speed (3 speeds: Low-Standard-High) AHU fan power with heat recovery: 1.6W/L/s (supply and exhaust) and Dedicated Outdoor Air System (DOAS) Extract Fans (Fan Power 0.75 W/l/s) Exhaust Air Requirements as per standard AS1668.2: 2012 Appendix B a) Toilet Exhaust fans: Exhaust Flow rate is the greater of 10L/s/m2 or 25L/s/fixture • Total number of toilet units and urinals: 30 (estimated) • Total number of showers: 4 • Total exhaust requirement (per fixture basis) = 850 L/s • Total toilet and EOT facility area: 152m² • Total exhaust requirement per floor area = 2,200 L/s • Required exhaust flow rate: 2,200 L/s Total toilet extract fan power: 1.65kW b) Bin Room Exhaust fan: 100W based on 5L/s/m² c) Gas Meter and plant room exhaust flow rate: 5L/s/m² = 275W d) Storage Room exhaust flow rate: 5L/s/m² = 100W e) Diesel fire pump flue exhaust: 100W based on 5L/s/m²
Outside Air Requirements	• Office Spaces: 7.5 L/s/person • Electrical Meter and Switch Rooms: 4L/s/m² • Common areas (Lobbies, Stairs and Corridors): 1L/s/m² According to standard AS1668.1: 2012 Appendix A

Item	NABERS Energy Model
Equipment Loads	Equipment Loads modelled according to NABERS Handbook for Estimating Energy Ratings version 1.2 July 2019 • 11 W/m^2 (average) – no electrical loads in tenant areas • The default equipment load can be set at 11 W/m^2. Installed equipment loads are likely to vary from zone-to-zone and this should be represented in the model. By default, zone loads could be set at 30%, 40%, 75%, 100% and 125% of design equipment loads in ratios of 1:2:2:1:1. Detailed modelled equipment gains is shown in appendix F
Domestic Hot Water	**qDHW total = 18,857 MJ/year** DHW Pump energy consumption Circulation pump power – 0.05 kW **Annual energy use: 150kWh/year**
Hydraulic Systems	Each installed pump must achieve a pump motor input power per unit of flow rate 10% lower than the reference pump motor input power per unit flow rate calculated from the deemed-to-satisfy requirements of Part J5.7 (b), (c) and (d); (Potable Water and Non-Potable Water pumps) - **3,500 kWh/ year**
Rainwater pump	Estimated annual energy use of 1.25kWh/m^2 NLA – **1,940 kWh/year**
Safety and Emergency Systems	Standard Desktop Computer with operating mode power of 90W and Standby mode power of 5W. This is assumed to be the equivalent electrical load of the safety and emergency systems - **788 kWh/year**
Access Control Systems	Standard Desktop Computer with operating mode power of 90W and Standby mode power of 5W. This is assumed to be the equivalent electrical load of the access control systems - **788 kWh/year**
Building Management Systems	Standard Desktop Computer with operating mode power of 90W and Standby mode power of 5W. This is assumed to be the equivalent electrical load of the BMS systems - **788 kWh/year**
Communications Equipment	Operating mode power of 180W and Standby mode power of 10W. **1,577 kWh/year**
On-site Generators	None assumed.
PV Array	Capacity: 13.65 kW total output (39 x panels with 350W output per PV module) Annual electricity output: 15.39 MWh/year Refer to Appendix B for IESVE Calculation Output

Item	NABERS Energy Model
Lift energy use	Lift energy consumption calculated according to the ISO standard 25745.2:2019 • **Energy Efficiency Class A** • Usage Category 3 (medium sized office up to 10 floors) • n_d: 500 (Number of trips per day) • Q(Rated Load): 1,179Kg • Speed: 1.6m/s • Operating Days: 260/year • Standby Power: 50W • Total number of lifts = 1

Energy efficiency class	Energy consumption per day (Wh)
A	$E_d \leq 0{,}72 \times Q \times n_d \times s_{av}/1\,000 + 50 \times t_{nr}$
B	$E_d \leq 1{,}08 \times Q \times n_d \times s_{av}/1\,000 + 100 \times t_{nr}$
C	$E_d \leq 1{,}62 \times Q \times n_d \times s_{av}/1\,000 + 200 \times t_{nr}$
D	$E_d \leq 2{,}43 \times Q \times n_d \times s_{av}/1\,000 + 400 \times t_{nr}$
E	$E_d \leq 3{,}65 \times Q \times n_d \times s_{av}/1\,000 + 800 \times t_{nr}$
F	$E_d \leq 5{,}47 \times Q \times n_d \times s_{av}/1\,000 + 1\,600 \times t_{nr}$
G	$E_d > 5{,}47 \times Q \times n_d \times s_{av}/1\,000 + 1\,600 \times t_{nr}$

Specific Energy Demand: $0.72 mWh/(kg*m)$

Ed (energy consumption per day) = 0.72 x Q x n_d x s_{av}/1000 + 50 x t_{nr}

where

- s_{av} is the one-way average travel distance for the target installation (m)
- s_{av} = total travel distance x 49% (factor for classification 3) = 15.4m
- t_{nr}= stand-by time per day = 22.5h

Usage category	1	2	3	4	5	6
Usage intensity/ frequency	Very low	Low	Medium	High	Very high	Extremely high
Number of trips per day (n_d) typical range	50 (<75)	125 (75 to <200)	300 (200 to <500)	750 (500 to <1 000)	1500 (1 000 to <2 000)	2 500 (≥2 000)
Typical buildings and usage (operating days per year)	Residential building up to 6 dwellings (360 d) Residential care home (360 d) Small office or administrative building with few operations (260 d) Suburban railway stations (360 d)	Residential building up to 20 dwellings (360 d) Small office or administrative building with 2 to 5 floors (260 d) Small hotels (360 d) Office car parks (260 d) General car parks (360 d) Main line railway stations (360 d) Library (312 d) Entertainment centres (360 d) Stadia (intermittent)	Residential building with up to 50 dwellings (360 d) Medium-sized office or administrative building with up to 10 floors (260 d) Medium-sized hotel (360 d) Airports (360 d) University (260 d) Small hospital (360 d) Shopping centre (360 d)	Residential building with more than 50 dwellings (360 d) Large office or administrative building with more than 10 floors (260 d) Large hotel (360 d)	very large office or administrative building over 100 m height (260 d)	very large office or administrative building over 100 m height (260 d)
Typical rated speed	0,63 m/s	1,00 m/s	1,60 m/s	2,50 m/s	5,00 m/s	5,00 m/s

Eyear (total) = Ed x 260 (260 days operation for offices)

Eyear(total) =1 (lifts) x 0.72 mWh/(Kgm) x 1,179Kg x 500 trips x 15.4m x 260 days/1000 +50W x (22.5h x 260 +24h x 105)

Energy use (total) = 2,570 kWh/year

Appendix G. Daylight Modelling Inputs and Results

G.1 ASSUMPTIONS

The following assumptions have been made for the Visible Light Transmittance (VLT) values for all glazing applicable to this analysis:

ASSUMED GLAZING VISUAL LIGHT TRANSMITTANCE

Glazing Type	Glass VLT
	%
Exterior Office glazing	40

This VLT is based on the following preliminary DGU selection by XO Projects architects:

C.GR-PDE80A02-6 + 12 AR + SCL-6

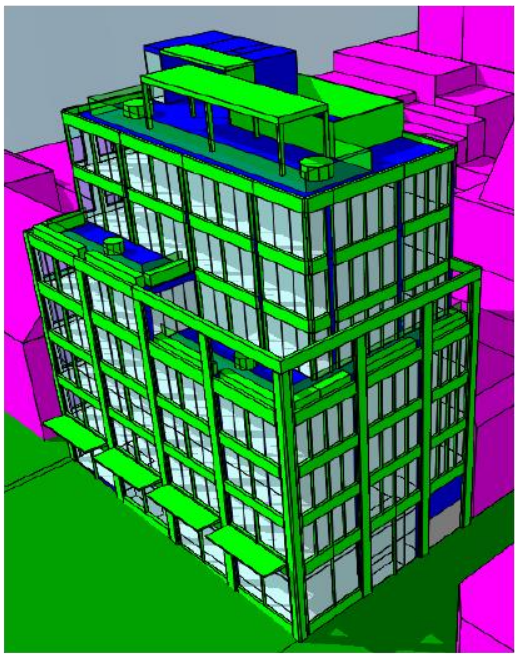
Product Details Specify Order Sample

Visible Light Transmission	53.00	%	Solar Heat Gain Coefficient	0.32	
Visible Light Reflection Out	8.00	%	Shading Coefficient	0.37	
Visible Light Reflection In	12.00	%	U-value (Winter, NFRC)	1.36	W/m^2*K
Total Solar Energy Transmission	28.00	%	U-value (EN673)	1.25	W/m^2*K
Total Solar Energy Reflection	18.00	%	Post-Temperable (Bendable)	Yes	

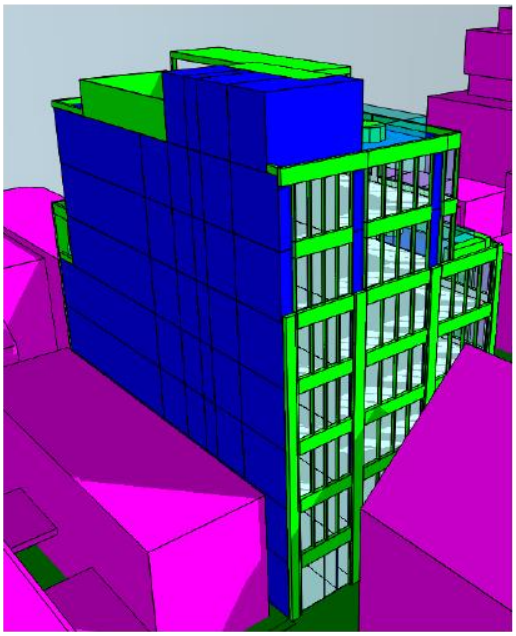
ASSUMED SURFACE REFLECTANCES

Construction Element	Reflectance (%)	Description
Floors	30	Assumes a medium-coloured carpet
Walls	70	Assumes white paint
Ceilings	80	Assumes white paint
External Fabric 1	40	Assumes grey brick
External Fabric 2	40	Assumes bronze coloured spandrel
Adjacent buildings 1	40	Red brick
Adjacent buildings 2	20	Dark coloured paint
External Ground	10	Assumes asphalt
Shading Devices	20	Assumes dark metal finish

