Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

Drawing Register

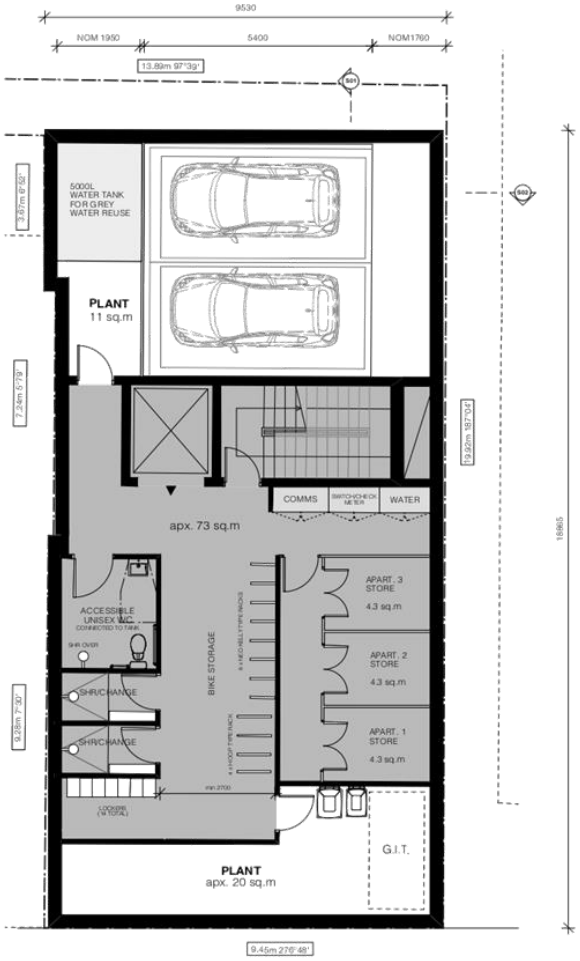
100	B00 Proposed Basement Plan
101	L00 Proposed Ground Plan
102	L01 Proposed First Floor Plan
103	L02 Proposed Second Floor Plan
104	L03 Proposed Third Floor Plan
105	L04 Proposed Fourth Floor Plan
106	Proposed Roof Plan
108	Apartment Inventory
301	Proposed Street Elevations E01 + E02
302	Proposed Street Elevations E03 + E04
304	Proposed Materials E01 + E02
305	Proposed Materials E03 + E04
601	Shadow Studies Equinox September
602	Shadow Studies Equinox September
603	Shadow Studies Equinox September
604	Shadow Studies Equinox September
901	Material Schedule

171-173 SWAN STREET, RICHMOND

MULTI-USE DEVELOPMENT

loop architecture

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



B01 PROPOSED BASEMENT FLOOR PLAN
1:100 @ A3, 1:50 @ A1

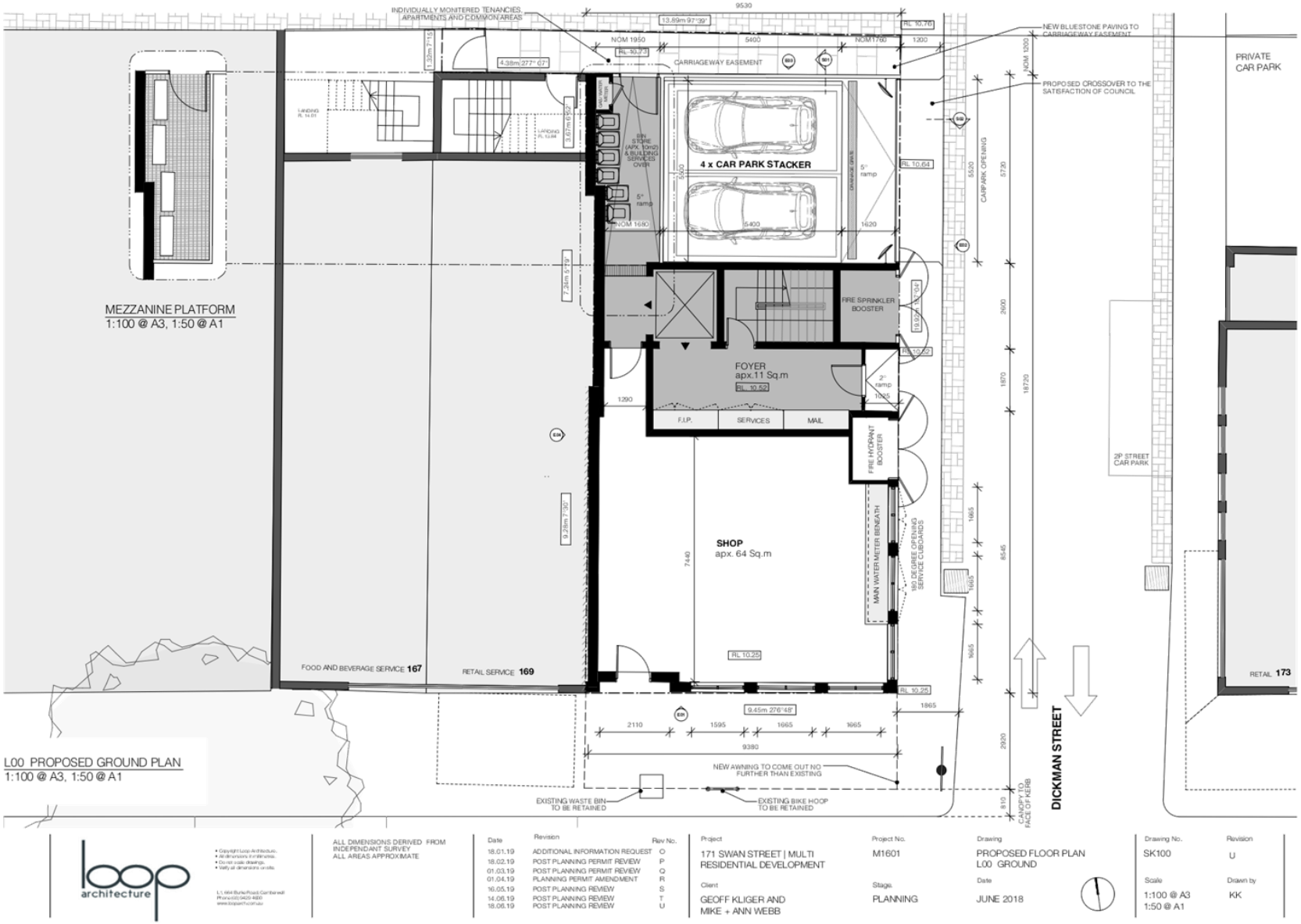
loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

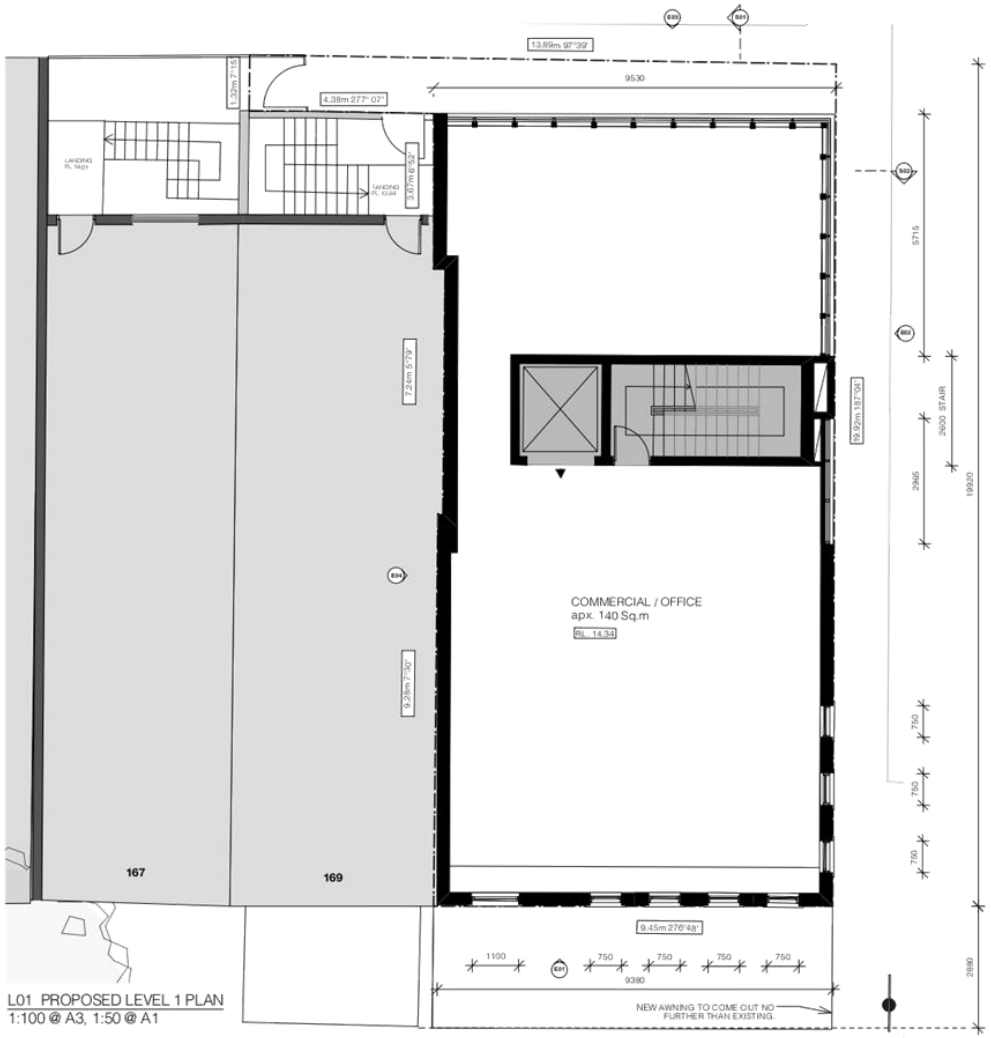
Date	Revision	Rev No.
15.01.19	FOR CLIENT REVIEW	N
18.01.19	ADDITIONAL INFORMATION REQUEST	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q
18.06.19	POST PLANNING REVIEW	R

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED FLOOR PLAN B01 BASEMENT
Date: JUNE 2019
Drawing No.: SK101
Revision: R
Scale: 1:100 @ A3 1:50 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



L01 PROPOSED LEVEL 1 PLAN
1:100 @ A3, 1:50 @ A1

loop architecture

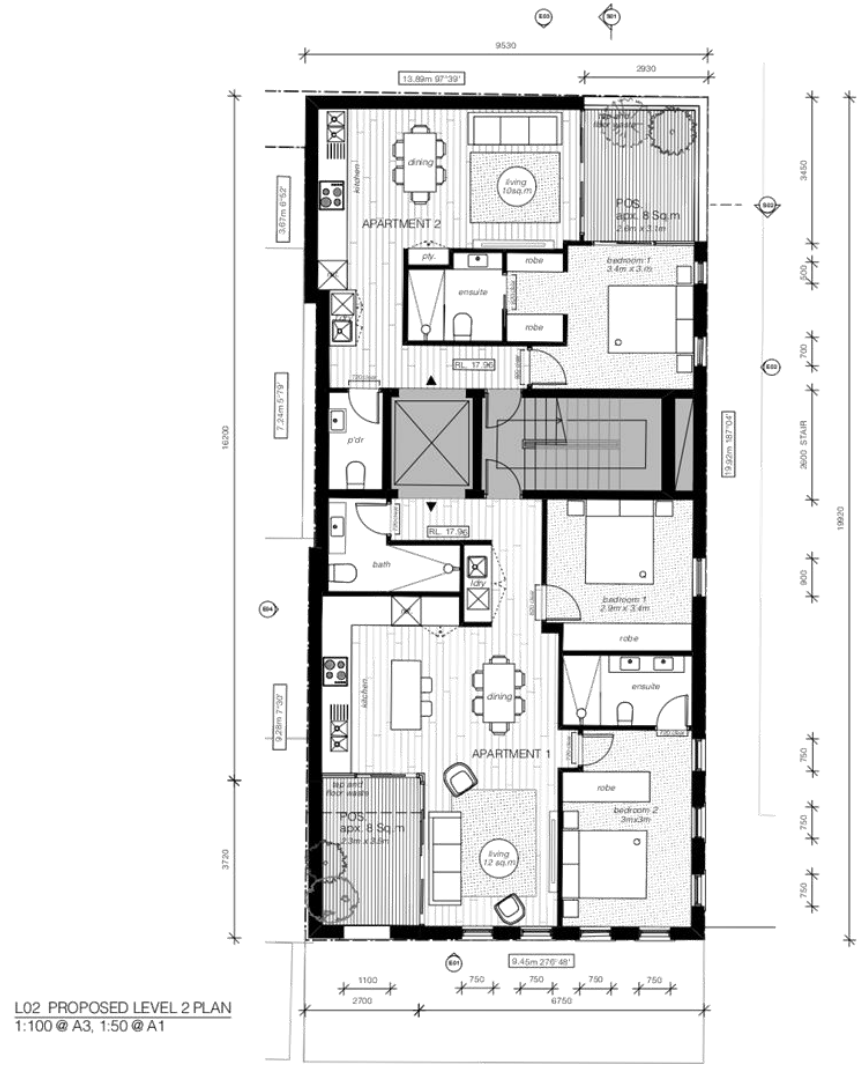
L1, 664 Burke Road, Camberwell
Phone (03) 9429 4800
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
07.12.18	-	M
14.01.19	FOR CLIENT REVIEW	N
18.01.19	ADDITIONAL INFORMATION REQUEST	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED FLOOR PLAN L01 LEVEL 01
Date: APRIL 2019
Drawing No.: SK102
Revision: Q
Scale: 1:100 @ A3 1:50 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



L02 PROPOSED LEVEL 2 PLAN
1:100 @ A3, 1:50 @ A1

APARTMENT 1
APX. 81 m²
2 BEDROOM
2 BATHROOM

APARTMENT 2
APX. 55 m²
1 BEDROOM
1.5 BATHROOM

loop architecture

L1, 664 Burke Road, Camberwell
Phone (03) 9429 4800
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
10.12.18	FOR CLIENT REVIEW	N
14.01.19	FOR CLIENT REVIEW	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED FLOOR PLAN L02 LEVEL 02
Date: APRIL 2019
Drawing No.: SK103
Revision: Q
Scale: 1:100 @ A3, 1:50 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