G.2 MODEL IMAGES

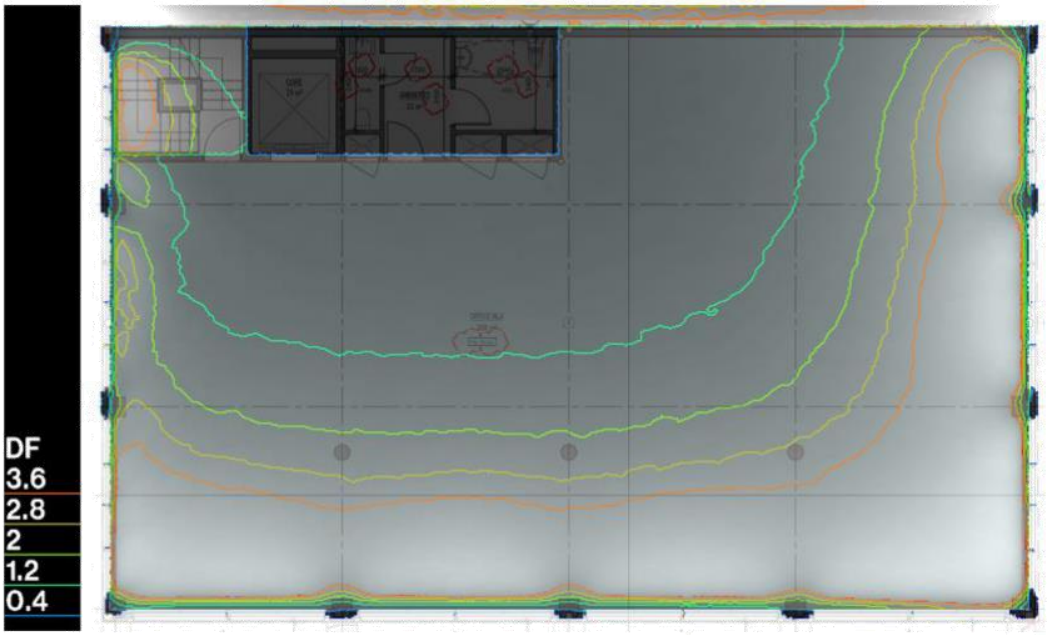


IES Model view from South

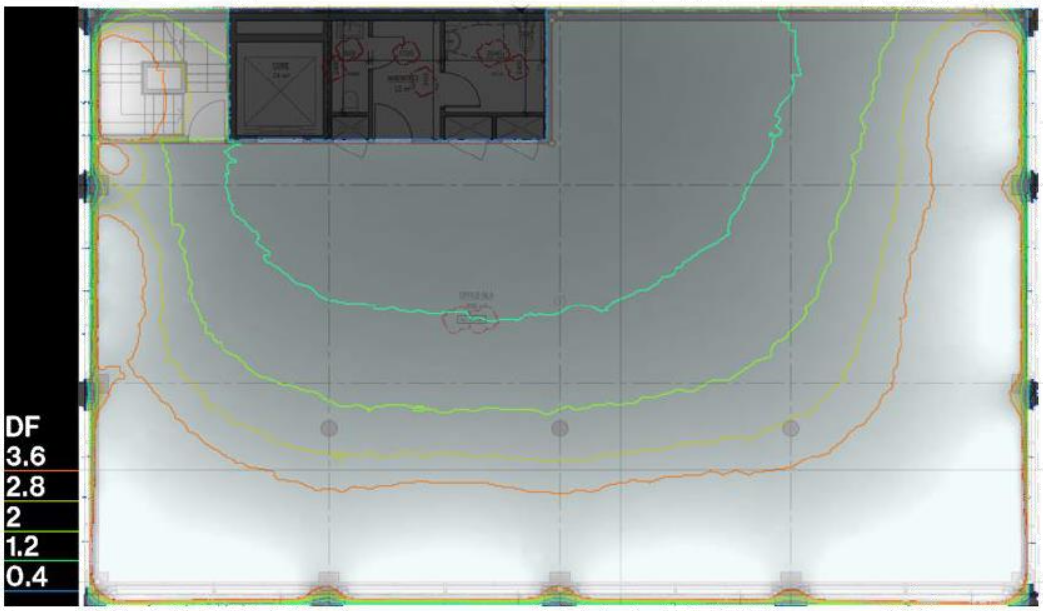


IES Model view from North

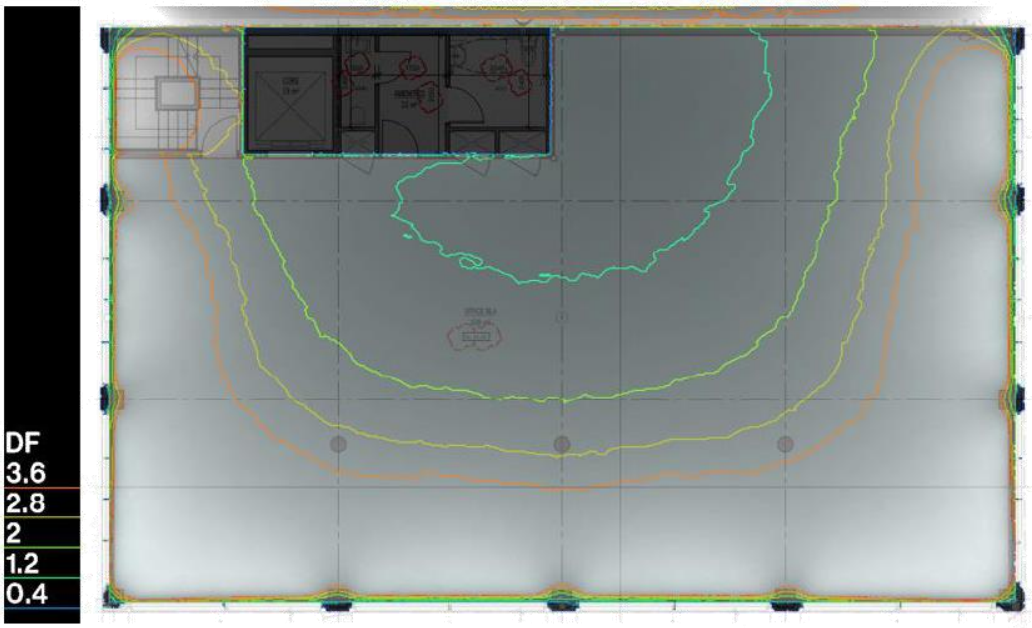
G.3 DAYLIGHT CONTOUR PLOTS



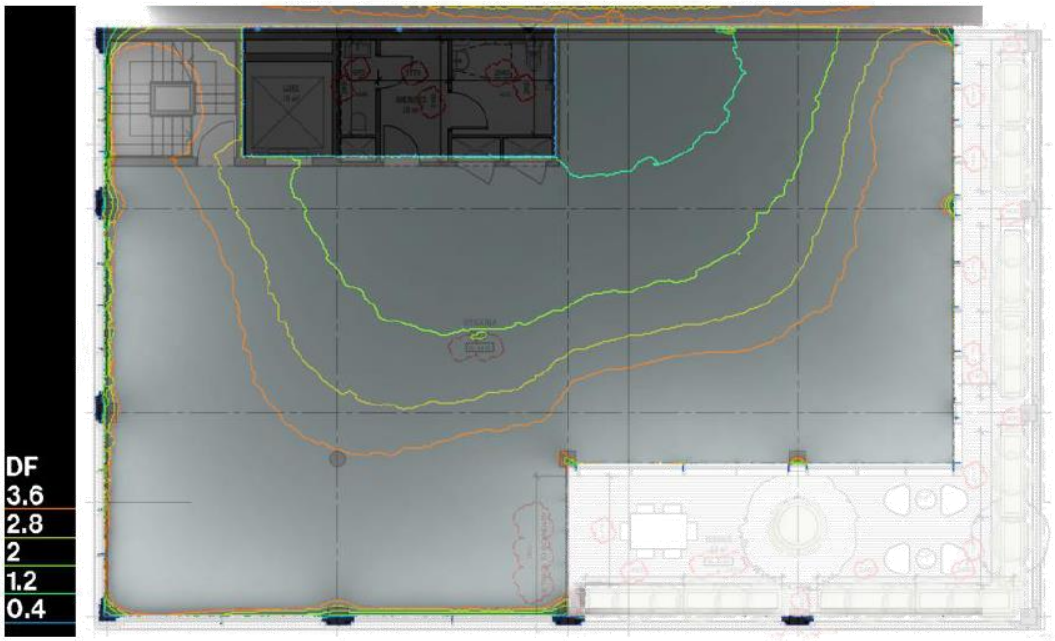
Office 1st Floor Contour Plot



Office 2nd Floor Contour Plot

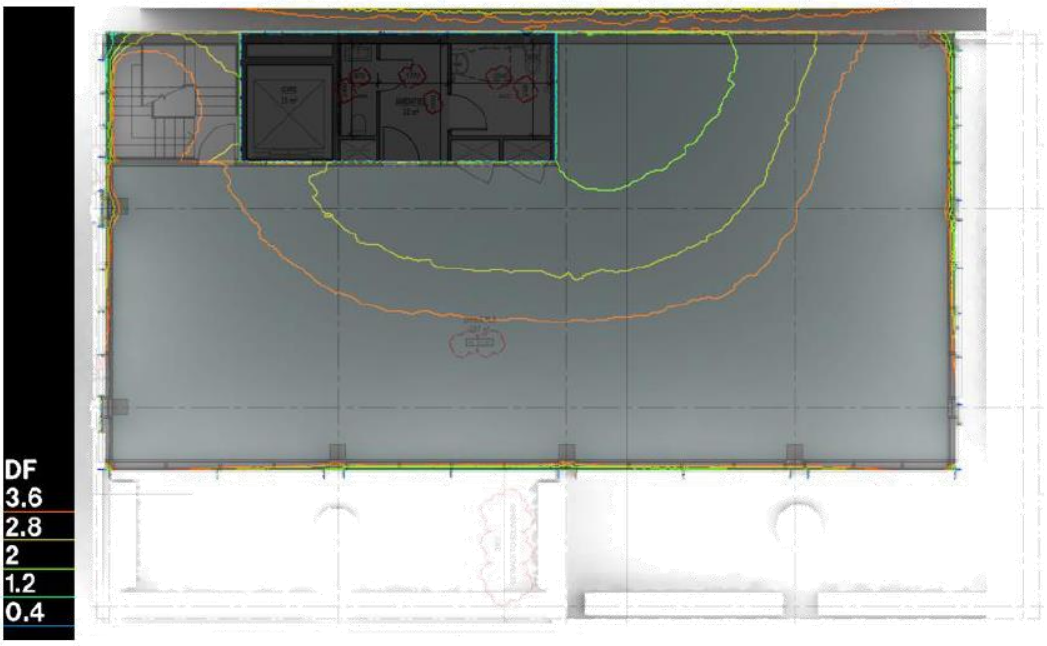


Office 3rd Floor Contour Plot



Office 4th Floor Contour Plot

Office 5th Floor Contour Plot



Office 6th Floor Contour Plot

Attachment 5 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Urban Design Unit

CITY OF YaRRA

MeMO

TO:	Michelle King (Statutory Planning)
FROM	Amruta Pandhe (Urban Design)
DATE:	28 October 2020
SUBJECT:	4-12 Langridge Street, Collingwood
APPLICATION NO:	PLN20/0470
DESCRIPTION:	Construction of an eight storey building including roof top terrace/services (plus one level of basement) and a reduction of the car parking requirements associated with office and a retail premises (no permit required for uses)

COMMENTS SOUGHT

Urban Design comments have been sought on following matters:

- Height and massing
- Architectural and materiality
- Public realm interface
- Transition of podium to the north
- Treatment on boundary walls
- Streetscapes and capital works

The comments are based on Architectural Plans dated 17th August 2020 (Town Planning RFI Response) and Urban Context Report dated 23 June 2020, both prepared by Bayley Ward.

COMMENTS SUMMARY

The proposal is not supported in its current form. In summary, the following changes are recommended to make the proposal more acceptable from an urban design perspective. The rationale behind these changes is explained in more detail overleaf.

- Reduce the overall height of the development by removing two levels. If the height of the roof terrace level is reduced and the stairwell is recessed then it will be acceptable to have the roof terrace level above a six storey form.
- Reduce the streetwall height by removing one level
- Increase the upper level setback along Little Oxford Street frontage by 2m
- Provide a 3m setback from the centre of the lane above the streetwall height (4 storeys)
- Ensure a seamless transition between the footpath grading and entry areas and that no steps are required

There are no known planned/approved capital works around the subject site which are being led by the Urban Design team.

URBAN DESIGN FEEDBACK
Additional details and amendments that are required on the drawings are discussed in the relevant sections below and overleaf.

1. Height and massing
1.1 Overall height and streetwall height
The site is within a proposed Design and Development Overlay (DDO 30) which provides guidelines for heights and setbacks. The DDO is not currently implemented into the scheme, however, it provides Council's current position on preferred built form character envisaged in the area. Given the subject site is on a slope the proposed overall height ranges between 26.6m – 28.2m. The DDO recommends a mandatory height of 20.8m and mandatory streetwall height of 14.4m for the subject site. From an urban design perspective the recommended height in the DDO provides an appropriate response to the current and potential future character of the wider area and rationale is explained below.

Langridge Street is an important east-west movement corridor and plays a key role in connecting this pocket of Collingwood to Abbotsford and Fitzroy, whereas Little Oxford Street plays a secondary role within the street hierarchy. Hence, it is important to give higher consideration to the built form character envisaged for Langridge Street and ensure the proposed development does not overwhelm the street character. Further the width of Langridge Street compared to Little Oxford Street and the location of site on the corner of Langridge Street and Little Oxford Street will make development on the subject site prominently visible from Langridge Street, particularly the corner of Smith Street and Langridge Street. Given this is an important pedestrian intersection the views from this intersection need to be given high consideration as well.

The section of Langridge Street between Little Oxford Street and Wellington Street is covered by existing DDO23 for Collingwood South (mixed use) Precinct. Even though the subject site is not covered by DDO23 it provides recommendations for remainder of Langridge Street and hence is given consideration in the urban design assessment.

The DDO states to ensure that the overall scale and form of new buildings are mid-rise and responds to the topography of the precinct, by providing a suitable transition in height as the land slopes upwards. It can be noted that the recommended streetwall and overall height along Langridge Street are highest towards the Wellington Street end and gradually lowers towards Little Oxford Street end. This is primarily in response to the land slope and to provide a gradual transition from heritage sensitive Smith Street character to the emerging character formed by recent taller developments along Wellington Street. Hence, the recommended overall height of 20.8m and streetwall height of 14.4m for the subject site in DDO30 ensures that the future form will fit appropriately within the streetscape character envisaged for Langridge Street as a whole.

Figure 1: Building Heights Framework Plan from DDO23 (Yarra Planning Scheme)

It is acknowledged that there are existing developments along Little Oxford Street that go up to a height of 8 storey. Overall Little Oxford Street character is presented with a stronger built form character created by the Foy and Gibson complex on the north of Peel Street which presents a 6-7 storeys straight up form. This has almost given basis to number of new developments fronting Little Oxford Street in presenting a stronger street profile. However, it is important to understand that in DDO23 the built form outcome envisaged for the east-west connections like Peel Street, Derby Street and Langridge Street takes precedent over character of Little Oxford Street. For example, in response to this the DDO23 recommends a height limit of 20m to 4-8 Derby Street site. This site potentially can accommodate slightly higher form, however, the DDO recommends a mid-rise form to ensure the development responds to Langridge Street streetscape character and the topography of the area.

Hence, the proposed streetwall height and overall height are not acceptable from an urban design perspective. It is recommended to remove two levels, one level in the podium section (level 2 or level 3 or level 4) and one level in the upper form (level 5 or level 6 or roof terrace level). This will reduce the overall height by 6.6m bringing the overall height range approximately between 20m-21.6m and streetwall height range approximately between 13.7m-15.3m which will be acceptable from an urban design perspective.

The roof terrace includes number of structures (lift core, stairwell and amenities room). Currently the roof terrace is dominantly visible from the surrounding, particularly corner of Smith Street and Langridge Street. Further, the colour and material used draws too much attention to the top level. If the height of the roof terrace level is reduced and the stairwell is recessed to ensure it is less visible from the surrounding then it will be acceptable to have the roof terrace level above a six storey built form.

Figure 2: Render from Urban Context Report

1.2 Upper Level Setbacks

The development proposes a 3.9m upper level setback along Langridge Street frontage. DDO30 recommends a preferred 6m setback above the streetwall height. The purpose behind providing an upper level setback is to create a clear separation between streetwall and upper form and to ensure the overall form does not visually dominate the streetscape and wider heritage character. The proposed design achieves this and hence from an urban design perspective the proposed upper level setback is acceptable.

The development proposes a 2m upper level setback along Little Oxford Street frontage. This is not acceptable as it does not achieve the above two objectives. Hence, it is recommended to increase the upper level setback to 4m along Little Oxford Street frontage.

The development does not propose any upper level setback along the laneway frontage. It needs to take into consideration the development opportunity for 64-68 Smith Street site. The proposed interim DDO30 provides recommendations for rear boundary wall height and building separation. From an urban design perspective it will be acceptable if only the section above the recommended streetwall (4 storeys) is setback by 3m from the centre of the lane.

2. Architectural and Materiality

The proposal presents a high quality architecture design with an interesting form that responds positively to the character of the area. The proposed material palette provides enough visual interest to the facades from all sides. Even though there is a lot of glazing used the brickwork grids breaks it up and the office areas will receive good amount of natural light.

Overall, the new design is seen as a positive architectural and urban design outcome that complements the existing character of the street.

3. Public realm interface

The development proposes pedestrian entrances from Langrdige Street and vehicular entrance from Little Oxford Street. The public realm interface along both street frontages is generally supported, with good level of transparency and activation to all the streets (including the right of way). This will majorly contribute in improving the public realm environment and hence is supported.

The ground floor should respond to the topography of the street. The concept of stepping the ground floor to respond to street level is supported, however, the applicant needs to demonstrate that there is a seamless transition between the footpath grading and entry areas. Any height different between footpath and entry doors should be resolved through grading of the paving to ensure no steps are required. It need to be clearly demonstrated that all relevant Australian Standards are met including but not limited to relevant access and mobility standards. Further, it should also clearly demonstrate that all the drainage and storm water requirements have been resolved accordingly. The ground floor plan needs to show existing and proposed levels and spot heights, including but not limited to finished floor levels of buildings and proposed footpath grading.

The development proposes awning along Langridge Street frontage. Yarra's Urban Forest Strategy (2017) aims to reduce the impacts of heat and contribute to improved liveability particularly through planting more street trees. As part of this Langridge Street has identified to be planted as part of Council's street tree planting program. The provision of awning will restrict any footpath tree planting opportunities along the street. Hence, it is recommended to not provide an awning.

The South Elevation and East Elevation shows that the doors for all the service cabinets as GL-02 which is clear double glazing. Please confirm if this is the case. The applicant needs to ensure that any specific building code requirements are met.

Please label the material for garage door in East Elevation – Lt Oxford Street.

4. Transition of podium to the north

The development proposes approximately 28m straight up form along the northern interface. As per the recommendations provided in Section 1 Height and Massing the height along northern interface will be reduced by 6.6m bringing the height down to approximately 21.5m. This new recommended height will be an acceptable outcome.

5. Treatment on boundary walls

The provision of blank boundary wall along northern interface is acceptable as it ensure equitable development opportunity to the adjacent site. The materials proposed are acceptable as well.

6. Streetscape and Capital Works

All pavements along Langridge Street and Little Oxford Street are to be reinstated as asphalt footpaths with sawn bluestone kerbs and channels for the full length of the site as per *City of Yarra's Infrastructure – Road Materials Policy*. All redundant vehicle crossovers are to be demolished. Proposed kerbs and channels,

vehicle crossovers and pedestrian kerb crossing to be shown on drawings as per *Yarra Standard Drawings*. Notes to be added on the drawings.

The development proposes a new bicycle hoop on Langridge Street footpath which is supported. All proposed streetscape fixtures should be as per *Technical Notes: City of Yarra Public Domain Manual*, with all required clearances to be dimensioned. It is recommended to provide an in-ground stainless steel bicycle hoop. The proposed location of the bike hoop is supported, however, it needs to take into consideration the clearance from kerb line, street signs, existing trees, entry doors, on-street parking as shown in the attached UD Standard Details drawing

The YCC standard details are currently being revised to ensure compliance with Australian Standards and required offsets are more apparent. Please refer to UD Standard Details - WIP-Bike Hoops drawing and further consider below set-out dimensions:

- A minimum clearance of 1.5m between the building/property line and bicycle box should be provided to maintain clear path of travel; and
- A preferred distance between bicycle box and street sign should be 0.6m to allow access.

Please show the existing street sign and all required clearances dimensioned on the drawings. The applicant needs to demonstrate that the proposed bike hoop location meets all the standard requirements to make it acceptable for Council.

Attachment 6 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - ESD Officer

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council

ESD in the Planning Permit Application Process

Yarra City Council's planning permit application process includes Environmentally Sustainable Development (ESD) considerations. This is now supported by the ESD Local Policy Clause 22.17 of the Yarra Planning Scheme, entitled *Environmentally Sustainable Development*.

The Clause 22.17 requires all eligible applications to demonstrate best practice in ESD, supported by the Built Environment Sustainability Scorecard (BESS) web-based application tool, which is based on the Sustainable Design Assessment in the Planning Process (SDAPP) program.

As detailed in Clause 22.17, this application is a 'large' planning application as it meets the category Non-r*esidential 1. 1,000m² or greater*.

What is a Sustainable Management Plan (SMP)?
An SMP is a detailed sustainability assessment of a proposed design at the planning stage. An SMP demonstrates best practice in the 10 Key Sustainable Building Categories and;

- Provides a detailed assessment of the development. It may use relevant tools such as BESS and STORM or an alternative assessment approach to the satisfaction of the responsible authority; and
- Identifies achievable environmental performance outcomes having regard to the objectives of Clause 22.17 (as appropriate); and
- Demonstrates that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints; and
- Documents the means by which the performance outcomes can be achieved.

An SMP identifies beneficial, easy to implement, best practice initiatives. The nature of larger developments provides the opportunity for increased environmental benefits and the opportunity for major resource savings. Hence, greater rigour in investigation is justified. It may be necessary to engage a sustainability consultant to prepare an SMP.