L03 PROPOSED LEVEL 3 PLAN
1:100 @ A3, 1:50 @ A1

APARTMENT 3
LEVEL 1 OF 2
APX. 102 m² of 212 m²
2 BEDROOM
2.5 BATHROOM

loop architecture

L1, 664 Burke Road, Camberwell
Phone (03) 9429 4800
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
10.12.18	FOR CLIENT REVIEW	N
14.01.19	FOR CLIENT REVIEW	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q
14.06.19	POST PLANNING REVIEW	R
20.06.19	POST PLANNING REVIEW	S

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED FLOOR PLAN L03 LEVEL 03
Date: JUNE 2019
Drawing No.: SK104
Revision: S
Scale: 1:100 @ A3, 1:50 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

L04 PROPOSED LEVEL 4 PLAN
1:100 @ A3, 1:50 @ A1

APARTMENT 3
LEVEL 2 OF 2
APX. 110 m² of 212 m²
2 BEDROOM
2.5 BATHROOM

loop architecture

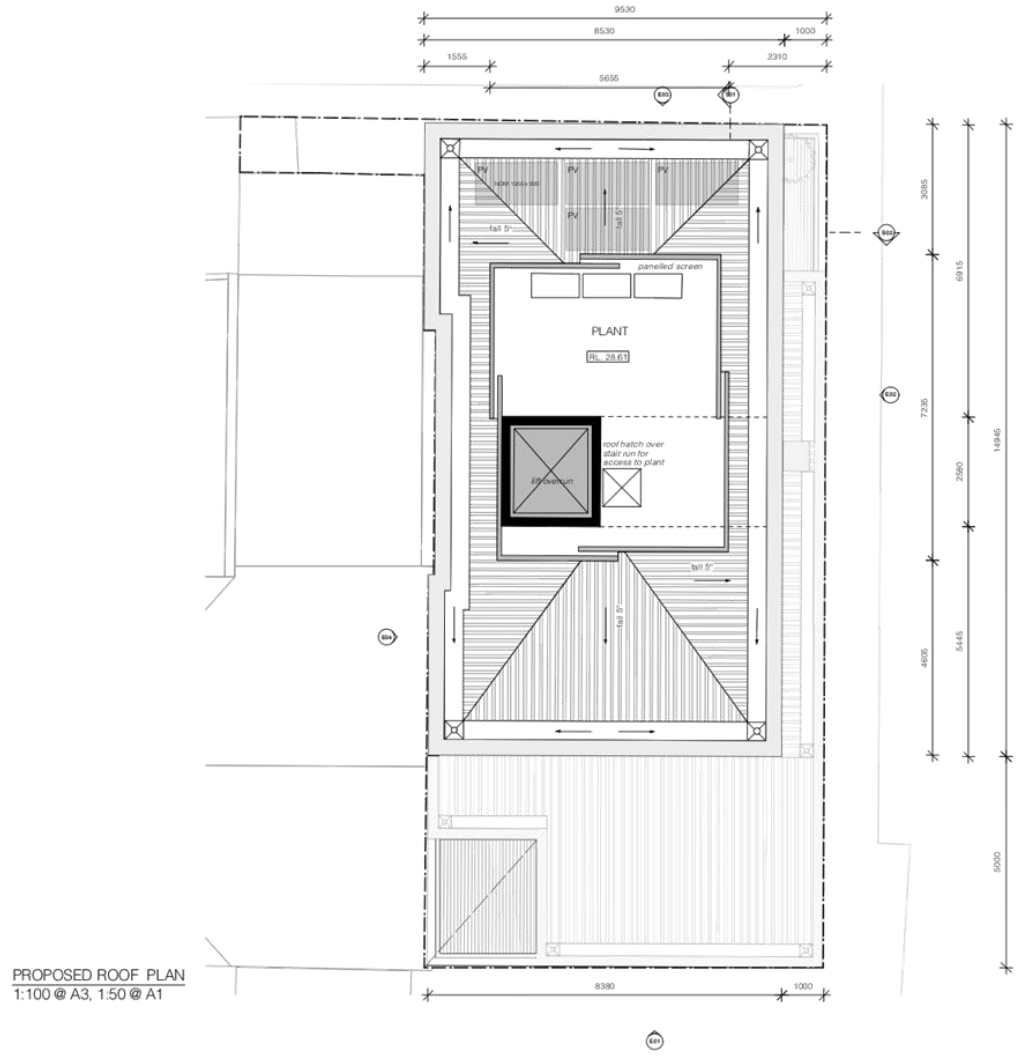
L1, 664 Burke Road, Camberwell
Phone (03) 9429 4800
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
10.12.18	FOR CLIENT REVIEW	N
14.01.19	FOR CLIENT REVIEW	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q
14.06.19	POST PLANNING REVIEW	R
20.06.19	POST PLANNING REVIEW	S

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED FLOOR PLAN L04 LEVEL 04 OPTION 2
Date: JUNE 2019
Drawing No.: SK105
Revision: S
Scale: 1:100 @ A3, 1:50 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



PROPOSED ROOF PLAN
1:100 @ A3, 1:50 @ A1

loop architecture

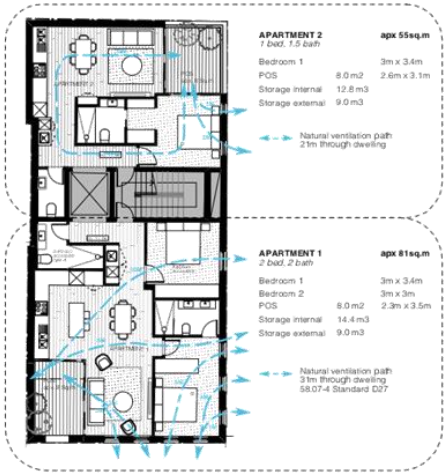
L1, 664 Burke Road, Camberwell
Phone (03) 9429 4926
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

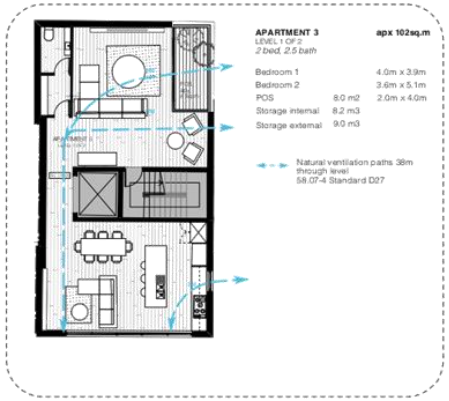
Date	Revision	Rev No.
17.01.19	FOR CLIENT REVIEW	N
18.01.19	ADDITIONAL INFORMATION REQUEST	O
18.02.19	POST PLANNING PERMIT REVIEW	P
01.04.19	PLANNING PERMIT AMENDMENT	Q
14.05.19	PLANNING PERMIT AMENDMENT	R
16.06.19	POST PLANNING REVIEW	S
20.06.19	POST PLANNING REVIEW	T

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED ROOF PLAN
Date: JUNE 2019
Drawing No.: SK107
Revision: T
Scale: 1:100 @ A3, 1:50 @ A1
Drawn by: KK

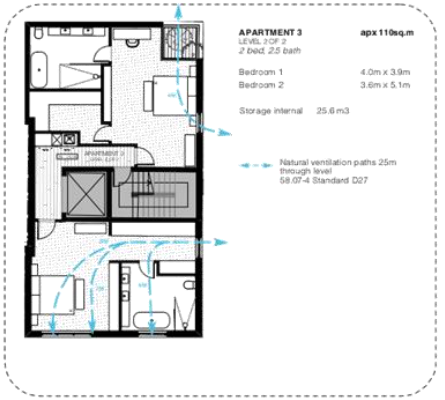
Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



L02 APARTMENT INVENTORY



L03 APARTMENT INVENTORY



L04 APARTMENT INVENTORY

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
18.02.19	POST PLANNING PERMIT REVIEW	M
14.02.19	POST PLANNING REVIEW	N

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Drawing: APARTMENT INVENTORY
Stage: PLANNING
Date: JUNE 2019
Drawing No.: SK201
Revision: N
Scale: 1:200 @ A3
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

01 PROPOSED SWAN STREET ELEVATION | SOUTH
1:250 @ A3

02 PROPOSED DICKMAN STREET ELEVATION | EAST
1:250 @ A3

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
27.02.19	FOR CLIENT REVIEW	N
01.03.19	POST PLANNING PERMIT REVIEW	O
22.03.19	PLANNING PERMIT AMENDMENT	P
16.05.19	POST PLANNING REVIEW	Q
14.06.19	PLANNING PERMIT AMENDMENT	R
18.06.19	POST PLANNING REVIEW	S
30.06.19	POST PLANNING REVIEW	T

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED STREET ELEVATIONS 01 & 02
Date: JUNE 2018
Drawing No.: SK301
Revision: T
Scale: 1:250 @ A3, 1:125 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

03 PROPOSED REAR BOUNDARY ELEVATION | NORTH
1:250 @ A3

04 PROPOSED SIDE BOUNDARY ELEVATION | WEST
1:250 @ A3

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
18.02.19	POST PLANNING PERMIT REVIEW	M
27.02.19	FOR CLIENT REVIEW	N
01.03.19	POST PLANNING PERMIT REVIEW	O
22.03.19	PLANNING PERMIT AMENDMENT	P
14.06.19	PLANNING PERMIT AMENDMENT	Q
18.06.19	POST PLANNING REVIEW	R
30.06.19	POST PLANNING REVIEW	S

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED STREET ELEVATIONS 03 & 04
Date: JUNE 2019
Drawing No.: SK302
Revision: S
Scale: 1:250 @ A3, 1:125 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

E01 PROPOSED SWAN STREET ELEVATION | SOUTH
1:300 @ A3, 1:150 @A1

E02 PROPOSED DICKMAN STREET ELEVATION | EAST
1:300 @ A3, 1:150 @A1

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
01.03.19	POST PLANNING PERMIT REVIEW	R
22.03.19	PLANNING PERMIT AMENDMENT	S
02.04.19	PLANNING PERMIT AMENDMENT	T
16.05.19	POST PLANNING REVIEW	U
14.06.19	PLANNING PERMIT AMENDMENT	V
18.06.19	POST PLANNING REVIEW	W
19.06.19	POST PLANNING REVIEW	X

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED MATERIALS E01 & E02
Date: JUNE 2018
Drawing No.: SK301
Revision: X
Scale: 1:300 @ A3, 1:150 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

E03 PROPOSED REAR BOUNDARY ELEVATION | NORTH
1:300 @ A3, 1:150 @A1

E04 PROPOSED SIDE BOUNDARY ELEVATION | WEST
1:300 @ A3, 1:150 @A1

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
27.02.19	FOR CLIENT REVIEW	Q
01.03.19	POST PLANNING PERMIT REVIEW	R
22.03.19	PLANNING PERMIT AMENDMENT	S
02.04.19	PLANNING PERMIT AMENDMENT	T
14.06.19	PLANNING PERMIT AMENDMENT	U
18.06.19	POST PLANNING REVIEW	V
19.06.19	POST PLANNING REVIEW	W

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: PROPOSED MATERIALS E03 + E04
Date: JUNE 2019
Drawing No.: SK302
Revision: W
Scale: 1:300 @ A3, 1:150 @ A1
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

SHADOW STUDIES
EQUINOX SEPT 22 9AM

SHADOW STUDIES
EQUINOX SEPT 22 10AM

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
20.06.19	POST PLANNING REVIEW	M

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: SHADOW STUDIES
Date: JUNE 2019
Drawing No.: SK601
Revision: M
Scale: 1:500
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

SHADOW STUDIES
EQUINOX SEPT 22 11AM

SHADOW STUDIES
EQUINOX SEPT 22 12PM

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
20.06.19	POST PLANNING REVIEW	M

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: SHADOW STUDIES
Date: JUNE 2019
Drawing No.: SK602
Revision: M
Scale: 1:500
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

SHADOW STUDIES
EQUINOX SEPT 22 1PM

SHADOW STUDIES
EQUINOX SEPT 22 2PM

loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
20.06.19	POST PLANNING REVIEW	M

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: SHADOW STUDIES
Date: JUNE 2019
Drawing No.: SK603
Revision: M
Scale: 1:500
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans

SHADOW STUDIES
EQUINOX SEPT 22 3PM

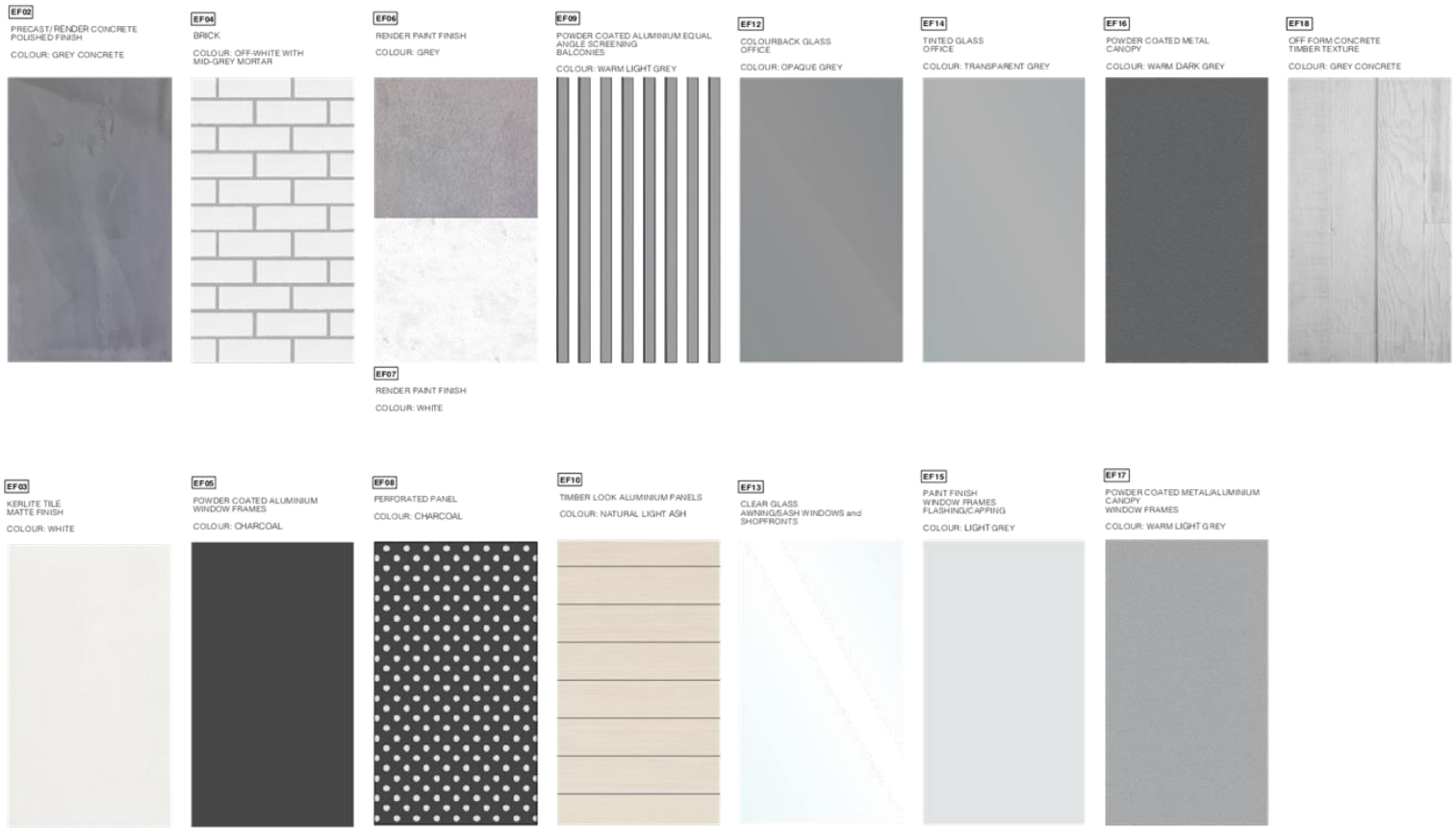
loop architecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
28.04.17	PLANNING PERMIT APPLICATION	K
01.18	ADDITIONAL INFORMATION REQUEST	L
20.06.19	POST PLANNING REVIEW	M