Assessment Process:

The applicant's town planning drawings provide the basis for Council's ESD assessment. Through the provided drawings and the SMP, Council requires the applicant to demonstrate best practice.

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council

Table of Contents

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council

Assessment Summary:

Responsible Planner:	Michelle King
ESD Advisor:	Gavin Ashley
Date:	07.10.2020
Subject Site:	PLN20/0470 4-12 Langridge Street, Collingwood, VIC 3066
Site Area:	Approx. 366 m²
Project Description:	8 storey building comprising of a basement carpark, ground floor retail, 6 levels of commercial office space and a rooftop terrace.
Pre-application meeting(s):	Unknown.
Documents Reviewed:	• Sustainability Management Plan [16.06.20], Ark Resources • Architectural Plans [17.08.20], Bayley Ward Architecture & Interiors • Waste Management Plan [29.006.20], One Mile Grid • Green Travel Plan [19.08.20] One Mile Grid

The standard of the ESD does not meet Council's Environmental Sustainable Design (ESD) standards. Should a permit be issued, the following ESD commitments (1) and deficiencies (2) should be conditioned as part of a planning permit to ensure Council's ESD standards are fully met.

Furthermore, it is recommended that all ESD commitments (1), deficiencies (2) and the outstanding information (3) are addressed in an updated SMP report and are clearly shown on Condition 1 drawings. ESD improvement opportunities (4) have been summarised as a recommendation to the applicant.

(1) Applicant ESD Commitments:

- The proposal aims to achieve 4-star Green Star equivalent.
- Comprehensive tuning & commissioning of building services, with an Operations and Maintenance manual to be prepared.
- Specifications around VOC, PVC and formaldehyde products and materials.
- A 7.2kWp rooftop solar PV system proposed.
- 30 staff and visitor bicycle racks (More than 20% of the racks provide horizontal storage, installed at grade), and EoT in the form of 4x showers and 28x lockers.
- Water efficient fixtures and fittings.
- A STORM report with a 109% STORM score has been submitted that demonstrates best practice and relies on ~237 m² of roof connected to a 5,000-litre rainwater tank connected to toilet flushing on GF and level 1.
- Water efficient irrigation, and building services (i.e fire-test systems).
- Divert 90% of demolition and construction waste from landfill. Waste contractors to have compliance measures audited.
- All non-trafficable roofs to have initial solar reflectance index of 82.

(2) Application ESD Deficiencies:

- A shading strategy is required for east and west glazing.
- Commit to producing a Building Users Guide explaining optimal usage of building services to minimise energy and water consumption.
- The 4-star Green Star target (45 credits targeted), relies on 4 Innovation credits which while welcome, are not considered innovative – attention should be spent in targeting alternative credits that deliver tangible sustainability outcomes.

(3) Outstanding Information:

Sustainable Management Plan (SMP)
Referral Response by Yarra City Council

- Clarify provision of natural ventilation (via operable windows) to office spaces on all levels.
- Provide a Daylight Assessment Report that - taking into account surrounding development - identifies DF (and VLT used for modelling)
- Clarify standards upon which hazardous materials strategies are responding too
- Clarify details around building fabric, insulation, glazing, and ventilation to support claim thermal comfort
- Provide a Section J Assessment with details on building fabric, glazing and services proposed to achieve this – and clarify applicability of NCC 2019.
- Clarify system design (and include within Section J Assessment) and consider 3 pipe VRF
- Clarify car park ventilation approach
- Clarify lighting IPD and improvements upon NCC 2019.
- Include solar PV generation analysis within Section J Assessment and GHG emissions calculations.
- Clarify water and energy metering strategy.
- Clarify post-development flow will not exceed pre-development levels.
- Clarify area of terrace planter boxes that assist with stormwater diversion.
- Clarify stormwater treatment strategy (filtration) as a condition on permit.
- Confirm timber products will be recycled or from accredited sustainably harvested plantation sources (FSC or AFS).
- Confirm extent of PVC strategy (by cost, or weight) and PVC limits/guidelines.
- Ensure waste target is articulated within site-specific Environmental Management Plan.
- Provide a Landscape Plan that details planting schedule.

(4) ESD Improvement Opportunities

- Consider increasing storage size of tank to service toilets throughout.
- Consider the use of products that use post-consumer content (i.e. insulation).
- Consider conducting an LCA for major components (such as steel and concrete) to identify embodied carbon reduced through suggested strategies.
- Consider a small pallet of materials and construction techniques that can assist in disassembly.
- Consider incorporating more footpath bike hoops to service visitors.
- Consider providing some EV charging stations or wiring for future (particularly the two spaces on the east side of the basement).
- Consider expanding the solar reflectance strategy – some concerns around BR-01 (Charcoal Brick, Dark Mortar).
- Consider a green roof or wall to improve the ecological value of this site.

Further Recommendations:

The applicant is encouraged to consider the inclusion of ESD recommendations, detailed in this referral report. Further guidance on how to meet individual planning conditions has been provided in reference to the individual categories. The applicant is also encouraged to seek further advice or clarification from Council on the individual project recommendations.

1. Indoor Environment Quality (IEQ)

Objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Issues	Applicant's Design Responses	Council Comments	CAR*
Natural Ventilation and Night Purging	No information has been provided.	Clarify provision of natural ventilation (via operable windows) to office spaces on all levels.	3
Daylight & Solar Access	No information has been provided.	Provide a Daylight Assessment Report that - taking into account surrounding development - identifies DF (and VLT used for modelling).	3
External Views	60% of primary spaces to have high quality views.	Satisfactory.	1
Hazardous Materials and VOC	Strategies around VOC, PVC and formaldehyde are mentioned, however specific targets and guidelines are not provided.	Clarify standards upon which hazardous materials strategies are responding too.	3
Thermal Comfort	The SMP identifies 'thermal comfort' in the Green Star pathway, and mentions 'high performance glazing' however no details provided.	Clarify details around building fabric, insulation, glazing, and ventilation to support claim.	3

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 1. Indoor Environment Quality
Good Environmental Choice Australia Standards www.geca.org.au
Australian Green Procurement www.greenprocurement.org
Residential Flat Design Code www.planning.nsw.gov.au
Your Home www.yourhome.gov.au

2. Energy Efficiency

Objectives:

- to ensure the efficient use of energy
- to reduce total operating greenhouse emissions
- to reduce energy peak demand
- to minimize associated energy costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
NCC Energy Efficiency Requirements Exceeded	The proposal aims to achieve a 10% improvement in energy performance over the NCC.	Provide a Section J Assessment with details on building fabric, glazing and services proposed to achieve this – and clarify applicability of NCC 2019.	3
Thermal Performance	No information has been provided.	Include within Section J Assessment.	1
Greenhouse Gas Emissions	4 credits have been claimed (when compared to a reference building), however no information has been provided.	Include within Section J Assessment.	1
Hot Water System	No information has been provided.	Clarify system design (and include within Section J Assessment), and consider using a heat pump.	1
Peak Energy Demand	No information has been provided.	Include within Section J Assessment.	1
Effective Shading	Building is largely south facing, however some concerns regarding the western façade.	A shading strategy is required for east and west glazing.	2
Efficient HVAC system	No information has been provided.	Clarify system design (and include within Section J Assessment), and consider 3 pipe VRF.	3
Car Park Ventilation	No information has been provided.	Clarify car park ventilation approach.	3
Efficient Lighting	No information has been provided.	Clarify lighting IPD and improvements upon NCC 2019.	3
Electricity Generation	A 7.2kWp rooftop solar PV system is proposed, capable of generating 6.7MWh/year.	Include solar PV generation analysis within Section J Assessment and GHG emissions calculations.	3
Other	-	-	

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 2. Energy Efficiency
House Energy Rating www.makeyourhomegreen.vic.gov.au
Building Code Australia www.abcb.gov.au
Window Efficiency Rating Scheme (WERS) www.wers.net
Minimum Energy Performance Standards (MEPS) www.energyrating.gov.au
Energy Efficiency www.resourcesmart.vic.gov.au

3. Water Efficiency

Objectives:

- to ensure the efficient use of water
- to reduce total operating potable water use
- to encourage the collection and reuse of rainwater and stormwater
- to encourage the appropriate use of alternative water sources (e.g. grey water)
- to minimise associated water costs.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising Amenity Water Demand	Minimum WELS star rating of fixtures: • Taps: 5 star • Toilets: 4 star • Showers: 3 star	Satisfactory.	1
Water for Toilet Flushing	A total storage volume of 5,000 litres proposed in basement, with re-use of water for toilet flushing in ground and level 1 toilets.	Consider increasing storage size of tank to service toilets throughout.	4
Water Meter	Water metering claimed in Green Star pathways.	Clarify metering strategy.	3
Landscape Irrigation	Water-efficient sub-soil drip irrigation system with moisture sensors and timers.	Provide system details in Landscape Plan.	3
Other	-	-	

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 3. Water Efficiency
Water Efficient Labelling Scheme (WELS) www.waterrating.gov.au
Water Services Association of Australia www.wsaa.asn.au
Water Tank Requirement www.makeyourhomegreen.vic.gov.au
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Sustainable Landscaping www.ourwater.vic.gov.au

4. Stormwater Management

Objectives:

- to reduce the impact of stormwater runoff
- to improve the water quality of stormwater runoff
- to achieve best practice stormwater quality outcomes
- to incorporate Water Sensitive Urban Design principles.

Issues	Applicant's Design Responses	Council Comments	CAR*
STORM Rating	A STORM report with a 109% STORM score has been submitted that demonstrates best practice and relies on ~237 m² of roof connected to a 5,000-litre rainwater tank connected to toilet flushing on GF and level 1.	Satisfactory.	1
Discharge to Sewer	Appendix C of the SMP identifies some monthly overflow figures.	Clarify post-development flow will not exceed pre-development levels.	3
Stormwater Diversion	A rooftop catchment area of 237 m² diverts rainwater to basement tank.	Clarify area of terrace planter boxes that assist with stormwater diversion.	3
Stormwater Detention	A 5,000-litre rainwater tank is located in the basement.	See previous comments regarding increasing tank size to service more of the buildings water needs.	1
Stormwater Treatment	Filtration is mentioned in the SMP, however no system details provided.	Clarify stormwater treatment strategy (filtration) as a condition on permit.	3
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 4. Stormwater Management
Melbourne Water STORM calculator www.storm.melbournewater.com.au
Water Sensitive Urban Design Principles www.melbournewater.com.au
Environmental Protection Authority Victoria www.epa.vic.gov.au
Water Services Association of Australia www.wsaa.asn.au
Sustainable Landscaping www.ourwater.vic.gov.au

5. Building Materials

Objectives:

- to minimise the environmental impact of materials used by encouraging the use of materials with a favourable lifecycle assessment.

Issues	Applicant's Design Responses	Council Comments	CAR*
Reuse of Recycled Materials	No specific information provided.	Consider the use of products that use post-consumer content (i.e. insulation).	4
Embodied Energy of Concrete and Steel	No specific information provided, however commitment to reduce mass of steel reinforcement by 5% and sourced from a 'Responsible Steel Maker', and concrete mixes to use 50% reclaimed water.	Consider conducting an LCA for major components (such as steel and concrete) to identify embodied carbon reduced through suggested strategies.	4
Sustainable Timber	No information has been provided.	Confirm timber products will be recycled or from accredited sustainably harvested plantation sources (FSC or AFS).	3
Design for Disassembly	No information has been provided.	Consider a small pallet of materials and construction techniques that can assist in disassembly.	4
PVC	Specification of common use PVC products that meet Best Practice Guidelines for PVC in the Built Environment	Confirm extent of PVC strategy (by cost, or weight) and PVC limits/guidelines.	3

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 5. Building Materials
Building Materials, Technical Manuals www.yourhome.gov.au
Embodied Energy Technical Manual www.yourhome.gov.au
Good Environmental Choice Australia Standards www.geca.org.au
Forest Stewardship Council Certification Scheme www.fsc.org
Australian Green Procurement www.greenprocurement.org

6. Transport

Objectives:

- to minimise car dependency
- to ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Issues	Applicant's Design Responses	Council Comments	CAR*
Minimising the Provision of Car Parks	Car parking for 13 cars proposed in basement (reduced rate).	Good.	1
Bike Parking Spaces	30 bicycle spaces are proposed in a secure compound on the ground floor, and 2 spaces provided for visitors.	Satisfactory. Consider incorporating more footpath bike hoops to service visitors.	4
End of Trip Facilities	End of trip facilities have been provided in the form of 4x showers and 28 lockers (across male and female), with a DDA shower/toilet provided adjacent.	Good.	1
Car Share Facilities	The Green Travel Plan identifies surrounding car-share locations.	Satisfactory.	1
Electric vehicle charging	The GTP identifies surrounding EV charging locations, however the proposal doesn't include EV charging.	Consider providing some charging stations or wiring for future (particularly the two spaces on the east side of the basement).	4
Green Travel Plan	A Green Travel plan has been provided.	Satisfactory.	1

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 6. Transport
Off-setting Car Emissions Options www.greenfleet.com.au
Sustainable Transport www.transport.vic.gov.au/doi/internet/icy.nsf
Car share options www.yarracity.vic.gov.au/Parking-roads-and-transport/Transport-Services/Carsharing/
Bicycle Victoria www.bv.com.au

7. Waste Management

Objectives:

- to ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development
- to ensure long term reusability of building materials.
- to meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

Issues	Applicant's Design Responses	Council Comments	CAR*
Construction Waste Management	The SMP identifies a target to Divert 90% of demolition and construction waste from landfill. Waste contractors to have compliance measures audited.	Satisfactory. Ensure waste target is articulated within site-specific Environmental Management Plan.	3
Operational Waste Management	An operational WMP has been provided, with a waste room located in the basement.	Satisfactory.	1
Storage Spaces for Recycling and Green Waste	Space is allocated in the waste room for recycling and organic waste (no 'green' garden waste provision).	Satisfactory.	1
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 7. Waste Management
Construction and Waste Management www.sustainability.vic.gov.au
Preparing a WMP www.epa.vic.gov.au
Waste and Recycling www.resourcesmart.vic.gov.au
Better Practice Guide for Waste Management in Multi-Unit Dwellings (2002)
www.environment.nsw.gov.au
Waste reduction in office buildings (2002) www.environment.nsw.gov.au

8. Urban Ecology

Objectives:

- to protect and enhance biodiversity
- to provide sustainable landscaping
- to protect and manage all remnant indigenous plant communities
- to encourage the planting of indigenous vegetation.

Issues	Applicant's Design Responses	Council Comments	CAR*
On Site Topsoil Retention	There is no productive topsoil on this site.	-	N/A
Maintaining / Enhancing Ecological Value	Planter boxes have been integrated into the proposed design on level 4, 5 and on the rooftop.	Provide a Landscape Plan that details planting schedule.	3
Heat Island Effect	All non-trafficable roofs to have initial solar reflectance index of 82.	Satisfactory. Consider expanding the solar reflectance strategy – some concerns around BR-01 (Charcoal Brick, Dark Mortar).	4
Other		-	
Green wall, roofs, facades	No information has been provided.	Consider a green roof or wall to improve the ecological value of this site.	4

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 8. Urban Ecology
Department of Sustainability and Environment www.dse.vic.gov.au
Australian Research Centre for Urban Ecology www.arcue.botany.unimelb.edu.au
Greening Australia www.greeningaustralia.org.au
Green Roof Technical Manual www.yourhome.gov.au

9. Innovation

Objective:

- to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

Issues	Applicant's Design Responses	Council Comments	CAR*
Significant Enhancement to the Environmental Performance	The SMP and Green Star pathway identifies 4 targeted Innovation' credits: 30A PV array 20% efficiency gain, 30C ultra-low VOC paint, 30C air-tightness, and 30D indoor plants.	Innovation strategies are welcome but should not be relied upon to meet best practice.	1
Innovative Social Improvements	-	-	-
New Technology	-	-	-
New Design Approach	-	-	-
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 9. Innovation
Green Building Council Australia www.gbca.org.au
Victorian Eco Innovation lab www.ecoinnovationlab.com
Business Victoria www.business.vic.gov.au
Environment Design Guide www.environmentdesignguide.com.au

10. Construction and Building Management

Objective:

- to encourage a holistic and integrated design and construction process and ongoing high performance

Issues	Applicant's Design Responses	Council Comments	CAR*
Building Tuning	The SMP identifies a comprehensive commissioning and tuning strategy is to be undertaken.	Satisfactory.	1
Building Users Guide	No information has been provided.	Commit to producing a Building Users Guide explaining optimal usage of building services to minimise energy and water consumption.	2
Contractor has Valid ISO14001 Accreditation	Head contractor to have current ISO 14001 certification.	Satisfactory.	1
Construction Management Plan	The Green Star pathway identifies 'Environmental Management Plan' as complying. (SMP, p. 11)	Satisfactory.	1
Others	-	-	-

*** Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – Design Response is NOT SATISFACTORY
3 – MORE INFORMATION is required; 4 – ESD IMPROVEMENT OPPORTUNITIES

References and useful information:
SDAPP Fact Sheet: 10. Construction and Building Management
ASHRAE and CIBSE Commissioning handbooks
International Organization for standardization – ISO14001 – Environmental Management Systems
Keeping Our Stormwater Clean – A Builder's Guide www.melbournewater.com.au

Sustainable Management Plan (SMP)
for planning applications being considered by Yarra Council

Applicant Response Guidelines

Project Information:

Applicants should state the property address and the proposed development's use and extent. They should describe neighbouring buildings that impact on or may be impacted by the development. It is required to outline relevant areas, such as site permeability, water capture areas and gross floor area of different building uses. Applicants should describe the development's sustainable design approach and summarise the project's key ESD objectives.

Environmental Categories:

Each criterion is one of the 10 Key Sustainable Building Categories. The applicant is required to address each criterion and demonstrate how the design meets its objectives.

Objectives:

Within this section the general intent, the aims and the purposes of the category are explained.

Issues:

This section comprises a list of topics that might be relevant within the environmental category. As each application responds to different opportunities and constraints, it is not required to address all issues. The list is non-exhaustive and topics can be added to tailor to specific application needs.

Assessment Method Description:

Where applicable, the Applicant needs to explain what standards have been used to assess the applicable issues.

Benchmarks Description:

The applicant is required to briefly explain the benchmark applied as outlined within the chosen standard. A benchmark description is required for each environmental issue that has been identified as relevant.

How does the proposal comply with the benchmarks?

The applicant should show how the proposed design meets the benchmarks of the chosen standard through making references to the design brief, drawings, specifications, consultant reports or other evidence that proves compliance with the chosen benchmark.

ESD Matters on Architectural Drawings:

Architectural drawings should reflect all relevant ESD matters where feasible. As an example, window attributes, sun shading and materials should be noted on elevations and finishes schedules, water tanks and renewable energy devices should be shown on plans. The site's permeability should be clearly noted. It is also recommended to indicate water catchment areas on roof- or site plans to confirm water re-use calculations.

CITY OF YaRRA

MeMO

TO:	**Michelle King**
cc:	
FROM:	**Euan Williamson, ESD Advisor**
DATE:	**23.02.2021**
SUBJECT:	**4-12 Langridge Street - PLN20/0470**

Michelle,

I have reviewed both the *Sustainable Management Plan* prepared by Ark Resources, prepared 23rd December 2020. In summary the SMP addressed all previous concerns raised, but without an updated set of plans the assessment cannot be completed.

The following items require further information to be satisfied:

- **Natural Ventilation.** *Clarify provision of outdoor air to office spaces on all levels via operable windows.*
- **Shading Strategy.** *Vertical fins on the east and west facades have been referred to in correspondance.*

Please provide an updated set of architectural drawings indicating the two items above.

Please ensure that the amended plans are consistent with all aspects of the SMP including;
- stormwater management system components and assumptions,
- energy efficient mechanical and electrical systems and details,
- daylight modelling parameters such as glazing VLT,
- all other items included in the SMP.

The following issues have been addressed by the updated SMP:

- *Building User Guide*. **This requirement is satisfied.**
- *Innovation credits.* **This requirement is satisfied.**
- *Daylight*. **This requirement is satisfied.**
- *Stormwater management.* **This requirement is satisfied.**
- *Sustainable timber.* **This requirement is satisfied.**
- *Section J energy efficiency.* **This requirement is satisfied.**

- *Waste target.* **This requirement is satisfied, further details in EMP to be consistent with SMP**
- *Landscape Plans.* **Provided by permit condition.**

If you or the applicant would like to discuss my comments or recommendations further, please contact me.

Euan Williamson
Environmental Sustainable Development Advisor
City of Yarra PO Box 168 Richmond 3121
T (03) 9205 5366 **F** (03) 8417 6666

E Euan.Williamson@yarracity.vic.gov.au
W www.yarracity.vic.gov.au

Attachment 7 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Streetscapes and Natural Values Unit

Memo

To: Glen Williames

Cc:

From: Justin Bates

Date: 21 September 2020

Subject: PLN20/0470 – 4-12 Langridge St Collingwood

diverse

vibrant

exciting

inclusive

Glen,

- The applicant has not supplied a Tree Protection Management Plan for the street tree. This needs to be supplied and reviewed by Councils Arborist.

- The existing street tree, *Platanus orientalis 'Digitata'* has an amenity value of $3739.00. A tree protection bond of $5000.00 should be taken to ensure protection during development.

- We require a condition on the permit that states, any breach of the TMP (unless authorised by Councils Arborist) or damage to the tree due to activities associated with construction works will result in loss of part, or all of the tree protection bond.

- A contribution to Open Space of $2000.00. This will include supply, planting and 2 years establishment maintenance 4 x new footpath trees. These will be planted during Councils planting season post development.

- The removal or reduction in size of the proposed awning to allow for optimum growing conditions of new footpath trees. The proposed awning is 1650 wide, we propose either removing the awning altogether or reducing the width to 1200 wide.