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: SHADOW STUDIES
Date: JUNE 2019
Drawing No.: SK604
Revision: M
Scale: 1:500
Drawn by: KK

Attachment 1 - PLN17/1014 - 171-173 Swan Street - Decision Plans



loop architecture

L1, 664 Bunker Road, Camberwell
Phone (03) 9429 4600
www.looparchitecture

ALL DIMENSIONS DERIVED FROM INDEPENDANT SURVEY
ALL AREAS APPROXIMATE

Date	Revision	Rev No.
13.03.18	ADDITIONAL INFORMATION REQUEST	M
18.02.19	POST PLANNING PERMIT REVIEW	N
01.03.19	POST PLANNING PERMIT REVIEW	O
02.04.19	PLANNING PERMIT AMENDMENT	P
18.06.19	POST PLANNING REVIEW	Q
21.06.19	POST PLANNING REVIEW	R

Project: 171 SWAN STREET | MULTI RESIDENTIAL DEVELOPMENT
Client: GEOFF KLIGER AND MIKE + ANN WEBB
Project No.: M1601
Stage: PLANNING
Drawing: MATERIAL SCHEDULE
Date: JUNE 2019
Drawing No.: SK901
Revision: R
Scale: NA
Drawn by: KK

Attachment 2 - PLN17/1074 - 171-173 Swan Street - Subject Site

171-173 Swan Street, Richmond

North

Attachment 3 - PLN17/1014 - 171-173 Swan Street - Copy of Title and Title Plan

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09635 FOLIO 554

Security no : 124069159148R
Produced 20/11/2017 09:27 am

LAND DESCRIPTION

Lot 1 on Title Plan 101204J.
Created by Application No. 055120 18/09/1985

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
171 SWAN PTY LTD of 35 MARKET STREET SOUTH MELBOURNE VIC 3205
AM232220Q 07/10/2015

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AM453644Y 06/01/2016
AUSTRALIA AND NEW ZEALAND BANKING GROUP LTD

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP101204J FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 171-173 SWAN STREET RICHMOND VIC 3121

ADMINISTRATIVE NOTICES

NIL

eCT Control 16165A ANZ RETAIL AND SMALL BUSINESS
Effective from 22/10/2016

DOCUMENT END

Attachment 3 - PLN17/1014 - 171-173 Swan Street - Copy of Title and Title Plan

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Land Use Victoria.

Document Type	**plan**
Document Identification	**TP101204J**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**20/11/2017 09:40**

Attachment 3 - PLN17/1014 - 171-173 Swan Street - Copy of Title and Title Plan

TITLE PLAN		EDITION 1	TP 101204J

Location of Land

Parish: JIKA JIKA
Township:
Section:
Crown Allotment:
Crown Portion: 21 (PT)

Last Plan Reference:
Derived From: VOL 9635 FOL 554
Depth Limitation: NIL

Notations

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

all that - --

piece of land in the Parish of Jika Jika County of Bourke being part of --

Crown Portion 21 which land is shown enclosed by continuous lines on the map-

hereon - As to the land marked E-2 TOGETHER with a right to use the land-

marked A^1 for party wall purposes granted by Indenture registered Book 512 --

No.483 (Application 51961) - - - - - - - - - - - - - - -

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 09/06/2000
VERIFIED: C.L.

ENCUMBRANCES

As to the land marked E-1 -

RIGHT OF CARRIAGEWAY granted by - Indenture registered Book 512 - - No.483 (Application 51961) -

THE RIGHT OF CARRIAGEWAY (if any) referred to in Contract of Sale - registered Book 498 No.8 - (Application 44958) -

As to the land marked E-2 -

RIGHT TO USE FOR PARTY WALL PURPOSES granted by Indenture registered - -- Book 512 No.483 (Application 51961)-

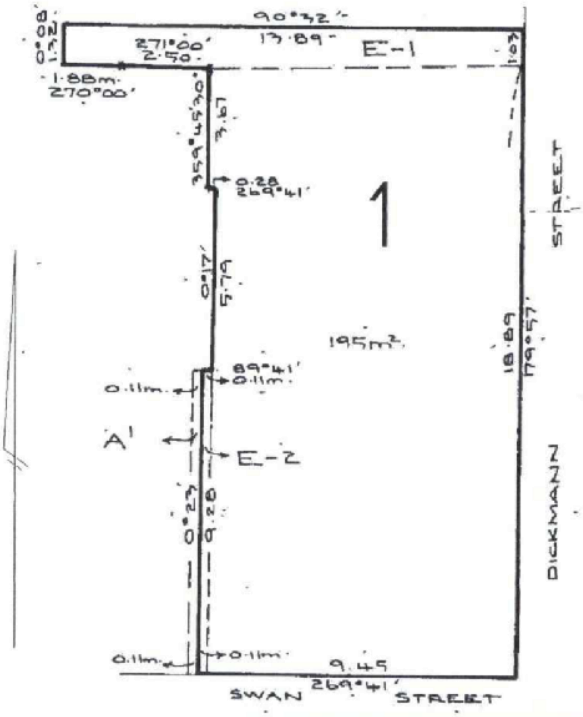


TABLE OF PARCEL IDENTIFIERS
WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962
PARCEL 1 = CP 21 (PT)

LENGTHS ARE IN METRES	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 1 sheets

Attachment 4 - PLN17/1074 - 171-173 Swan Street - Title Transcript

Michael,

I set out below a transcription of the relevant parts of the Memorials that record the creation of the rights of way.

The balance of the Memorials deals with the names and addresses of the parties, dates and types of instruments, consideration and other similar matters that have no relevance to the rights of way.

Where I have not been able to decipher the relevant parts of the sections of the Memorials transcribed I have inserted ### and the parts I have not been able to transcribe also do not affect the rights of way.

Memorial No. 483 Book 512

Transcription of the Description of the Land or Property Conveyed

"All that piece of land situated in the City of Richmond Parish of Jika Jika County of Bourke State of Victoria and being part of that ## Portion twenty-one of the said Parish commencing at a point on the northern side of Swan Street Richmond distant thirty feet ten inches west of the junction of North West corner of Swan Street and Little Docker Street Richmond and bounded on the south by Swan Street in a line bearing further west fourteen feet ## inches on the west by other part of the said portion in a line at right angles to the last line bearing north sixty two feet eight inches on the north by the other part of the said portion in a line at right angles to the last line bearing - fourteen feet seven inches on the east by a further part of the said portion in a line at right angles to the last line south sixty two feet seven inches to the commencing point and which piece of land is shown on the plan in the margin hereof and thereon coloured red and blue and yellow To i-old the said premises unto and to the use of the purchaser in fee simple. Together with the right to use the land coloured green and green hatched on the said plan for party wall purposes Reserving into the Vendors their successors and assigns the registered owner or owners for the time being of the land covered green on the said plan a right to use the land coloured yellow on the said plan for party wall purposes and reserving to the Vendors their successors and assigns the registered owner or owners for the time being of the land covered green hatched on the said plan the right to use the said land covered blue for party for purposes and together with a right of carriageway over the land coloured brown on the said plan"

Memorial No. B Book 498

Transcription of the Description of the Land or Property conveyed

All that piece or parcel of land situated in the City (formally Borough) of Richmond Parish of Jika Jika County of Bourke Victoria (formerly Colony of Victoria) and being part of subsection ##twenty one of the said Parish commencing at a point on the north side of Swan Street Richmond distant forty five feet ## inches west from the intersection or north-west corner of Swan Street and Little Docker Street Richmond and bounded on the south by Swan Street in line bearing further west ## feet six inches on the West ## to said portion in a line at right angles to the ## North 65 feet on the north by another ## at right angles to the last line bearing east 15 feet and 3 inches and on the east by ## at right angles to the ## sixty six feet to the commencing point and which ## is shown on the plan drawn hereon and thereon coloured red and blue Together with a party wall easement over the land on the east coloured yellow reserving in favour to the said land coloured yellow a party wall easement over the said land colour blue and Together with a right of carriageway over the land coloured brown on the said plan

Geoff Kilger
Senior Special Counsel | Accredited Property Law Specialist
Property Law Group

<image-006.png>

Level 4, 555 Lonsdale Street, Melbourne VIC 3000
D +61 3 8656 8370 | F +61 3 8600 8699
kdlaw.com.au

Building Thermal Performance Assessors
A.B.N: 167 787 259 16
2/1 Oxford Street, Oakleigh Vic 3166
Phone: 03 9563 2116
Email: admin@complianceenergy.com.au
www.complianceenergy.com.au

COMPLIANCE
ENERGY RATING

SUSTAINABLE DESIGN ASSESMENT

Date: 22/03/2019

Subject: **Proposed Mixed Use Development Project**
1 Office, 1 Shop and 3 Apartments
171 Swan Street, Richmond Vic. 3121

Summary and Commitments

Component	Requirement for compliance
Energy efficiency	Energy rating assessment to be minimum 6.6 stars efficiency. ▪ Heating system type: Gas Central Ducted Cooling system type: Refrigerative Space/Split System Heating System efficiency to be 4 stars Cooling System efficiency to be 4 stars Hot water system type: Gas Instantaneous 5 star ▪ Energy efficient electrical appliances to be within one point of the highest available energy rating. ▪ Energy efficient water heaters to be used, gas instantaneous, minimum 5 stars. ▪ Lighting per units to be 4W/m2 ▪ Energy efficient LED lighting and/or compact fluorescent lighting type.
Material fabric	▪ Double-glazing to be used to all windows. ▪ Insulation to be in accordance to minimum requirements: R2.5 for external walls. ▪ R5.0 for ceilings.
Water efficiency	▪ Toilets to be minimum 5 Star WELS rating. ▪ Basins to be minimum 5 Star WELS rating. ▪ All kitchen and bathroom taps 5 star WELS rating ▪ Shower flow rate should not to exceed 6.0 l/min. To be noted on plans. ▪ Collection rain-water tank size minimum L5,000 connected to toilets
Indoor Environment Quality	▪ Insulation between apartments walls to reduce noise intrusion. ▪ Double-glazed to reduce external noise intrusion. ▪ Minimize VOC materials on paints and adhesives

1) Project Scope

The project is on 171 Swan Street, Richmond VIC 3121. This is a proposed mixed use development project for 1 Shop, 1 Office & 3 Apartments. The total land area is approximately 194 m2 in land size.

2) Design Process

Environmental Sustainable Design (ESD) initiatives were carried out using the following:

- BESS stands for (Built Environment Sustainability Scorecard) Tools for Environmental Performance Strategy. Average rating was obtained from all dwellings for heating, cooling and star rating. Refer to attached energy report rating. The BESS design tool was used to achieve the following report. Refer to Appendix A and BESS report;
- Frate5 Preliminary assessments

3) Sustainable Design Statement for the Project

a) Energy efficiency

The dwellings have been assessed using 2nd generation approved system by the Building Code Australia, FirstRate 5. Each dwelling to be minimum **6.0 stars**. The proposed project with the above recommendations meets and exceeds the NCC Section 3.12 of achieving an energy rating of 6.6 stars. Refer to Appendix A for the sustainability score.
Each dwelling to have a gas instantaneous system, minimum 5 stars efficiency.

b) Appliances

Energy efficient appliances also required to be installed and used throughout the building as part of the base building works such as: lighting, dryers, dishwashers and refrigerators (if applicable). Each appliance is recommended to be within one point of the highest available energy rating under the Australian Government "Energy Rating" labelling system. This is in accordance to Green Star guidelines.

Minimum Energy Performance Standards (MEPS). Energy Rating (EER).

- **Heating system type:** reverse cycle heating
- **Cooling system type:** air conditioning rating minimum EER 4.25 and 4.25 to bedrooms.
- **Cooling system options:** room/space heating per need basis to avoid unnecessary usage when unoccupied.
- **Water heater type:** gas instantaneous hot water system, 5-Star efficiency. To be designed by services engineers
- **Lighting in living areas:** energy efficient LED downlights and/or compact fluorescent lighting type. SLS Series model LED P12, 12W lighting

4) Water efficiency

a) Fixtures, Fittings and Appliances

Water Efficiency Labelling and Standards (WELS)

Shower: minimum 5 Star WELS rating, maximum flow rate not to exceed 6.0 l/min.
Toilet: minimum 5 Star WELS rating
Taps: minimum 5 Star WELS rating
Dishwasher: minimum 5 Star WELS rating

b) Stormwater Management

Collection of water is to be from roof. Collected water to be used directly (without any treatment) for: irrigation. Collected from water-tank is to be also used for toilets flushing.

2 Watertank of 5,000Ltrs. to be connected to toilets for flushing. The whole site

meeting Melbourne Storm Rating requirement of 100%. The Melbourne Storm

Rating verdict is 109%, satisfying this requirement.