Planning Referral

To:	Michelle King
From:	Chloe Wright
Date:	12/10/2020
Subject:	Strategic Transport Comments
Application No:	PLN20/0470
Description:	Construction of an eight-storey building including roof top terrace / services (plus one level of basement) and a reduction of the car parking requirements associated with office and a retail premises (no permit required for uses)
Site Address	4 – 12 Langridge Street, Collingwood

I refer to the above Planning Application and the accompanying Traffic report prepared by One Mile Grid in relation to the proposed development at 4 – 12 Langridge Street, Collingwood. Council's Strategic Transport unit provides the following information:

Access and Safety

No access or safety issues have been identified.

Bicycle Parking Provision

Statutory Requirement

Under the provisions of Clause 52.34-3 of the Yarra Planning Scheme, the development's bicycle parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office	1551 sqm	1 employee space to each 300 sqm of net floor area if the net floor area exceeds 1000 sqm	5 employee spaces	
		1 visitor space to each 1000 sqm of net floor area if the net floor area exceeds 1000 sqm	2 visitor spaces	
Retail	133 sqm	1 employee space to each 300 sqm of net floor area	0 employee spaces	
		1 visitor space to each 500 sqm of net floor area	0 visitor spaces	
Bicycle Parking Spaces Total			**5 employee spaces**	**30 employee spaces**
			2 visitor spaces	**4 visitor spaces**
Showers / Change rooms		1 to the first 5 employee spaces and 1 to each additional 10 employee spaces	**1 shower / change room**	**5 showers / change rooms**

Adequacy of visitor spaces

The following comments are provided in relation to provision of visitor spaces:

- 4 visitor spaces are proposed, which exceeds Council's best-practice rate[1] recommendation of 3 visitor spaces.
- Two of the visitor spaces are provided as one bicycle hoop at the Langridge Street footpath and two are provided within the end of trip facilities area, adjacent to the lobby. Locating two of the visitor spaces within the building is acceptable, on the basis that additional employee bicycle spaces are provided (above the best practice rate) and given there are two existing bicycle hoops at Langridge Street directly opposite the proposed development.
- The position of the internal visitor spaces does not meet clearance requirements (discussed in the section below) and will need to be revised accordingly.
- The bike hoop at Langridge street must be installed as per Council's Urban Design standard bike hoop detail (attached).

Adequacy of employee spaces

Number of spaces

30 employee spaces are proposed, which exceeds Council's best practice rate[2] recommendation of 16 employee spaces.

Design and location of employee spaces and facilities

The following comments are provided in relation to the location and design of employee bike parking:

- All employee bicycle spaces are provided within a secure facility at the ground floor, with access via a bicycle ramp from an entrance off Little Oxford Street.
- The provision of the two-tier and halo bicycle racks satisfies the AS2890.3 requirement for at least 20% of bicycle storage spaces must be provided as horizontal at ground-level spaces.
- Dimensions of the employee bicycle parking area clearances are noted on the plans and demonstrate that the two-tier racks comply with access requirements of AS2890.3 and the bicycle rack specifications provided within the Traffic report.
- However, the layout of three of the halo racks (shown below) does not appear to comply with the product specification requirements, specifically the aisle width appears to be 990mm when it should be 1500mm. The layout of these spaces should be revised accordingly.
- Five shower / change rooms are provided for employees, which exceeds the best practice recommendation of 2 shower / change rooms.

3 Halo racks do not meet the product specification clearance requirements

[1] *Category 6 of the Built Environment Sustainability Scorecard (BESS) recommends 1 visitor space to each 500sqm of office floor space.*

[2] *Category 6 of the SDAPP offers the following for best-practice guidance* for employee office rates: *'Non-residential buildings should provide spaces for at least 10% of building occupants.' Assuming a floor-space occupancy of 1 staff member to 10sqm (which is the maximum rate allowed under the National Construction Code for fire safety), providing bicycle spaces for 10% of occupants results in a rate of 1 space per 100sqm of floor area*

Electric Vehicles

Council's BESS guidelines encourage the use of fuel efficient and electric vehicles (EV). To allow for easy future provision for electric vehicle charging, it is recommended that car parking areas should be electrically wired to be 'EV ready' to enable future installation of EV charging.

Green Travel Plan

It is noted the applicant has supplied a Green Travel Plan (GTP). The GTP provides all the required information and can be endorsed, however the document should be updated to include the endorsed plans / final layout of employee and visitor bicycle parking.

Recommendations

The following should be shown on the plans before endorsement:

1. Revised layout of bicycle parking including notations indicating the dimensions of bicycle storage spaces and relevant access ways to demonstrate compliance with Australian Standard AS2890.3 or be otherwise to the satisfaction of the responsible authority.

Regards

Chloe Wright
Sustainable Transport Officer
Strategic Transport Unit

CITY OF YARRA

MEMO

To: **Michelle King**

From: **Mark Pisani**

Date: **5 November 2020**

Subject: **Application No:** **PLN20/0470**
Description: **Eight-Storey Building**
Site Address: **4-12 Langridge Street, Collingwood**

I refer to the above Planning Application received on 15 September 2020 in relation to the proposed development at 4-12 Langridge Street, Collingwood. Council's Civil Engineering unit provides the following information:

Drawings and Documents Reviewed

	Drawing No. or Document	Revision	Dated
Bayley Ward Architecture	TP0002 *Survey Plan*	D	17 August 2020
	TP0003 *Demolition Plan*	C	17 August 2020
	TP0099 *Basement 1*	G	17 August 2020
	TP1000 *Ground Floor Plan*	G	17 August 2020
	TP1001 *Level 01-03 Plan*	G	17 August 2020
	TP2000 *South & East Elevations*	D	17 August 2020
	TP2001 *West & North Elevations*	D	17 August 2020
	TP3000 *Section AA & BB*	H	17 August 2020
	TP3001 *Section BB*	B	17 August 2020
One Mile Grid	*Transport Impact Assessment* report		19 August 2020
	Response to Request for Further Information		19 August 2020

CAR PARKING PROVISION
Proposed Development
Under the provisions of Clause 52.06-5 of the Yarra Planning Scheme, the development's parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate*	No. of Spaces Required	No. of Spaces Allocated
Office	1,551 m²	3.0 spaces per 100 m² of net floor area	46	13
Retail	133 m²	3.5 spaces per 100 m² of leasable floor area	4	0
		Total	**50 spaces**	**13 spaces**

* Since the site is located within the Principal Public Transport Network Area, the parking rates in Column B of Clause 52.06-5 now apply.

Attachment 9 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Engineering Unit

To reduce the number of car parking spaces required under Clause 52.06-5 (including to reduce to zero spaces), the application for the car parking reduction must be accompanied by a Car Parking Demand Assessment.

Car Parking Demand Assessment
In reducing the number of parking spaces required for the proposed development, the Car Parking Demand Assessment would assess the following:

- *Parking Demand for Office Use*. The proposed office would provide on-site parking at a rate of 0.84 spaces per 100 square metres of floor area. Throughout the municipality, a number of developments have been approved with reduced office rates, as shown in the following table:

Development Site	Approved Office Parking Rate
60-88 Cremorne Street, Cremorne PLN17/0626 issued 21 June 2018	0.72 spaces per 100 m^2 (200 on-site spaces; 27,653 m^2)
51 Langridge Street, Collingwood PLN17/0332 (Amended) issued 18 May 2018	0.54 spaces per 100 m^2 (18 on-site spaces; 3,335 m^2)
2-16 Northumberland Street PLN16/0435 issued 14 June 2017	0.89 spaces per 100 m^2 (135 on-site spaces; 15,300 m^2)

  The proposed on-site office parking rate of 0.84 spaces per 100 square metres of floor area is fairly consistent with the above rates and is considered appropriate, having regard to the site's good accessibility to public transport services and proximity to Melbourne.

- *Parking Demand for Retail Use*. For the retail use, a staff parking demand of 1 space per 100 square metres of floor area could be adopted. Using this rate would equate to 1 space. Since the site would not be providing on-site parking for the retail component, al staff and customers would park on-street or make other travel arrangements to access the site.
- *Availability of Public Transport in the Locality of the Land*. The following public transport services can be accessed to and from the site by foot:
    - Smith Street-Gertrude Street trams – 50 metre walk
    - Brunswick Street trams – 670 metre walk
    - Victoria Parade trams – 340 metre walk
    - Hoddle Street buses – 770 metre walk
- *Multi-Purpose Trips within the Area*. Clients and customers to the development might combine their visit by engaging in other activities or business whilst in the area.
- *Convenience of Pedestrian and Cyclist Access*. The site has good pedestrian access to public transport nodes and the Smith Street activity centre. The site also has good connectivity to the on-road bicycle network.

Appropriateness of Providing Fewer Spaces than the Likely Parking Demand
Clause 52.06 lists a number of considerations for deciding whether the required number of spaces should be reduced. For the subject site, the following considerations are as follows:

- *Availability of Car Parking*. One Mile Grid had provided an inventory of publicly available on-street parking spaces within a 200 metre radius of the site. It is acknowledged that due to COVID-19 restrictions in place (mid-2020), on-street parking at that time would not have been representative when under normal operating conditions.
- *Relevant Local Policy or Incorporated Document*. The proposed development is considered to be in line with the objectives contained in Council's *Strategic Transport Statement*. The site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site car parking would potentially discourage private motor vehicle ownership and use.

- *The Future Growth and Development of an Activity Centre*. Practice Note 22 – *Using the Car Parking Provisions* indicates that car parking should be considered on a centre-basis rather than on a site/individual basis. This is applicable to activity centres, such as nearby Smith Street, where spare on-street car parking capacity would be shared amongst sites within the activity centre.

Adequacy of Car Parking
From a traffic engineering perspective, the waiver of parking for the office retail uses are considered appropriate in the context of the development and the surrounding area. The on-site parking provision rates are consistent with other developments that have been approved in Yarra. The operation of the development should not adversely impact on existing on-street parking conditions in the area.

The Civil Engineering unit has no objection to the reduction in the car parking requirement for this site.

TRAFFIC IMPACT
Trip Generation
The trip generation for the site adopted by One Mile Grid is as follows:

Proposed Use	Adopted Traffic Generation Rate	Daily Traffic	Peak Hour	
			AM	PM
Office (13 spaces)	0.5 trips per space in each peak hour	Not Provided	7 trips	7 trips

The traffic generated by the development is low and should not adversely impact the traffic operation of the surrounding road network.

DEVELOPMENT LAYOUT DESIGN
Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance	The development entrance has a width of 3.3 metres and satisfies *Design standard 1 – Accessways* of Clause 52.06-9.
Visibility	Pedestrian sight triangles have not been provided at the development entrance as required by *Design standard 1*.
Headroom Clearance	A minimum headroom clearance of 2.118 metres has been provided, which satisfies *Design standard 1*.
Car Parking Modules and Mechanical Parking	
At-grade Parking Spaces	The at-grade parking spaces (2.4 metres by 5.4 metres) satisfy the Australian/New Zealand Standard AS/NZS 2890.1:2004.
Accessible Parking Space	The dimensions of the accessible parking space and shared area (each 2.4 metres by 5.4 metres) satisfy the Australian/New Zealand AS/NZS 2890.6:2009. The bollard is in the incorrect position and the shared area does not contain any hatched line markings.