Refer to attached Storm Rating Report.

5) Materials

a) Construction Materials

Glazing to be used in accordance to energy report meeting minimum NCC Section 3.12 6-star energy efficiency. Ceilings insulation R5.0 and external wall insulation R2.5. Seal gaps, cracks and exhaust fans. Weather-strip windows and external/entry doors.

b) Building Materials

Materials that will be used are: concrete slab, brick work, timber frames, light weight cladding and metal roof. Wall and ceiling insulations to be implemented as per energy rating report and recommendations to improve energy efficiency rating.
The basic concept of this category is to reduce the amount of natural resources used, reuse whatever materials can be reused and recycle whenever possible. It is encouraged to use sustainable timber and recycle content of concrete and steel.

6) Indoor Environment Quality

This section is about improving thermal comfort, lighting, ventilation, internal noise and minimization of indoor VOCs.

a) Daylight, Thermal Comfort and Noise

Dwellings have plenty of daylight and natural light and ventilation. This is commended and recognized. Light coloured floor, light paint for walls and ceilings are also recommended.

7) Urban Ecology

Below are some suggestions to improve overall urban ecology:

- Keep as much as possible existing vegetation
- Re-establish native vegetation
- Heal degraded areas
- Encourage food producing gardens

8) Application and Commissioning

For town planning submission, the following are recommended:

Submit ESD report.

Ensure that the summary notes, water tank are clearly noted on the drawings for endorsement by council planners.

Commitment for a thorough commissioning program to be undertaken to ensure that systems are effectively and efficiently operating.

Ensure that the ESD recommendations in this report will be incorporated in the project and services documentation for building permit stage.

Contractor or builder to have a valid Environmental Management System.

BESS Report

This BESS report outlines the sustainable design commitments of the proposed development at 171 Swan Street Richmond VIC 3121. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Yarra City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

171 Swan Street, Richmond 3121 Richmond

Site area: 194 m^2 · Building Floor Area: 530 m^2 ·
Date of Assessment: 11 Apr 2019 ·
Version: V3, 1.5.1-B157 ·
Applicant: terry@complianceenergy.com.au

Project number
20539

Published
http://bess.net.au/projects/20539

Your BESS score is

+ 47%

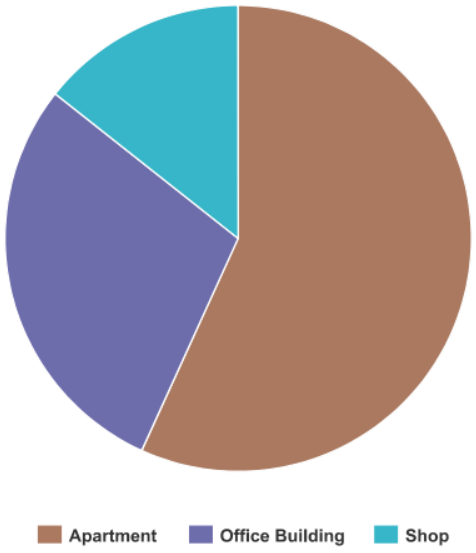
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

50% + Best Practice

70% + Excellence

% of Total	Category	Score	Pass
1 %	Management	37 %	
5 %	Water	62 %	✓
16 %	Energy	59 %	✓
13 %	Stormwater	100 %	✓
2 %	IEQ	15 %	✗
3 %	Transport	40 %	
3 %	Waste	66 %	
0 %	Urban Ecology	6 %	
0 %	Innovation	0 %	

Building Composition



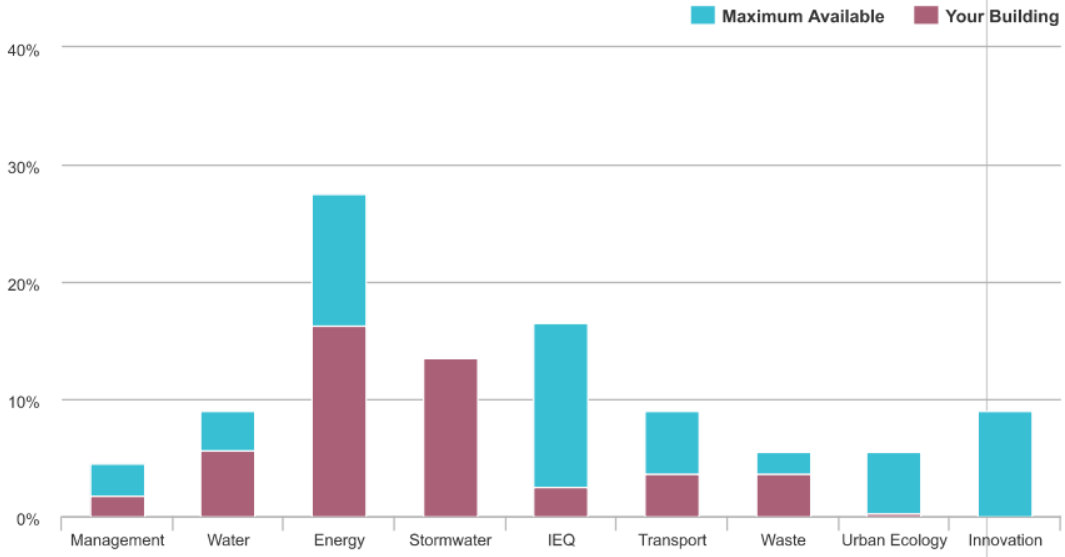
Dwellings

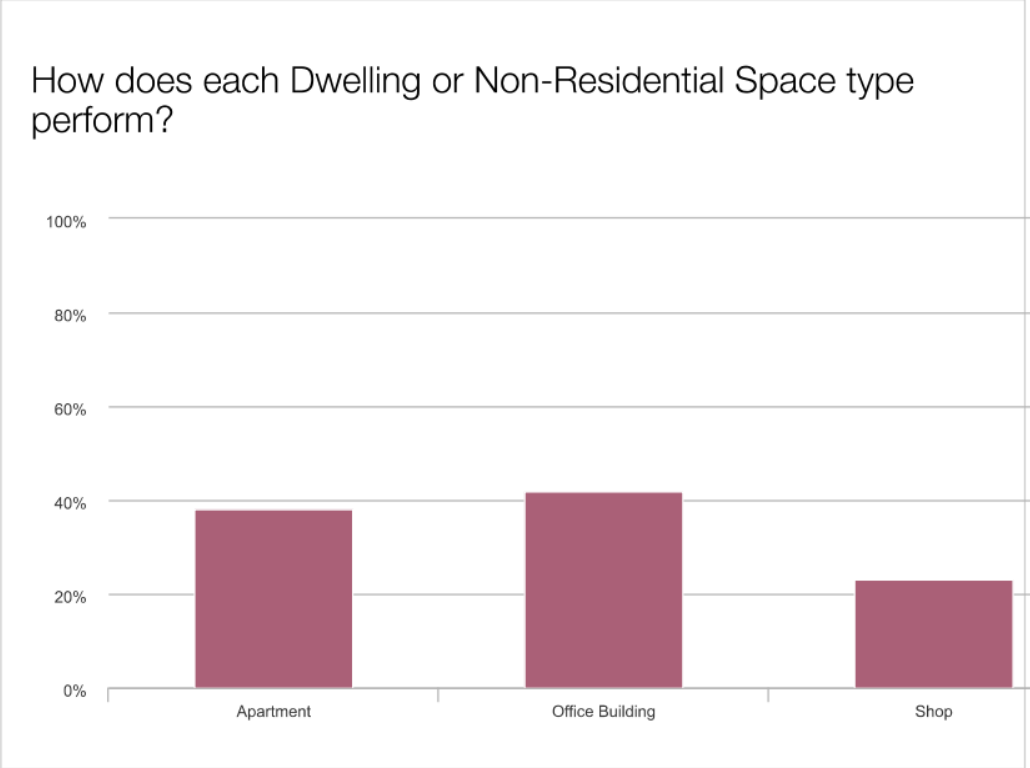
Type	Name	Quantity	Area
Apartment	Apartment 1	1	78 m^2
Apartment	Apartment 2	1	52 m^2
Apartment	Apartment 3	1	170 m^2

Non-Residential Spaces

Office Building	153 m^2
Shop	76 m^2

How did this Development Perform in each Environmental Category?





Sustainable design commitments by category

The sustainable design commitments for this project are listed below. These are to be incorporated into the design documentation and subsequently implemented.

Management

37% - contributing 1% to overall score

Credit	Disabled	Scoped out	Score
Management 2.2 Thermal Performance Modelling - Multi-Dwelling Residential			100 %
Management 2.3 Thermal Performance Modelling - Non-Residential			0 %
Management 2.4 Thermal Performance Modelling - Non-Residential			0 %
Management 3.1 Metering			100 %
Management 3.2 Metering			100 %
Management 3.3 Metering			100 %

Management 2.2 Thermal Performance Modelling - Multi-Dwelling Residential

100%

Score Contribution	This credit contributes 13% towards this section's score.

Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage
Notes	All 3 Apartments have a preliminary 6 Star Energy Reports using FirstRate 5 All Apartments comply to over 6 stars- lowest= 6.3 Stars and Highest= 6.9 Stars. They have an average of 6.6 stars collectively All Cooling Loads are under 30 MJ/M2 per annum.

Questions

Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?

Apartment
Yes

Management 2.3 Thermal Performance Modelling - Non-Residential 0%

Score Contribution	This credit contributes 10% towards this section's score.
Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage
Notes	This will be undertaken at a later stage and we will ensure that Part J report details that it will exceed the minimum NCC requirements by at least 10%.

Questions

Has preliminary modelling been undertaken in accordance with either BCA Section J (Energy Efficiency), NABERS or Green Star?

Management 2.4 Thermal Performance Modelling - Non-Residential 0%

Score Contribution	This credit contributes 5% towards this section's score.
Aim	To encourage and recognise developments that have used modelling to inform passive design at the early design stage
Notes	This will be undertaken at a later stage and we will ensure that Part J report details that it will exceed the minimum NCC requirements by at least 10%.

Questions

Has a preliminary Section J glazing assessment been undertaken?

Management 3.1 Metering 100%

Score Contribution	This credit contributes 6% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have utility meters been provided for all individual dwellings?

Apartment
Yes

Management 3.2 Metering 100%

Score Contribution	This credit contributes 5% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have utility meters been provided for all individual commercial tenants?

Office Building	Shop
Yes	Yes

Management 3.3 Metering 100%

Score Contribution	This credit contributes 11% towards this section's score.
Aim	To provide building users with information that allows monitoring of energy and water consumption

Questions

Have all major common area services been separately submetered?

Apartment	Office Building	Shop
Yes	Yes	Yes

Water 62% - contributing 5% to overall score

Credit	Disabled	Scoped out	Score

Water 1.1 Potable Water Use Reduction (Interior Uses)	50 %
Water 2.1 Rainwater Collection & Reuse (Additional Uses)	100 %
Water 4.1 Building Systems Water Use Reduction	100 %

Water Approachs

What approach do you want to use Water?	Use the built in calculation tools

Project Water Profile Questions

Are you installing a rainwater tank?	Yes

Water fixtures, fittings and connections

	Office Building	Shop	Apartment 1
Showerhead	3 Star WELS (> 6.0 but <= 7.5)	3 Star WELS (> 6.0 but <= 7.5)	3 Star WELS (> 6.0 but <= 7.5)
Bath	Scope out	Scope out	Scope out
Kitchen Taps	> 5 Star WELS rating	> 5 Star WELS rating	> 5 Star WELS rating
Bathroom Taps	> 5 Star WELS rating	> 4 Star WELS rating	> 5 Star WELS rating
Dishwashers	> 5 Star WELS rating	Scope out	> 5 Star WELS rating
WC	> 5 Star WELS rating	> 5 Star WELS rating	> 5 Star WELS rating
Urinals	Scope out	Scope out	Scope out
Washing Machine Water Efficiency	Scope out	Scope out	> 5 Star WELS rating
Rainwater connected to: Toilets	Yes	Yes	Yes

	Apartment 2	Apartment 3
Showerhead	3 Star WELS (> 6.0 but <= 7.5)	3 Star WELS (> 6.0 but <= 7.5)
Bath	Scope out	Scope out
Kitchen Taps	> 5 Star WELS rating	> 5 Star WELS rating
Bathroom Taps	> 5 Star WELS rating	> 5 Star WELS rating
Dishwashers	> 5 Star WELS rating	> 5 Star WELS rating
WC	> 5 Star WELS rating	> 5 Star WELS rating
Urinals	Scope out	Scope out
Washing Machine Water Efficiency	> 5 Star WELS rating	> 5 Star WELS rating
Rainwater connected to: Toilets	Yes	Yes

Rainwater Tanks

	Watertank
What is the total roof area connected to the rainwater tank? Square Metres	120.0
Tank Size Litres	5000.0

Water 1.1 Potable Water Use Reduction (Interior Uses) 50%

Score Contribution	This credit contributes 50% towards this section's score.
Aim	Water 1.1 Potable water use reduction (interior uses) What is the reduction in total water use due to efficient fixtures, appliances, and rainwater use? To achieve points in this credit there must be >25% potable water reduction. You are using the built in calculation tools. This credit is calculated from information you have entered above.
Criteria	Percentage reduction in potable water use

Questions

Percentage Achieved ? Percentage %

Project wide

%

Calculations

Annual Water Consumption (kL) (Reference)

Project wide

755

Annual Water Consumption (kL) (Proposed)

Project wide

487

% Reduction in Potable Water Consumption Percentage %

Project wide

35 %

Water 2.1 Rainwater Collection & Reuse (Additional Uses) 100%

Score Contribution	This credit contributes 25% towards this section's score.

Aim	What is the additional reduction in potable (mains) water use due to rainwater harvesting? Additional water uses for rainwater include non-potable demands such as irrigation, pools, commercial process uses and taps for washdown. Note: tank water will only be available for additional uses if it not required for internal uses. If the property uses an alternative water source, the alternative water source is deemed to meet 90% of additional non-potable water use requirements. You are using the built in calculation tools. This credit is calculated from information you have entered above in the rainwater tanks section.
Criteria	What is the additional reduction in potable (mains) water use due to using rainwater or an alternative water source?

Questions

Percentage Achieved ? Percentage %

Project wide

%

Calculations

Rainwater collection & reuse (additional uses) Percentage %

Project wide

100 %

Water 4.1 Building Systems Water Use Reduction 100%

Score Contribution	This credit contributes 12% towards this section's score.
Aim	Will the project minimise water use for building systems such as evaporative cooling and fire testing systems?

Questions

Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?

Project wide

Yes

Energy 59% - contributing 16% to overall score

Credit	Disabled	Scoped out	Score
Energy 1.2 Thermal Performance Rating - Residential			16 %

Energy 2.1 Greenhouse Gas Emissions	100 %
Energy 2.2 Peak Demand	100 %
Energy 2.3 Electricity Consumption	100 %
Energy 2.4 Gas Consumption	100 %
Energy 3.1 Carpark Ventilation	100 %
Energy 3.2 Hot Water	100 %
Energy 3.4 Clothes Drying	100 %
Energy 3.6 Internal Lighting - Residential Multiple Dwellings	100 %
Energy 3.7 Internal Lighting - Non-Residential	66 %
Energy 4.1 Combined Heat and Power (cogeneration / trigeneration)	N/A

Energy DTSs

Use the BESS Deem to Satisfy (DtS) method for Energy?	Yes
Do all facades demonstrate a min 10% improvement in required BCA insulation level (total R value upwards and downwards)?	Yes
Does all glazing meet a 10% improvement in required BCA glazing calculator (or better than 90% of total allowance)?	Yes
Are heating and cooling systems within one Star, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) 85% or better than the most efficient equivalent capacity unit available?	Yes
Are water heating systems within one Star, or 85% or better than the most efficient equivalent capacity unit available?	Yes

Dwellings Energy Approachs

What approach do you want to use for Energy?	Provide our own calculations

Energy 1.2 Thermal Performance Rating - Residential 16%

Score Contribution	This credit contributes 15% towards this section's score.
Aim	Reduce reliance on mechanical systems to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.

Criteria	What is the average NatHERS rating?
Notes	6.6 Stars

Questions

NATHERS Rating ? Stars

Apartment
6.7

Energy 2.1 Greenhouse Gas Emissions 100%

Score Contribution	This credit contributes 9% towards this section's score.
Aim	Reduce the building's greenhouse gas emissions
Criteria	Are greenhouse gas emissions >10% below the benchmark

Questions

Criteria Achieved ?

Apartment	Office Building
Yes	Yes

Energy 2.2 Peak Demand 100%

Score Contribution	This credit contributes 4% towards this section's score.
Aim	Reduce demand on electrical infrastructure during peak cooling periods
Criteria	Has the instantaneous (peak-hour) demand been reduced by >25%

Questions

Criteria Achieved ?

Apartment	Office Building
Yes	Yes

Energy 2.3 Electricity Consumption 100%

Score Contribution	This credit contributes 9% towards this section's score.
Aim	Reduce consumption of electricity

Criteria	Is the annual electricity consumption >10% below the benchmark

Questions

Criteria Achieved ?

Apartment	Office Building
Yes	Yes

Energy 2.4 Gas Consumption 100%

Score Contribution	This credit contributes 9% towards this section's score.
Aim	Reduce consumption of electricity
Criteria	Is the annual gas consumption >10% below the benchmark?

Questions

Criteria Achieved ?

Apartment	Office Building
Yes	Yes

Energy 3.1 Carpark Ventilation 100%

Score Contribution	This credit contributes 9% towards this section's score.

Questions

If you have a basement carpark, is it either: (a) fully naturally ventilated (no mechanical ventilation system), or (b) use Carbon Monoxide monitoring to control the operation and speed of the ventilation fans

Project wide
Yes

Energy 3.2 Hot Water 100%

Score Contribution	This credit contributes 4% towards this section's score.
Criteria	Does the hot water system use >10% less energy (gas and electricity) than the reference case?

Questions

Criteria Achieved ?

Apartment	Office Building
Yes	Yes

Energy 3.4 Clothes Drying 100%

Score Contribution	This credit contributes 2% towards this section's score.
Criteria	Does the combination of clothes lines and efficient dryers reduce energy (gas+electricity) consumption by more than 10%?

Questions

Criteria Achieved ?

Apartment
Yes

Energy 3.6 Internal Lighting - Residential Multiple Dwellings 100%

Score Contribution	This credit contributes 5% towards this section's score.
Aim	Reduce energy consumption associated with internal lighting

Questions

Is the maximum illumination power density (W/m2) in at least 90% of the relevant Building Class at least 20% lower than required by Table J6.2a of the NCC BCA (2013) Volume 1 Section J (Class 2 to 9) and clause 3.12.5.5 NCC BCA (2013) Volume 2 Section J (Class 1 and 10)

Apartment
Yes

Energy 3.7 Internal Lighting - Non-Residential 66%

Score Contribution	This credit contributes 4% towards this section's score.
Aim	Reduce energy consumption associated with internal lighting

Questions

Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by Table J6.2a of the NCC 2016 BCA Volume 1 Section J (Class 2 to 9)

Office Building	Shop
Yes	Yes

Energy 4.1 Combined Heat and Power (cogeneration / trigeneration) N/A

This credit was scoped out: No cogeneration or trigeneration system in use.

This credit was disabled: No cogeneration or trigeneration system in use.

Aim	Reduce energy consumption
Criteria	Does the CHP system reduce the class of buildings GHG emissions by more than 25%?

Stormwater 100% - contributing 13% to overall score

Credit	Disabled	Scoped out	Score
Stormwater 1.1 Stormwater Treatment			100 %

Which stormwater modelling are you using?	Melbourne Water STORM tool

Stormwater 1.1 Stormwater Treatment 100%

Score Contribution	This credit contributes 100% towards this section's score.
Aim	To achieve best practice stormwater quality objectives through reduction of pollutant load (suspended solids, nitrogen and phosphorus)
Criteria	Has best practice stormwater management been demonstrated?

Questions

STORM score achieved

Project wide
109

Flow (ML/year) % Reduction

Project wide
-

Total Suspended Solids (kg/year) % Reduction

Project wide

-

Total Phosphorus (kg/year) % Reduction

Project wide

-

Total Nitrogen (kg/year) % Reduction

Project wide

-

Calculations

Min STORM Score

Project wide

100

IEQ

15% - contributing 2% to overall score

Credit	Disabled	Scoped out	Score
IEQ 1.4 Daylight Access - Non-Residential			44 %
IEQ 1.5 Daylight Access - Minimal Internal Bedrooms			100 %

IEQ DTSs

Use the BESS Deem to Satisfy (DtS) method for IEQ?	Yes
Do all living areas and bedrooms have a floor-to-ceiling height of at least 2.7m?	Yes
Does all glazing to living areas achieve at least 60% Visible Light Transmittance (VLT)?	Yes
Do all living areas have an external facing window (not into a courtyard, light well or other major obstruction)?	Yes
Does the building(s) comply with the requirements of the building separation tables?	Yes

Dwellings IEQ Approachs

What approach do you want to use for IEQ?	Use the built in calculation tools

IEQ 1.4 Daylight Access - Non-Residential 44%

Score Contribution	This credit contributes 17% towards this section's score.
Aim	To provide a high level of amenity and energy efficiency through design for natural light.
Criteria	What % of the nominated floor area has at least 2% daylight factor?

Questions

% Achieved ?

Office Building
75 %

IEQ 1.5 Daylight Access - Minimal Internal Bedrooms 100%

Score Contribution	This credit contributes 7% towards this section's score.
Aim	To provide a high level of amenity and energy efficiency through design for natural light and ventilation.

Questions

Do at least 90% of dwellings have an external window in all bedrooms?

Apartment
Yes

Transport 40% - contributing 3% to overall score

Credit	Disabled	Scoped out	Score
Transport 1.1 Bicycle Parking - Residential			100 %
Transport 1.3 Bicycle Parking - Convenience Residential			100 %
Transport 1.4 Bicycle Parking - Non-Residential			66 %
Transport 1.5 Bicycle Parking - Non-Residential Visitor			100 %
Transport 1.6 End of Trip Facilities - Non-Residential			66 %

Transport 1.1 Bicycle Parking - Residential 100%

Score Contribution	This credit contributes 15% towards this section's score.

Aim	To encourage and recognise initiatives that facilitate cycling
Criteria	Is there at least one secure bicycle space per dwelling?

Questions

Bicycle Spaces Provided ?

Apartment
11

Calculations

Min Bicycle Spaces Required

Apartment
3

Transport 1.3 Bicycle Parking - Convenience Residential 100%

Score Contribution	This credit contributes 7% towards this section's score.
Aim	To facilitate cycling by providing easily accessible parking infrastructure

Questions

Are bike parking facilities for residents located at ground level?

Apartment
Yes

Transport 1.4 Bicycle Parking - Non-Residential 66%

Score Contribution	This credit contributes 11% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling

Questions

Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50%?

Office Building	Shop
Yes	Yes

Transport 1.5 Bicycle Parking - Non-Residential Visitor 100%

Score Contribution	This credit contributes 5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling

Questions

Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50%?

Office Building	Shop
Yes	Yes

Transport 1.6 End of Trip Facilities - Non-Residential 66%

Score Contribution	This credit contributes 5% towards this section's score.
Aim	To encourage and recognise initiatives that facilitate cycling
Criteria	Adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 bicycle spaces plus 1 to each 10 bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per bicycle space in the vicinity of the changing / shower facilities?

Questions

Number of showers provided ?

Office Building
2

Number of lockers provided ?

Office Building
4

Calculations

Min Showers Required

Office Building	Shop
2	2

Min Lockers Required

Office Building	Shop
1	1

Waste

66% - contributing 3% to overall score

Credit	Disabled	Scoped out	Score
Waste 1.1 - Construction Waste - Building Re-Use			100 %
Waste 2.2 - Operational Waste - Convenience of Recycling			100 %

Waste 1.1 - Construction Waste - Building Re-Use

100%

Score Contribution	This credit contributes 33% towards this section's score.
Aim	To recognise developments that re-use materials on-site

Questions

If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?

Project wide
Yes

Waste 2.2 - Operational Waste - Convenience of Recycling

100%

Score Contribution	This credit contributes 33% towards this section's score.
Aim	To minimise recyclable material going to landfill

Questions

Are the recycling facilities at least as convenient for occupants as facilities for general waste?

Project wide
Yes

Urban Ecology

6% - contributing 0% to overall score

Credit	Disabled	Scoped out	Score
Urban Ecology 2.4 Private Open Space - Balcony / Courtyard Ecology			100 %

Urban Ecology 2.4 Private Open Space - Balcony / Courtyard Ecology

100%

Score Contribution	This credit contributes 6% towards this section's score.

Aim	Encourage plants to be grown on balconies and courtyards

Questions

Is there a tap and floor waste on every balcony / in every courtyard?

Apartment

Yes

Innovation

0% - contributing 0% to overall score

Items to be marked on floorplans

0 / 15 floorplans & elevation notes complete.

Management 3.1: Individual utility meters annotated	Incomplete
Management 3.2: Individual utility meters annotated	Incomplete
Management 3.3: Common area submeters annotated	Incomplete
Energy 3.1: Carpark with natural ventilation or CO monitoring system	Incomplete
Energy 3.4: External lighting sensors annotated	Incomplete
Water 2.1: Location of rainwater tanks as described	Incomplete
Stormwater 1.1: Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips)	Incomplete
IEQ 1.5: Floor plans with compliant bedrooms marked	Incomplete
Transport 1.1: All nominated residential bicycle parking spaces	Incomplete
Transport 1.3: Residential bicycle parking spaces at ground level	Incomplete
Transport 1.4: All nominated non-residential bicycle parking spaces	Incomplete
Transport 1.5: All nominated non-residential visitor bicycle parking spaces	Incomplete
Transport 1.6: Showers, change rooms and lockers as nominated	Incomplete
Waste 2.2: Location of recycling facilities	Incomplete
Urban Ecology 2.4: Taps and floor waste on balconies / courtyards	Incomplete

Documents and evidence

0 / 8 supporting evidence documentation complete.

Management 2.2: Preliminary NatHERS assessments	Incomplete

Energy 3.1: Provide a written explanation of either the fully natural carpark ventilation or carbon monxide monitoring, describing how these systems will work, what systems are required for them to be fully integrated and who will be responsible for their implementation throughout the design, procurement and operational phases of the building life.	Incomplete
Energy 3.6: Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.	Incomplete
Energy 3.7: Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.	Incomplete
Stormwater 1.1: STORM report or MUSIC model	Incomplete
IEQ 1.4: A short report detailing assumptions used and results achieved.	Incomplete
IEQ 1.5: A list of compliant bedrooms	Incomplete
Waste 1.1: Report detailing how the existing building is being reused on-site	Incomplete

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

STORM Rating Report

TransactionID:	746968
Municipality:	YARRA
Rainfall Station:	YARRA
Address:	171 Swan Street
	Richmond
	VIC 3121
Assessor:	Compliance Energy Rating -Terry Stamatopoulos
Development Type:	Residential - Mixed Use
Allotment Site (m2):	194.00
STORM Rating %:	109

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof	59.00	None	0.00	0	0.00	0.00
Roof	120.00	Rainwater Tank	5,000.00	5	163.00	84.40

Date Generated: 21-Mar-2019 Program Version: 1.0.0

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Building Thermal Performance Assessors
A.B.N: 167 787 259 16
2/1 Oxford Street, Oakleigh Vic 3166
Phone: 03 9563 2116
Email: admin@complianceenergy.com.au
www.complianceenergy.com.au

COMPLIANCE ENERGY RATING

SUMMARY OF REPORT

CLIENT: Loop Architecture **Date:** 20/03/2019

PLANS BY: Loop Architecture

PLANS JOB No.: M1601 **REF No.:** CER6090

RATED ADDRESS	Apartment	Heating Load	Cooling Load	STAR RATING
171 Swan Street, Richmond, Vic 3121	1	78.1	24.8	6.3
	2	61.9	24.0	6.9
	3	74.7	20.8	6.6
	Average			6.6

FLOOR DETAILS	
Concrete slabs:	**R1.0 insulation required**
Suspended Slab between levels (Apart. 4):	**No insulation required**
WALL DETAILS	
Brick Veneer walls:	**R2.0 insulation plus 1 anti glare reflective foil**
Concrete Tilt up walls:	**R2.0 insulation required**
ROOF & CEILING DETAILS	
Flat Metal Roofs:	**R4.0 insulation plus 1 single sided foil**
Concrete slabs:	**R1.0 insulation required**
WINDOWS, GLAZING	
FRAMES:	**Aluminium Frames**
GLAZING:	**All Windows to be Double Glazed with U-Value=4.50, SHGC=0.61**
	U Value to be equal or less & SHGC can be within 5%

AIR LEAKAGE

- Exhaust fans to be sealed.
- Windows and sliding doors are fitted with weather seals.
- External doors to be weather stripped.
- Gaps & Cracks around doors, windows and service penetrations are sealed.
- All other: as per energy report and plans.