Item	Assessment
Aisles	The aisle has a width of 6.62 metres and satisfies AS/NZS 2890.1:2004.
Column Depths and Setbacks	The column depth and setback from the aisle for the column in adjacent to the accessible space, have not been dimensioned.
Clearances to Walls	Clearance of 300 mm have been provided and satisfy *Design standard 2: Car parking spaces*.
Car Stacker Devices	The stacker device to be used in this development is the Swisspark Standard Max-3 175 system. The device is a shuffle type stacker and contains three rows. Each platform has a useable width of 2.6 metres and a length of 5.5 metres.
Floor to Ceiling Height	Within the stacker, there is a floor-to-ceiling height of 3.6 metres which can accommodate the proposed stacker system.
Vehicle Clearance Heights	The stacker device does not satisfy the vehicle height clearance requirement in *Design standard 4: Mechanical parking*. Design standard 4 requires that at 25% of stacker spaces have vehicle height clearances of at least 1.8 metres. One Mile Grid has indicated that the at-grade spaces have headroom clearances that can accommodate vehicles at least 1.8 metres in height. Vehicles that have height clearances of around 1.8 metres would SUV type vehicles. In this instance, there is no objection to a variation of the vehicle clearance height requirement for the stacker, as vehicles with height clearances of 1.8 metres could accommodated in the at-grade spaces opposite the stacker device.
Gradients	
Ramp Grade for First 5.0 metres inside Property	The ramp for the first 2.0 metres inside the property has a grade of 1 in 20, followed by a 2.0 metre section at 1 in 5.8 and a 1 in 4 ramp section. Although this ramp profile does not satisfy the ramp grade requirement for the first 5.0 metres in *Design standard 4 – Gradients*, a ground clearance check undertaken by One Mile Grid confirms that a B99 design vehicle can negotiate the ramp. We are satisfied with the ramp profile for this development
Ramp Grades and Changes of Grade	The ramp grades and the changes of grade satisfy *Table 3 Ramp Gradients* of Clause 52.06-9.
Transition Grade at the Base of the 1 in 4 Ramp Section	The 2.0 metre long transition grade at the bases of the 1 in 4 ramp sections is unsatisfactory for a B99 design vehicle.
Other Items	
Loading Arrangements	For loading arrangements, there is no objection to the use of the existing on-street Loading Zone located on the north side of Langridge Street, just east of Smith Street.
Vehicle Crossing Ground Clearance Check	The existing vehicle crossing on the west side of Little Oxford Street is to be demolished and a new vehicle crossing is to be constructed. A vehicle crossing ground clearance check is to be undertaken by the applicant's designer to confirm that a B99 design vehicle can enter and exit the property without scraping out (Please see under '*Design Items to be Addressed*' section).

Item	Assessment
Swept Path Assessment	
Vehicle Entry and Exit Movements Stacker and At-Grade Spaces SPA100* Revision A SPA101 Revision A	The swept path diagrams for a B85 design vehicle entering and exiting the stacker spaces, at-grade spaces and accessible space are considered satisfactory.
Vehicle Entry and Exit Movements Development Entrance SPA102	The swept path diagrams for a B99 design vehicle entering and exiting the development entrance via Little Oxford Street are considered satisfactory.

* One Mile Grid swept path diagram drawing number.

Design Items to be Addressed

Item	Details
Visibility	It is recommended that convex mirrors be installed on either side of the development entrance in lieu of pedestrian sight triangles.
Accessible Parking Space	The bollard within the shared area is to be positioned 800 mm from the aisle as required by AS/NZS 2890.6:2009. The shared area is to be hatched line marked as required by the Standard.
Column Depth and Setback	The depth of the column in between the accessible parking space and at-grade parking is to be dimensioned. The setback from the aisle is to be dimensioned.
Transition Grade at the Base of the 1 in 4 Ramp Section	The 1 in 8 transition grade at the base of the 1 in 4 ramp section is to be lengthened to 2.5 metres in order to allow a B99 design vehicle to traverse without scraping or bottoming out.
Vehicle Crossing Ground Clearance Check	To assist the applicant, a Vehicle Crossing Information Sheet has been appended to this memo. The ground clearance check requires the applicant to obtain a number of spot levels out on site which includes the reduced level 2.0 metres inside the property, the property boundary level, the bottom of kerb (invert) level, the edge of the channel level and a few levels on the road pavement – in this case, Little Oxford Street. These levels are to be shown on a cross sectional drawing, with dimensions, together with the B99 design vehicle ground clearance template demonstrating access into and out of the development. Providing the ground clearance check early in the design phase can also determine whether further modification works are required, such as lowering the finished floor level inside the property or making any adjustments to Council's footpaths or road infrastructure.

ENGINEERING CONDITIONS
Civil Works

Upon the completion of all building works and connections for underground utility services,

- The footpath along the property's footpaths frontage must be reconstructed to Council's satisfaction and at the Permit Holder's cost. The footpath must have a cross-fall of 1 in 40 or unless otherwise specified by Council.
- All redundant vehicle crossings surrounding the site must be demolished and reinstated with paving, kerb and channel to Council's satisfaction and at the Permit Holder's cost.

Vehicle Crossing

Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the new vehicle crossing must be designed and constructed:

- In accordance with any requirements or conditions imposed by Council.
- Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B99 design vehicle, and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
- At the Permit Holder's cost; and
- To the satisfaction of Council.

Road Asset Protection

- Any damaged roads, footpaths and other road related infrastructure adjacent to the development site as a result of the construction works, including trenching and excavation for utility service connections, must be reconstructed to Council's satisfaction and at the developer's expense.

Construction Management Plan

- A Construction Management Plan must be prepared and submitted to Council. The Plan must be approved by Council prior to the commencement of works. A detailed dilapidation report should detail and document the existing and post construction conditions of surrounding road infrastructure and adjoining private properties.

Impact of Assets on Proposed Development

- Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.
- Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, boundary traps, valves or meters on Council property will be accepted.

Discharge of Water from Development

- Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.
- Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

Removal, Adjustment, Changing or Relocation of Parking Restriction Signs

- No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch.

- Any on-street parking reinstated as a result of development works must be approved by Council's Parking Management unit.
- The removal of any kerbside parking sensors and any reinstatement of parking sensors will require the Permit Holder to pay Council the cost of each parking sensor taken out from the kerb/footpath/roadway. Any costs associated with the reinstatement of road infrastructure due to the removal of the parking sensors must also be borne by the Permit Holder.

ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT

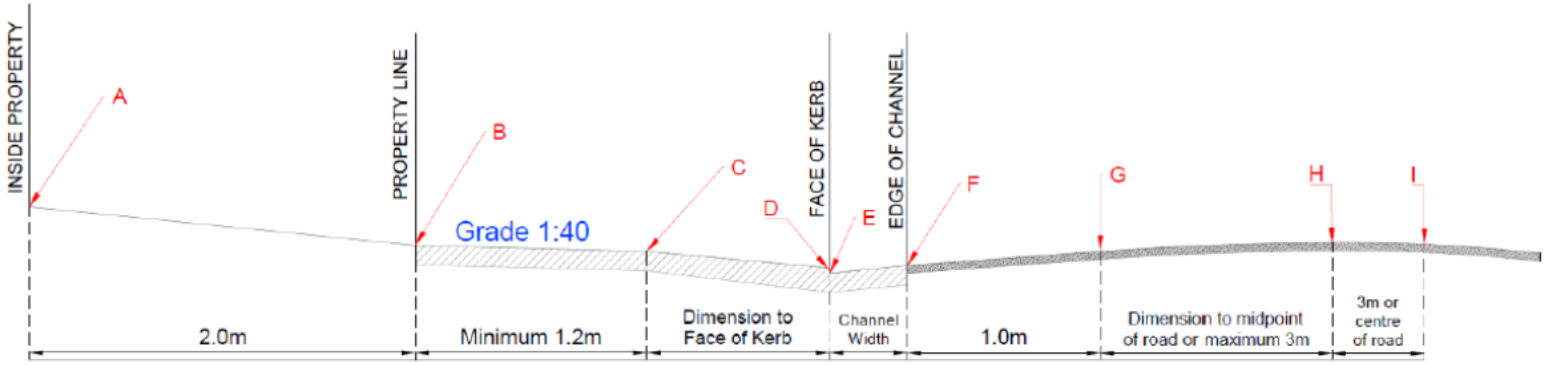
Item	Details
Legal Point of Discharge	The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the *Building Regulations* 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the *Local Government Act* 1989 and Regulation 133.

Vehicle Crossing – Cross Section

The designer is to submit a 1:20 scale cross section for each proposed vehicle crossing showing the following items:

A. Finished floor level 2.0 metres inside property
B. Property line surface level
C. Surface level at change in grade (if applicable)
D. Bullnose (max height 60mm) – must be clearly labelled
E. Surface level at the bottom of the kerb
F. Surface level at the edge of channel
G. Road level 1.0 meter from the edge of channel
H., I. Road levels

- Please note the cross section must be fully dimensioned. As shown in the sketch below.
- Please show both the existing and proposed surface.
- The maximum allowable cross-fall between points B and C is 1:40 (2.5%).
- A bullnose (max 60mm) is permitted at point D, however not compulsory.
- The levels shown must be exact reduced levels, to three decimal points. Interpolation of levels is not acceptable.
- The designer must demonstrate that an 85th or 99th percentile vehicle profile can traverse the design cross section as per the Australian/New Zealand Standard ground clearance template (AS/NZS 2890.1:2004).
- Significant level changes to the existing footpath level B to C will require additional level design either side of the proposed crossing.
- Please include any additional levels or changes in grade that are not shown in the diagram.



Attachment 10 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - City Works Unit

King, Michelle

From: Athanasi, Atha
Sent: Tuesday, 29 September 2020 4:11 PM
To: King, Michelle
Subject: RE: PLN20/0470 - 4 - 12 Langridge Street, Collingwood - Engineering / Strategic Transport / Waste referral

Hi Michelle,

The waste management plan for 4 - 12 Langridge Street, Collingwood authored by One mile grid and dated 29/7/2020 is not satisfactory from a City Works Branch's perspective.
Issues to be rectified include, but may not be limited to the following:

1. In order to assess whether enough space has been allocated to form an effective waste system please include the total footprint of the bins allocated and the space available in the bin storage room in M^2
2. Please identify hard waste storage area within the bin storage area diagram
3. Please identify E waste storage area within the bin storage area diagram
4. Please provide evidence sufficient space (1.5m) will be available for pedestrians at the proposed bin collection location when bins are presented kerbside.

Regards,

Atha Athanasi
Contract Management Officer

City of Yarra – City Works Depot
168 Roseneath St CLIFTON HILL VIC 3068
T (03) 9205 5547 F (03) 8417 6666
Atha.Athanasi@yarracity.vic.gov.au
www.yarracity.vic.gov.au
Follow us on Facebook, Instagram and Twitter

Yarra City Council acknowledges the Wurundjeri Woi Wurrung as the Traditional Owners of this country, pays tribute to all Aboriginal and Torres Strait Islander people in Yarra, and gives respect to the Elders past and present.

15/10/2020

PLANNING APPLICATION REFERRAL TO STRATEGIC PLANNING

PLN20/0470 – 4-12 Langridge Street, Collingwood

The comments in this assessment focus on compliance with the Design and Development Overlay 30 –Smith Street Shops (DDO30). They do not provide commentary on other sections of the planning scheme or assess the internal amenity impacts of the application.

These comments are based on the drawings for the revised application found at:

- https://www.yarracity.vic.gov.au/services/planning-and-development/planning-applications/advertised-planning-applications/2020/09/06/pln200470

Development details

Property address	**4-12 Langridge Street, Collingwood**
Application number	**PLN20/0470**
Referral prepared by	Madeline Riseborough (Strategic Planner)
Description	Demolition of all buildings on site (no permit required); Construction of an eight storey building with an overall height of approx. 29 metres (height including plant); Use for offices with a net lettable floor area of 1,551sqm and a ground floor retail premises with a leasable floor area 133 sqm (orientated to Langridge Street and Little Oxford Street, with access from Langridge Street) (no permit required for uses); A total of 13 car spaces are provided within the basement level. The car parking area is accessed from the Little Oxford Street; and A total of 32 on-site bicycle spaces (30 employee and 2 visitor) and end-of-trip facilities are provided on the ground floor, with a dedicated bicycle entry from Little Oxford Street.
Date of referral	16/10/2020
Status of application	Advertising
Relevant amendment & status	**Interim** On 17 December 2019, Council sought authorisation from the Minister to introduce an interim Design and Development Overlay Schedule (DDO30) to the Yarra Planning Scheme for the area. Interim controls are currently not approved. These controls could be approved and gazetted at any time, as such, we have provided comments on the interim DDO controls. **Permanent** Permanent controls are proposed to be introduced through the full amendment process. These controls are currently in the preliminary planning stage. The current interim controls provide the basis for the preparation of a future structure plan (or equivalent strategy) for the activity centre and would be relied upon at a future Planning Panel considering the permanent DDO schedule.
Existing and proposed controls	**DDO30** C1Z *No heritage overlay*

Attachment 11 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Strategic Planning Unit

15/10/2020

Strategic Planning comments - Summary

The proposal does not reinforce the mid-rise scale of built form character of Smith Street.

A reduction in height would be supported to result in a development where upper levels are visually recessive and retain the prominence of the adjoining heritage buildings.

Additionally the building has visual bulk and overshadowing/overlooking adjoining land and the opposite footpaths of Little Oxford Street and Langridge Street.

The plans for 4-12 Langridge Street, Collingwood **largely do not comply** with the requirements of the interim DDO. The detailed analysis and breakdown of the requirements in DDO30 can be found in the table and further comments below.

Given the Amendment C270 has not been formally gazetted it is not currently implemented into the scheme or 'seriously entertained'. The proponent notes that the interim DDO is proposed for the land, however, has not considered the provisions in their plans or application.

In conclusion, the proposal would **largely not comply** with the requirements of DDO30 that is currently proposed for the site.

Building Heights and Setbacks

PLN20/0470 -
4-12 Langridge Street, Collingwood

Other comments:

- The requirements in DDO30 are preferred unless the DDO includes the word 'must' plus the wording that "a permit cannot be granted to vary..." or is described as "mandatory".
- Errors – Not applicable.
- Views to landmarks requirement – Not applicable.
- Vehicular access requirement – **Mostly complies.** Vehicular access to the development will be from the Little Oxford Street with pedestrian access to from Langridge and Little Oxford Streets.

Madeline Riseborough
Strategic Planner

Attachment 11 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - Strategic Planning Unit

15/10/2020

Compliance with the proposed amendment:

Strategic Planning comments are provided below and are based on the application drawings dated **December 2019.**

Requirements	Planning Application	DDO30 (Amendment C270)	Assessment of proposal
Building height	28.2m (excluding the lift overrun)	**Mandatory:** 20.8m	**Does not comply.** DDO30 has a mandatory maximum building height control of 20.8m. The development proposes a height of 28.2m m and does not comply with the height control of the interim DDO. Per the DDO, the lift overrun is not included in the overall height. DDO30 includes specific criteria for any plant rooms, lift overruns etc.
Street wall	18.6m	**Mandatory:** 14.4m (both Langridge and Little Oxford Street)	**Does not comply.** Street wall means the façade of a building at the street boundary, or if the existing heritage building is set back from the street boundary, the front of the existing building. Street wall height means the height of the street wall measured by the vertical distance between the footpath at the centre of the frontage and the highest point of the building, parapet, balustrade or eaves at the street edge; or in the case of a heritage building, if it is set back from the street from the centre of the building frontage to the highest point of the building, parapet, balustrade or eaves. The proposal exceed the mandatory street wall height by over 4 metres.
Upper-level setbacks	3.9m	**Preferred:** 6m	**Does not comply.** The setback is the shortest horizontal distance from a building, including balconies, to the property boundary.

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			The development's upper-level setback is 3.9m at levels 4. DDO30 proposes a minimum preferred setback control of 6m for the site. Therefore development does not comply.
Upper-level setback (view lines)	**Not applicable**	**Not applicable**	**Not applicable** Definitions are as above. Requirement is not applicable. Viewlines in DDO are applied to residential zoned land.
Interfaces – Rear Boundary	Development is proposed to the common boundary. Overall height of rear boundaries is also the overall height of the development. No setbacks above the boundary walls.	**Preferred** 11.2m (Whether or not separated by a laneway) Upper level setbacks above the rear boundary wall should be contained within a maximum of two steps (including the setback above the boundary wall below as one step) or be contained within a sloped façade to avoid repetitive stepping of individual levels. Development should respond to existing secluded private open spaces by setting back at upper levels to create a sense of separation, minimise overshadowing and reduce building bulk.	**Does not comply** Rear boundary (northern side) exceeds the 11.2m preferred height.

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Building separation	**Not applicable**	**Not applicable**	**Not applicable** **Complies.** Office development – habitable window requirements do not apply. No controls for commercial properties with no windows proposed to the rear boundary.
Overshadowing	The development overshadows the opposite footpath of Little Oxford Street at 1:16pm until at least 2pm on 22 September	**Mandatory:** New development must not overshadow: • the opposite footpath of Smith, Johnston, Gertrude and Langridge Streets and side streets over 10 metres wide (boundary to boundary), as applicable, measured as 3.0 metres from the relevant property frontage between 10am and 2pm at 22 September; and • any opposite kerb outstands, seating and/or planting areas (as applicable), between 10am and 2pm at 22 September. New development should not overshadow properties fronting Bedford, Little Oxford Street and Little Smith Street, from the first floor upwards between 10am and 2pm at 22 September.	**Does not comply.** The development does overshadow Little Oxford Street between 1:16pm – at least 2pm. This does not comply with the proposed interim DDO30. The development potentially also crosses onto the opposite side footpath of Langridge Street at 10am, however, a more detailed diagram may be needed to assess this.
Heritage building design:	**Not applicable**	**Not applicable**	**Not applicable** **Complies** Proposal is not in a heritage overlay, therefore heritage design requirements do not apply.

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Attachment 12 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - External Wind Consultant

Vipac Engineers and Scientists Limited

279 Normanby Rd, Port Melbourne, VIC 3207, Australia

Private Bag 16, Port Melbourne, VIC 3207, Australia

t. +61 3 9647 9700 | **f.** +61 3 9646 4370 | **e.** melbourne@vipac.com.au

w. www.vipac.com.au | A.B.N. 33 005 453 627 | A.C.N. 005 453 627

City of Yarra

PO Box 168

Richmond, 3121, Australia

24/09/2020

Ref: 30N-20-0215-GCO-6790591-0

Attention: Michelle King

Dear Michelle,

4-12 Langridge Street, Collingwood - Peer Review

This peer review of MEL Consultants "Environmental Wind Assessment" (Report: 115-20-DE-EWA-01) is based on Vipac's experience as a wind engineering consultancy. No wind tunnel studies have been undertaken to support this review.

Vipac has reviewed the Environmental Wind Assessment and the updated drawings (refer to the attached) and have the following comments:

i. The MEL Consultants Environmental Wind Assessment has been prepared based on the drawings dated 01/06/2020 and consultancy experience. No wind tunnel testing has been carried out to support their assessment. We have no issues with this method for a desktop study as this is a common approach to provide architects, developers and responsible authorities advice on the wind impact of the proposed design.

ii. We have no issues with the analysis approach, wind environment and exposure estimate. MEL Consultants have clearly identified the process for the desktop assessment and this is consistent with the approach that Vipac would take.

iii. The report has used the assessment criteria for Melbourne areas developed by MEL Consultants. Vipac has no issues with this, and believe that the criteria is in line and comparable with the council and DELWP guidelines.

iv. The report analysed the wind effects on the streetscapes along Langridge Street, Little Oxford Street etc. It concluded that while the proposed development will increase the existing wind conditions, the wind levels are expected to achieve the recommended walking comfort criterion at the building corners and standing criterion in the middle areas. Vipac agrees with this conclusion.

v. High level terraces on Level 4, Level 5 and the roof top were also analysed in the report. It was concluded that most of these areas are expected to experience wind conditions within the recommended walking comfort criterion. North end of Level 4 terrace, and west side of Level 5 might have wind conditions exceeding the recommended walking criterion. Vipac agrees with this conclusion.

In conclusion, the MEL Consultants Environmental Wind Assessment report used the proper analysis and methodology to analyse the wind effects on the pedestrian level surrounding the proposed development and on the open terraces in detail. The report found that the proposed design would be expected to generate an acceptable wind environment at ground floor. Some areas at Level 4 and Level 5 terraces

Attachment 12 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - External Wind Consultant

might have wind conditions over walking criterion. In general, Vipac has no issues with the report and agrees with the assessment completed by MEL Consultants.

Vipac has reviewed the attached drawings dated 17/08/2020 and found that there are some landscaping and other features proposed at the high level terraces which are expected to reduce the high wind effects at these areas. Therefore, the updated design would be expected to have an acceptable wind environment.

Yours sincerely,

Vipac Engineers & Scientists Ltd

Zhuyun Xu
Senior Wind Engineer

Sophie Lamande
Wind group leader

Attachment 12 - PLN20/0470 - 4 - 12 Langridge Street Collingwood - External Wind Consultant

ATTACHMENTS:

4-12 Langridge Street, Collingwood - Environmental Wind Assessment, (115-20-DE-EWA-01), M.Eaddy, 17/06/2020.

Drawing List (dated 17/08/2020):

TP-1000	Ground Floor Plan
TP-1001	Level 01-03 Plan
TP-1004	Level 04 Plan
TP-1005	Level 05 Plan
TP-1006	Level 06 Plan
TP-1007	Level 07 Plan
TP-1010	Roof floor plan
TP-2000	South and East Elevations
TP-2001	North and West Elevations