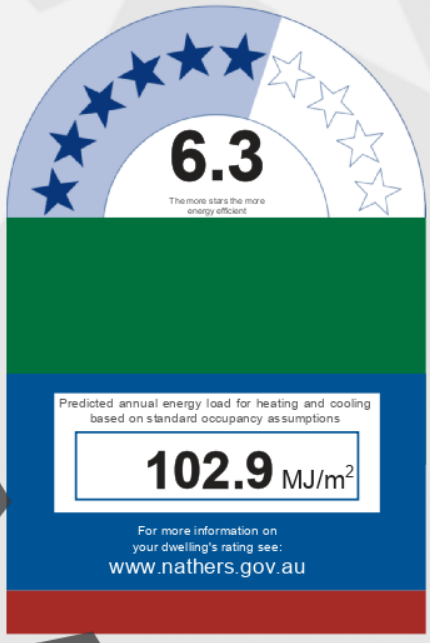
Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **NNNB7T42U6** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.3**

Assessor details

Accreditation number:	VIC/BDAV/10/1015
Name:	Terry Stamatopoulos
Organisation:	Compliance Energy Rating
Email:	terry@complianceenergy.com.au
Phone:	0400665738
Declaration of interest:	No potential conflicts of interest to declare
Software:	FirstRate5: 5.2.10a (3.13)
AAO:	BDAV



Overview

Dwelling details

Address:	1, 171 Swan Street		
Suburb:	Richmond		
State:	VIC	Postcode:	3121
Type:	New Home	NCC Class:	Class 2
Lot/DP number:	-	NatHERS climate zone:	21
Exposure:	suburban		

Key construction and insulation materials
(see following pages for details)

Construction:	Wall:	Brick Veneer & Concrete
	Roof:	Metal, Slab
	Floor:	SusbSlab
Insulation:	Wall:	R2.0
	Roof:	R4.0 to metal & R1.0 to slab
	Floor:	R1.0
Glazing:		Aluminium Double Glazed

Ceiling penetrations
(see following pages for details)

Sealed:	22
Unsealed:	0
TOTAL:**	22
Principal downlight type:	LED

NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Net floor area (m^2)

Conditioned:	78.2
Unconditioned:	0
Garage:	-
TOTAL:	78.2

Annual thermal performance loads (MJ/m^2)

Heating:	78.1
Cooling:	24.8
TOTAL:	102.9

Window selection - default windows only

Note on allowable window values: Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/-5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If any of the windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

Scan to access this certificate online and confirm this is valid.

Plan documents

Plan ref/date:	M1601
Prepared by:	Loop Architecture

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **NNNB7T42U6** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.3**

Building Features

Windows type and performance value

Window ID	Window type	U-value	SHGC
ALM-006-01 A	Aluminium B DG Argon Fill Clear-Clear	4.5	0.61

Windows schedule

Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Zone name	Outdoor shade
ALM-006-01 A	Opening 30	2100	2270	S	Kit/Liv/Din	No
ALM-006-01 A	Opening 31	2100	3300	W	Kit/Liv/Din	No
ALM-006-01 A	Opening 22	2070	750	S	Kit/Liv/Din	No
ALM-006-01 A	Opening 23	2070	750	S	Kit/Liv/Din	No
ALM-006-01 A	Opening 26	2070	750	E	Bedroom 2	No
ALM-006-01 A	Opening 27	2070	750	E	Bedroom 2	No
ALM-006-01 A	Opening 28	2070	750	E	Bedroom 2	No
ALM-006-01 A	Opening 24	2070	750	S	Bedroom 2	No
ALM-006-01 A	Opening 25	2070	750	S	Bedroom 2	No
ALM-006-01 A	Opening 29	2057	900	E	Bedroom 1	No

Roof windows and skylight type and performance value

ID	Window type	U-value	SHGC

Roof window and skylight schedule

ID	Roof window/ skylight no.	Area (m^2)	Orientation	Zone name	Outdoor shade	Indoor shade/ diffuser

External wall type

Type	Insulation	Wall wrap
1 : FR5 - Internal Plasterboard Stud Wall		No
2 : Custom - Concrete/Precast	Glass fibre batt: R2.0 (R2.0)	No
3 : FR5 - Brick Veneer	Glass fibre batt: R2.0 (R2.0)	Yes
4 : FR5 - Internal Plasterboard Stud Wall	Glass fibre batt: R2.5 (R2.5)	Yes

External wall schedule

Wall type	Area (m^2)	Orientation	Zone name	Fixed shade	Eaves
1 : FR5 - Internal Plasterboard Stud Wall	0.5	N	Kit/Liv/Din	Yes	No
2 : Custom - Concrete/Precast	12.8	W	Kit/Liv/Din	No	No

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **NNNB7T42U6** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.3**

Building Features

3 : FR5 - Brick Veneer	7.5	S	Kit/Liv/Din	Yes	Yes
2 : Custom - Concrete/Precast	11.1	W	Kit/Liv/Din	Yes	Yes
2 : Custom - Concrete/Precast	9.6	S	Kit/Liv/Din	No	No
2 : Custom - Concrete/Precast	14.4	E	Bedroom 2	No	No
2 : Custom - Concrete/Precast	9.3	S	Bedroom 2	No	No
2 : Custom - Concrete/Precast	6.7	W	Bathroom	No	No
4 : FR5 - Internal Plasterboard Stud Wall	5.6	N	Bathroom	No	No
2 : Custom - Concrete/Precast	11.1	E	Bedroom 1	No	No
4 : FR5 - Internal Plasterboard Stud Wall	10.6	N	Bedroom 1	No	No
2 : Custom - Concrete/Precast	5.4	E	Ensuite 2	No	No
4 : FR5 - Internal Plasterboard Stud Wall	0.6	W	Entry/Hall	No	No
4 : FR5 - Internal Plasterboard Stud Wall	9.5	N	Entry/Hall	No	No

Internal wall type

Type	Area (m^2)	Insulation
1 : FR5 - Internal Plasterboard Stud Wall	84.5	

Floors

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation	Covering
Kit/Liv/Din	FR5 - 150mm concrete slab	9.3	Enclosed	R0.0	Timber
Kit/Liv/Din	FR5 - 150mm concrete slab	15.8	Enclosed	R0.0	Timber
Kit/Liv/Din	FR5 - 150mm concrete slab	8.8	Enclosed	R0.0	Timber
Bedroom 2	FR5 - 150mm concrete slab	10.3	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 150mm concrete slab	3.6	Enclosed	R0.0	Carpet
Bathroom	FR5 - 150mm concrete slab	5.5	Enclosed	R0.0	Tiles
Laundry	FR5 - 150mm concrete slab	1.1	Enclosed	R0.0	Timber
Bedroom 1	FR5 - 150mm concrete slab	3.5	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - 150mm concrete slab	8.9	Enclosed	R0.0	Carpet
Ensuite 2	FR5 - 150mm concrete slab	2.3	Enclosed	R0.0	Tiles
Ensuite 2	FR5 - 150mm concrete slab	1.7	Enclosed	R0.0	Tiles
Ensuite 2	FR5 - 150mm concrete slab	1.4	Enclosed	R0.0	Timber
Entry/Hall	FR5 - 150mm concrete slab	6	Enclosed	R0.0	Timber

Ceiling type

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **NNNB7T42U6** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.3**

Building Features

Location	Material	Added insulation	Roof space above
Kit/Liv/Din	Plasterboard	R4.0	No
Bedroom 2	Plasterboard	R4.0	No
Bedroom 1	Plasterboard	R4.0	No
Ensuite 2	Plasterboard	R4.0	No

Ceiling penetrations

Location	Number	Type	Width (mm)	Length (mm)	Seal/ unsealed
Kit/Liv/Din	1	Exhaust Fans	150	150	Sealed
Kit/Liv/Din	10	Downlights	80	80	Sealed
Bedroom 2	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	200	200	Sealed
Bathroom	1	Downlights	80	80	Sealed
Laundry	1	Downlights	80	80	Sealed
Bedroom 1	2	Downlights	80	80	Sealed
Ensuite 2	1	Exhaust Fans	200	200	Sealed
Ensuite 2	1	Downlights	80	80	Sealed
Entry/Hall	2	Downlights	80	80	Sealed

Ceiling fans

Location	Number	Diameter (mm)

Roof type

Material	Added insulation	Roof colour
Slab:Slab - Suspended Slab : 150mm: 150mm Suspended Slab	0.0	light
Framed:Flat - Flat Framed (Metal Deck)	0.0	light

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **NNNB7T42U6** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.3**

Additional information

Explanatory notes

About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in this report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using an underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance. The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

AAOs have specific quality assurance processes in place and continuing professional development requirements to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any on-going training requirements.

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit www.nathers.gov.au

For more information on energy efficient design and insulation visit www.yourhome.gov.au

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

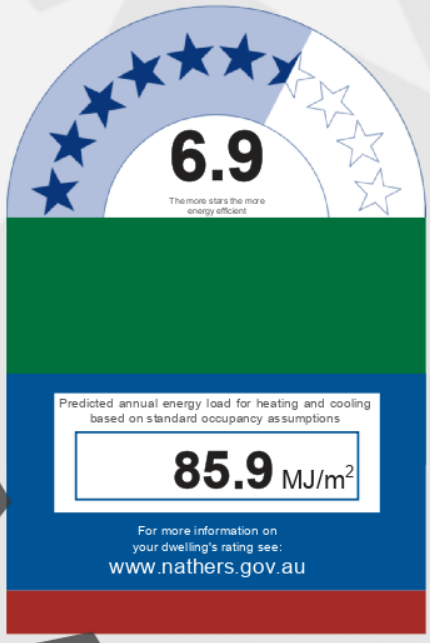
Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **72RUBMTKDK** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.9**

Assessor details

Accreditation number:	VIC/BDAV/10/1015
Name:	Terry Stamatopoulos
Organisation:	Compliance Energy Rating
Email:	terry@complianceenergy.com.au
Phone:	0400665738
Declaration of interest:	No potential conflicts of interest to declare
Software:	FirstRate5: 5.2.10a (3.13)
AAO:	BDAV



Overview

Dwelling details

Address:	2, 171 Swan Street		
Suburb:	Richmond		
State:	VIC	Postcode:	3121
Type:	New Home	NCC Class:	Class 2
Lot/DP number:	-	NatHERS climate zone:	21
Exposure:	open		

Key construction and insulation materials
(see following pages for details)

Construction:	Wall:	Brick Veneer & Concrete
	Roof:	Metal/Slab
	Floor:	SusbSlab
Insulation:	Wall:	R2.0
	Roof:	R4.0 to metal & R1.0 to slab
	Floor:	R1.0
Glazing:		Aluminium Double Glazed

Ceiling penetrations
(see following pages for details)

Sealed:	16
Unsealed:	0
TOTAL:**	16
Principal downlight type:	LED

NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceeded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Net floor area (m^2)

Conditioned:	52.6
Unconditioned:	0
Garage:	-
TOTAL:	52.6

Annual thermal performance loads (MJ/m^2)

Heating:	61.9
Cooling:	24
TOTAL:	85.9

Plan documents

Plan ref/date:	M1601
Prepared by:	Loop Architecture

Window selection - default windows only

Note on allowable window values: Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/-5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If any of the windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

Scan to access this certificate online and confirm this is valid.

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **72RUBMTKDK** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.9**

Building Features

Windows type and performance value

Window ID	Window type	U-value	SHGC
ALM-006-01 A	Aluminium B DG Argon Fill Clear-Clear	4.5	0.61

Windows schedule

Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Zone name	Outdoor shade
ALM-006-01 A	Opening 16	2100	2900	E	Kit/Din/Liv/Pantry	No
ALM-006-01 A	Opening 17	2057	500	E	Bedroom 1	No
ALM-006-01 A	Opening 18	2057	700	E	Bedroom 1	No
ALM-006-01 A	Opening 15	2100	2400	N	Bedroom 1	No

Roof windows and skylight type and performance value

ID	Window type	U-value	SHGC

Roof window and skylight schedule

ID	Roof window/ skylight no.	Area (m^2)	Orientation	Zone name	Outdoor shade	Indoor shade/ diffuser

External wall type

Type	Insulation	Wall wrap
1 : Custom - Concrete/Precast	Glass fibre batt: R2.0 (R2.0)	No
2 : FR5 - Internal Plasterboard Stud Wall		No
3 : FR5 - Metal Clad Framed	Glass fibre batt: R2.5 (R2.5)	Yes

External wall schedule

Wall type	Area (m^2)	Orientation	Zone name	Fixed shade	Eaves
1 : Custom - Concrete/Precast	13.1	W	Kit/Din/Liv/Pantry	No	No
1 : Custom - Concrete/Precast	0.9	S	Kit/Din/Liv/Pantry	Yes	No
1 : Custom - Concrete/Precast	9.5	E	Kit/Din/Liv/Pantry	Yes	Yes
1 : Custom - Concrete/Precast	18.9	N	Kit/Din/Liv/Pantry	No	No
2 : FR5 - Internal Plasterboard Stud Wall	11.7	S	Bedroom 1	No	No
1 : Custom - Concrete/Precast	1.6	E	Bedroom 1	No	No
3 : FR5 - Metal Clad Framed	5.9	E	Bedroom 1	No	No
1 : Custom - Concrete/Precast	8.3	N	Bedroom 1	Yes	Yes
1 : Custom - Concrete/Precast	0.9	E	Bedroom 1	No	No

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **72RUBMTKDK** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.9**

Building Features

1 : Custom - Concrete/Precast	7	W	Powder	No	No
2 : FR5 - Internal Plasterboard Stud Wall	5	S	Powder	No	No
2 : FR5 - Internal Plasterboard Stud Wall	6.1	E	Powder	No	No
2 : FR5 - Internal Plasterboard Stud Wall	4.9	S	Entry/Hall/Laundry	No	No
2 : FR5 - Internal Plasterboard Stud Wall	1.2	E	Entry/Hall/Laundry	No	No
2 : FR5 - Internal Plasterboard Stud Wall	4	S	Entry/Hall/Laundry	No	No
1 : Custom - Concrete/Precast	6.8	W	Entry/Hall/Laundry	No	No

Internal wall type

Type	Area (m^2)	Insulation
1 : FR5 - Internal Plasterboard Stud Wall	46.7	

Floors

Location	Construction	Area (m^2)	Sub floor ventilation	Added insulation	Covering
Kit/Din/Liv/Pantry	FR5 - 150mm concrete slab	22.6	Enclosed	R0.0	Timber
Ensuite 1	FR5 - 150mm concrete slab	4.3	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - 150mm concrete slab	2.2	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - 150mm concrete slab	12	Enclosed	R0.0	Carpet
Powder	FR5 - 150mm concrete slab	3.8	Enclosed	R0.0	Tiles
Entry/Hall/Laundry	FR5 - 150mm concrete slab	7.5	Enclosed	R0.0	Timber

Ceiling type

Location	Material	Added insulation	Roof space above
Bedroom 1	Plasterboard	R4.0	No

Ceiling penetrations

Location	Number	Type	Width (mm)	Length (mm)	Seal/ unsealed
Kit/Din/Liv/Pantry	1	Exhaust Fans	150	150	Sealed
Kit/Din/Liv/Pantry	6	Downlights	80	80	Sealed
Ensuite 1	1	Exhaust Fans	200	200	Sealed
Ensuite 1	1	Downlights	80	80	Sealed
Bedroom 1	2	Downlights	80	80	Sealed
Powder	1	Exhaust Fans	200	200	Sealed
Powder	1	Downlights	80	80	Sealed

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **72RUBMTKDK** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.9**

Building Features

Entry/Hall/Laundry	3	Downlights	80	80	Sealed

Ceiling fans

Location	Number	Diameter (mm)

Roof type

Material	Added insulation	Roof colour
Slab:Slab - Suspended Slab : 150mm: 150mm Suspended Slab	0.0	light
Framed:Flat - Flat Framed (Metal Deck)	0.0	light

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **72RUBMTKDK** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.9**

Additional information

Explanatory notes

About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in this report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using an underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance. The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

AAOs have specific quality assurance processes in place and continuing professional development requirements to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any on-going training requirements.

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit www.nathers.gov.au

For more information on energy efficient design and insulation visit www.yourhome.gov.au

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

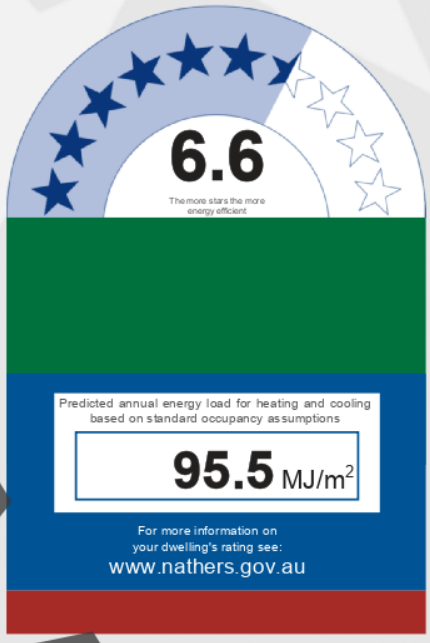
Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Assessor details

Accreditation number:	VIC/BDAV/10/1015
Name:	Terry Stamatopoulos
Organisation:	Compliance Energy Rating
Email:	terry@complianceenergy.com.au
Phone:	0400665738
Declaration of interest:	No potential conflicts of interest to declare
Software:	FirstRate5: 5.2.10a (3.13)
AAO:	BDAV



Overview

Dwelling details

Address:	3, 171 Swan Street		
Suburb:	Richmond		
State:	VIC	Postcode:	3121
Type:	New Home	NCC Class:	Class 2
Lot/DP number:	-	NatHERS climate zone:	21
Exposure:	open		

Key construction and insulation materials
(see following pages for details)

Construction:	Wall:	Brick Veneer & Concrete
	Roof:	Metal/Slab
	Floor:	SusbSlab
Insulation:	Wall:	R2.0
	Roof:	R4.0 to metal & R1.0 to slab
	Floor:	R1.0
Glazing:		Aluminium Double Glazed

Ceiling penetrations
(see following pages for details)

Sealed:	41
Unsealed:	0
TOTAL:**	41
Principal downlight type:	LED

NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Net floor area (m^2)

Conditioned:	170.3
Unconditioned:	0
Garage:	-
TOTAL:	170.3

Annual thermal performance loads (MJ/m^2)

Heating:	74.7
Cooling:	20.8
TOTAL:	95.5

Window selection - default windows only

Note on allowable window values: Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/-5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If any of the windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

Scan to access this certificate online and confirm this is valid.

Plan documents

Plan ref/date:	M1601
Prepared by:	Loop Architecture

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Building Features

Windows type and performance value

Window ID	Window type	U-value	SHGC
ALM-006-01 A	Aluminium B DG Argon Fill Clear-Clear	4.5	0.61

Windows schedule

Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Zone name	Outdoor shade
ALM-006-01 A	Opening 16	2057	1800	E	Entry/Kit/Liv/Din	No
ALM-006-01 A	Opening 17	2057	900	E	Entry/Kit/Liv/Din	No
ALM-006-01 A	Opening 18	2100	6100	S	Hall/Living	No
ALM-006-01 A	Opening 19	2057	750	E	Hall/Living	No
ALM-006-01 A	Opening 20	2057	1300	E	Hall/Living	No
ALM-006-01 A	Opening 30	2057	900	E	Bedroom 1	No
ALM-006-01 A	Opening 29	2100	1850	N	Bedroom 1	No
ALM-006-01 A	Opening 34	2100	1300	E	Bedroom 1	No
ALM-006-01 A	Opening 31	2100	2350	S	Bedroom 2	No
ALM-006-01 A	Opening 33	2057	900	E	WIR 2	No
ALM-006-01 A	Opening 32	2070	700	S	Ensuite 2	No

Roof windows and skylight type and performance value

ID	Window type	U-value	SHGC

Roof window and skylight schedule

ID	Roof window/ skylight no.	Area (m^2)	Orientation	Zone name	Outdoor shade	Indoor shade/ diffuser

External wall type

Type	Insulation	Wall wrap
1 : FR5 - Brick Veneer	Glass fibre batt: R2.5 (R2.5)	Yes
2 : Custom - Concrete/Precast	Glass fibre batt: R2.0 (R2.0)	No

External wall schedule

Wall type	Area (m^2)	Orientation	Zone name	Fixed shade	Eaves
1 : FR5 - Brick Veneer	8.7	W	Entry/Kit/Liv/Din	No	No
2 : Custom - Concrete/Precast	4.2	W	Entry/Kit/Liv/Din	No	No
1 : FR5 - Brick Veneer	18.2	S	Entry/Kit/Liv/Din	No	No

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Building Features

1 : FR5 - Brick Veneer	20.2	E	Entry/Kit/Liv/Din	No	No
1 : FR5 - Brick Veneer	24.2	N	Entry/Kit/Liv/Din	No	No
2 : Custom - Concrete/Precast	4	W	Powder	No	No
2 : Custom - Concrete/Precast	0.8	S	Powder	Yes	No
2 : Custom - Concrete/Precast	2.6	W	Powder	No	No
2 : Custom - Concrete/Precast	12.6	W	Hall/Living	No	No
1 : FR5 - Brick Veneer	7.6	W	Hall/Living	No	No
2 : Custom - Concrete/Precast	23.8	S	Hall/Living	No	Yes
2 : Custom - Concrete/Precast	13.1	E	Hall/Living	No	No
1 : FR5 - Brick Veneer	18.2	N	Hall/Living	No	No
1 : FR5 - Brick Veneer	7	E	Hall/Living	No	No
2 : Custom - Concrete/Precast	3.9	W	Ensuite 1	No	No
2 : Custom - Concrete/Precast	11.5	N	Ensuite 1	No	No
2 : Custom - Concrete/Precast	15.4	E	Bedroom 1	No	No
2 : Custom - Concrete/Precast	6.4	N	Bedroom 1	Yes	Yes
2 : Custom - Concrete/Precast	4.8	E	Bedroom 1	Yes	Yes
2 : Custom - Concrete/Precast	6	N	Bedroom 1	No	No
2 : Custom - Concrete/Precast	8.6	S	Bedroom 1	No	No
2 : Custom - Concrete/Precast	3.7	W	WIR 1	No	No
2 : Custom - Concrete/Precast	0.8	S	WIR 1	Yes	No
2 : Custom - Concrete/Precast	3.8	W	WIR 1	No	No
2 : Custom - Concrete/Precast	10	W	Hall/Laundry	No	No
2 : Custom - Concrete/Precast	7	E	Hall/Laundry	No	No
2 : Custom - Concrete/Precast	9.3	S	Hall/Laundry	No	No
2 : Custom - Concrete/Precast	5.7	N	Bedroom 2	No	No
2 : Custom - Concrete/Precast	13.2	W	Bedroom 2	No	No
2 : Custom - Concrete/Precast	12.2	S	Bedroom 2	No	No
2 : Custom - Concrete/Precast	7.4	E	WIR 2	No	No
2 : Custom - Concrete/Precast	12.2	N	WIR 2	No	No
2 : Custom - Concrete/Precast	10.8	S	Ensuite 2	No	No
2 : Custom - Concrete/Precast	5.4	E	Ensuite 2	No	No

Internal wall type

Type	Area (m^2)	Insulation
1 : FR5 - Internal Plasterboard Stud Wall	94.6	

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Building Features

Floors

Location	Construction	Area (m^2)	Sub floor ventilation	Added insulation	Covering
Entry/Kit/Liv/Din	FR5 - 150mm concrete slab	2.8	Enclosed	R0.0	Timber
Entry/Kit/Liv/Din	FR5 - 150mm concrete slab	45.7	Enclosed	R0.0	Timber
Powder	FR5 - 150mm concrete slab	2.8	Enclosed	R0.0	Tiles
Hall/Living	FR5 - 150mm concrete slab	37.2	Enclosed	R0.0	Timber
Ensuite 1	FR5 - Timber Lined	10.6	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - Timber Lined	10.8	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - Timber Lined	12.3	Enclosed	R0.0	Carpet
WIR 1	FR5 - Timber Lined	6.8	Enclosed	R0.0	Carpet
WIR 1	FR5 - Timber Lined	1.6	Enclosed	R0.0	Carpet
Hall/Laundry	FR5 - Timber Lined	8.4	Enclosed	R0.0	Timber
Bedroom 2	FR5 - Timber Lined	9.5	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - Timber Lined	13	Enclosed	R0.0	Carpet
WIR 2	FR5 - Timber Lined	5.2	Enclosed	R0.0	Carpet
WIR 2	FR5 - Timber Lined	3.1	Enclosed	R0.0	Carpet
Ensuite 2	FR5 - Timber Lined	7.4	Enclosed	R0.0	Tiles

Ceiling type

Location	Material	Added insulation	Roof space above
Entry/Kit/Liv/Din	Plasterboard	R4.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Entry/Kit/Liv/Din	FR5 - Timber Lined	R0.0	No
Powder	FR5 - Timber Lined	R0.0	No
Powder	FR5 - Timber Lined	R0.0	No
Hall/Living	FR5 - Timber Lined	R0.0	No
Hall/Living	FR5 - Timber Lined	R0.0	No
Hall/Living	FR5 - Timber Lined	R0.0	No
Hall/Living	FR5 - Timber Lined	R0.0	No
Hall/Living	FR5 - Timber Lined	R0.0	No

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Building Features

Hall/Living	FR5 - Timber Lined	R0.0	No
Ensuite 1	Plasterboard	R4.0	No
Bedroom 1	Plasterboard	R4.0	No
WIR 1	Plasterboard	R4.0	No
Bedroom 2	Plasterboard	R4.0	No
WIR 2	Plasterboard	R4.0	No
Ensuite 2	Plasterboard	R4.0	No

Ceiling penetrations

Location	Number	Type	Width (mm)	Length (mm)	Seal/ unsealed
Entry/Kit/Liv/Din	10	Downlights	80	80	Sealed
Entry/Kit/Liv/Din	1	Exhaust Fans	150	150	Sealed
Powder	1	Exhaust Fans	200	200	Sealed
Powder	1	Downlights	80	80	Sealed
Hall/Living	7	Downlights	80	80	Sealed
Ensuite 1	1	Exhaust Fans	200	200	Sealed
Ensuite 1	2	Downlights	80	80	Sealed
Bedroom 1	4	Downlights	80	80	Sealed
WIR 1	2	Downlights	80	80	Sealed
Hall/Laundry	2	Downlights	80	80	Sealed
Bedroom 2	4	Downlights	80	80	Sealed
WIR 2	2	Downlights	80	80	Sealed
Ensuite 2	1	Exhaust Fans	200	200	Sealed
Ensuite 2	3	Downlights	80	80	Sealed

Ceiling fans

Location	Number	Diameter (mm)

Roof type

Material	Added insulation	Roof colour
Framed:Flat - Flat Framed (Metal Deck)	0.0	light
Slab:Slab - Suspended Slab : 150mm: 150mm Suspended Slab	0.0	light

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Page 5 of 6

Attachment 5 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A ESD Report

Nationwide House Energy Rating Scheme* Certificate

Certificate Number: **EAR7D7PNDB** Date of Certificate: **21 Mar 2019** ★ Star rating: **6.6**

Additional information

Explanatory notes

About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in this report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using an underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance. The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

AAOs have specific quality assurance processes in place and continuing professional development requirements to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any on-going training requirements.

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit www.nathers.gov.au

For more information on energy efficient design and insulation visit www.yourhome.gov.au

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

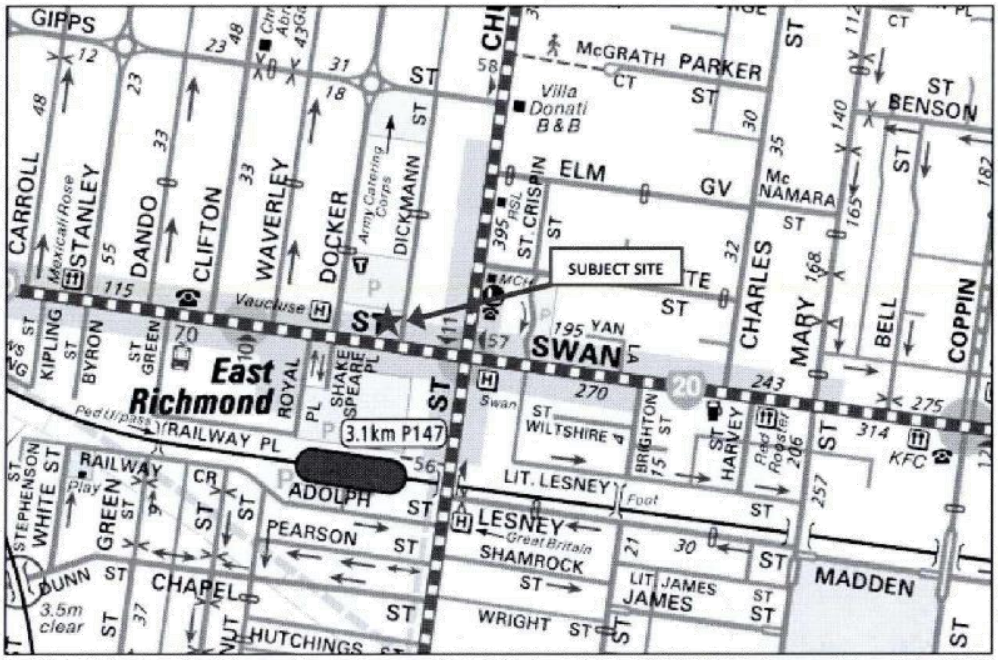
Parking along Swan Street in the vicinity of the site is generally subject to short-term (two hour) time-based restrictions.

Dickmann Street is a local road managed by Council and is aligned in a north-south direction between Swan Street (to the south) and Gipps Street (to the north). In the vicinity of the site, Dickmann Street has a carriageway width of approximately 7.05m which generally accommodates simultaneous two-way traffic and kerbside parking on the east side only. Parking is prohibited on the west side in the vicinity of the site due to 'No Stopping' restrictions.

The site has excellent access to public transport services with the following services operating within walking distance of the site:

- **Tram Route 70** operates along Swan Street, directly adjacent to the site, and provides a service between Waterfront City Docklands and Wattle Park, via the City, Richmond, Hawthorn and Camberwell.
- **Tram Route 78** operates along Church Street, approximately 60m walking distance to the east of the site, and provides a service between North Richmond and Balaclava, via Prahran and South Yarra.
- **Bus Route 246** operates along Punt Road, approximately 750m walking distance west of the site, and provides a service between Elsternwick and Clifton Hill, via St. Kilda Junction and Richmond.
- **East Richmond Railway Station** is located just west of Church Street, approximately 250m walking distance south of the site, and provides services between the City and Alamein/Belgrave/Glen Waverly/Lilydale.
- **Richmond Railway Station** is located on the north side of Swan Street, approximately 850m walking distance west of the site, and provides services between the City and Alamein/Belgrave/Cranbourne/Frankston/Glen Waverley/Lilydale/Pakenham/Sandringham.

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report



Reproduced with Permission of Melway Publishing Pty Ltd

Figure 1: Locality Map

The Proposal

The proposal is for a mixed-use development at 171 Swan Street, Richmond that is to comprise the following:

- office (144m^2 net floor area),
- shop (76m^2 leasable floor area),
- 2x two-bedroom apartments, and
- 1x one-bedroom apartment.

A total of four (4) on-site car parking spaces are to be provided in the form of car stackers. Access to the on-site car parking is to be provided via Dickmann Street.

A total of 11 on-site bicycle parking spaces are to be provided in the basement.

A copy of the amended plans, prepared by Loop Architecture, is attached at Appendix A.

Car Parking Assessment

The proposal falls under the land-use categories of 'shop', 'office', and 'dwelling' under the Planning Scheme in which the statutory car parking requirement is outlined in Table 1 of Clause 52.06-5.

Table 1 of this clause sets out the car parking requirement that applies to a land use listed in the table and includes car parking rates under Column A and Column B.

Column B applies if:

- *any part of the land is identified as being within the Principal Public Transport Network Area as shown on the Principal Public Transport Network Area Maps (State Government of Victoria, 2018); or*
- *a schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.*

The subject site is located within the *Principal Public Transport Network Area Maps* and therefore the Column B rates under Table 1 of Clause 52.06-5 apply.

The statutory car parking requirement for the proposal is provided in Table 1 below noting that there is no visitor car parking requirement.

Table 1: Car Parking Requirement – Clause 52.06

Use	Area/Number	Statutory Parking Rate (Column B)	Parking Requirement[1]
Office	144m²	3 spaces to each 100m² of net floor area	4 spaces
Dwelling	3	1 space to each one or two bedroom dwelling	3 spaces
Shop	76m²	3.5 spaces to each 100m² of leasable floor area	2 spaces
		Total	**9 spaces**

1. Clause 52.06-5 specifies that where a car parking calculation results in a requirement that is not a whole number, the number of spaces should be rounded down to the nearest whole number.

Four (4) on-site car spaces are to be provided as a part of the development and therefore the proposal has a statutory car parking shortfall for five (5) spaces.

Three (3) on-site car spaces are to be allocated to the apartments (i.e. 1 space per apartment) and therefore the resident car parking requirement is satisfied on-site.

A single car space is to be allocated to the office. No on-site parking is to be allocated to the shop tenancy.

Accordingly, the proposal requires a reduction of the statutory car parking requirement for five (5) spaces including three (3) office spaces and two (2) shop spaces and justification for the same is presented in the remainder of this section.

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Reducing the Requirement for Car Parking

Clause 52.06-6 allows for the statutory car parking requirement to be reduced (including to zero). An application to reduce the car parking requirement must be accompanied by a Car Parking Demand Assessment.

The Car Parking Demand Assessment must assess the car parking demand likely to be generated by the proposed development, including the following which are most relevant to the proposed development:

- *The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.*
- *The availability of public transport in the locality of the land.*
- *The convenience of pedestrian and cyclist access to the land.*
- *The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.*

Secondly, a number of other matters are to be considered as appropriate by the responsible authority before granting a permit to reduce the number of spaces below the likely demand assessed by the Car Parking Demand Assessment, including the following which are relevant to the proposed development:

- *Any car parking deficiency associated with the existing use of the land.*
- *The availability of alternative car parking in the locality of the land.*
- *The practicality of providing car parking on the site.*

An assessment of these factors is presented following.

<u>The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use</u>

The site is located within the Swan Street Activity Centre which includes various shops, retail premises, restaurants, food and drink premises, etc. Therefore, there is a likelihood that visitors and customers of the proposed development will visit the site as part of a multi-purpose trip and therefore not necessarily generate an additional demand for parking.

Furthermore, there is likelihood that staff of the nearby area may walk to the site and therefore will not generate a specific demand for car parking.

<u>The availability of public transport in the locality of the land</u>

The site has excellent access to public transport services as discussed earlier. Nearby public transport services include Tram Route 70 which operates along Swan Street directly past the site as well as Tram Route 78 which operates along Church Street within a short walking distance of the site. East Richmond and Richmond Railway Stations are also located within close proximity of the site.

The availability of these services will greatly assist to encourage a reduced demand for car parking by all users of this development.

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

The convenience of pedestrian and cyclist access to the land

Footpaths are generally provided on both sides of all roads in the nearby area including Swan Street and Dickmann Street. Cyclists can be informally accommodated along all roads in the nearby area.

The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land

A total of eleven (11) bicycle rails are to be provided in the basement level for residents and staff which far exceeds the statutory requirement. An existing double-sided bicycle rail is located within the Swan Street verge adjacent to the site which will be convenient for use by customers/visitors of the proposed development.

Residents and their visitors will have access to end of trip facilities including a shower and a place to change within their respective dwelling.

The availability of bicycle facilities as proposed will assist to encourage a reduced car parking demand for the proposed development.

Any car parking deficiency associated with the existing use of the land

The existing use of the site falls under the land-use term 'betting agency' which has a car parking rate for 3.5 spaces to each 100m^2 of net floor area under Clause 52.06. The existing use has a net floor area of approximately 168m^2 which equates to a statutory car parking requirement for five (5) spaces. As there is no existing on-site provision of car spaces, the current use of the site has an existing car parking deficiency for five (5) spaces. This car parking shortfall includes staff and customers of the 'betting agency' and can be considered as a 'credit' for the proposed development which is expected to generate a similar demand for off-site car parking during peak times.

The availability of alternative car parking in the locality of the land

Public car parking is available in the nearby area including on-street parking and a paid all-day carpark that is located directly north of the site.

The paid carpark would be suitable for use by staff of the proposed development consistent with the existing TAB betting agency on the site, noting that it would not be unreasonable to suggest that most staff will travel by alternative modes of transport rather than drive to the site given the locality. Customers and visitors of the proposed development can also utilise this carpark as well as short-term on-street parking in the nearby area.

The practicality of providing car parking on the site

The development is to provide resident car parking for each of the dwellings, which is achieved through the use of a car stacker system. This saves considerable space and maximises the yield of car parking on what is a relatively small footprint.

We note that it is not appropriate for customer/visitor car parking in car stacker systems as set out at Design Standard 4 of Clause 52.06-9. Accordingly, any potential suitable visitor/customer parking would need to be via at-grade car spaces which is impractical given the small area of the site.

On this basis, we are satisfied that the level of car parking provided is appropriate and it is impractical to provide any additional on-site parking.

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Summary

The statutory resident car parking requirement is satisfied on-site by the proposed provision of three (3) on-site car parking spaces. Additionally, one (1) car spaces is to be allocated to the office tenancy.

The car parking shortfall for the proposed development is associated with the shop and office uses and is expected to be similar to the existing car parking deficiency that is associated with the current use of the site.

The site's location in the Swan Street Activity Centre and the excellent access to public transport services means that it is not unreasonable to expect that staff and site specific customers of the proposed development would travel by alternative modes of transport other than motor vehicle. Nevertheless, any off-site car parking demands that may be generated by the proposed development can be accommodated by nearby public parking including the car parking directly north of the site.

Accordingly, we are satisfied that there would not be any unacceptable impacts to public parking as a result of the proposal and believe that sufficient justification has been presented to warrant the issue of a Permit for a reduction of the statutory car parking requirement.

We also note that Council in its Memorandum dated 29 August 2018 had no objection to the reduction in the car parking for the previous scheme which was seeking a higher car parking reduction.

Bicycle Parking Assessment

Clause 52.34 of the Planning Scheme specifies bicycle parking requirements for new developments and changes in use. An assessment of the bicycle parking requirement for the proposed development is discussed following.

Based on the rates set out in Clause 52.34, the proposed development has a statutory bicycle parking requirement for one (1) resident space only. Due to the small size of the proposed shop and office tenancies, there is no statutory bicycle parking requirement for these components.

A total of eleven (11) 'Ned Kelly' vertical bicycle parking spaces are to be provided for residents/staff within the basement level which far exceeds the statutory requirement.

An existing double-sided bicycle rail is located within the Swan Street verge adjacent to the site is to be retained which will be convenient for use by customers/visitors of the proposed development.

We are satisfied that an appropriate provision of bicycle parking is to be provided as part of the development.

Car Parking Layout and Access

Traffix Group has provided design advice to the project architect to achieve a satisfactory carpark layout. The proposed parking layout has been assessed under the following guidelines:

- Clause 52.06-9 of the Planning Scheme (Design standards for car parking), and
- The relevant Australian Standards.

A total of four (4) car parking spaces are proposed within a mechanical car stacker system. Access to and from the system is proposed via Dickmann Street along the site's western boundary.

The Planning Scheme sets out 'design standards' for mechanical car parking under Clause 52.06-8 as follows:

Design standard 4: Mechanical parking

Mechanical parking may be used to meet the car parking requirement provided:

- *At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle clearance height of at least 1.8 metres.*
- *Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation.*
- *The design and operation is to the satisfaction of the responsible authority.*

Four (4) car spaces are to be provided within a mechanical car stacker utilising the Wohr Parkllift 405-200 car stacker system (or similar).

This car stacker system allows all spaces to be accessed independently. The use of independent car stacker systems in this development is an acceptable and necessary design solution as they will be used for long-term parking by residents and will require all platforms to be accessible by occupiers of different dwellings.

Further details of the proposed Wohr Parkllift 405-200 car stacker system are as follows (refer to specifications attached at Appendix B):

- The system has an overall width of 5.5m which provides a double platform width of 5.2m (i.e. 2.6m per space). This width accords with the Planning Scheme and exceeds the relevant Australian/New Zealand Standard (AS/NZS 2890.1-2004) requirement for User Class 1A parking.
- The access aisle adjacent to these car stacker spaces is provided at a width of approximately 10m (including the adjacent carriageway width of Dickmann Street) which exceeds the requirement of the Planning Scheme and AS/NZS 2890.1-2004.
- Vehicles up to a length of 5m can be adequately accommodated within the system.
- A height clearance of 3.5m and a pit depth of 2.0m is to be provided for the car stacker system. This accommodates all vehicles up to 1.8m on the lower level and station wagons up to 1.7m on the upper level (sedans and other vehicles up to 1.8m on the upper level). These height clearances are sufficient for all passenger vehicles, most SUVs and some compact 4WDs).
- At least 50% of the car stacker spaces will have a headroom clearance of at least 1.8m which exceeds the statutory requirement.
- Access to and from each of the ground level car stacker platforms has been checked for the 85th percentile design vehicle and has been found to be satisfactory. This assessment considered the existing on-street car spaces and street trees along Dickmann Street. An additional manoeuvre may be required to in some instances, however, this is expressly permitted by AS2890.1-2004 for long-term (i.e. resident) parking and is consistent with current practice.

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

We note that Convex mirrors are proposed to be installed to the north and south of the proposed car park access as requested by Council.

Based on the above, the proposed parking layout is satisfactory and the access arrangements for the site will provide for safe and efficient movements to and from the surrounding road network.

Conclusion

Having undertaken a traffic engineering assessment for the proposed mixed use development at 171 Swan Street, Richmond we are of the opinion that:-

a) the provision of four (4) on-site car spaces results in a statutory parking shortfall for five (5) spaces only,

b) the proposed reduction in the car parking requirement is warranted for the following reasons:
   i) the site's location in the Swan Street Activity Centre,
   ii) the excellent availability of nearby public transport services and other alternative modes of transport,
   iii) the provision of bicycle parking in excess of the statutory requirement, and
   iv) the existing car parking deficiency and associated off-site parking demand currently generated by the site,

c) suitable bicycle parking provisions are to be provided in excess of the statutory provisions,

d) the proposed parking layout and access arrangements accord with the objectives of the Planning Scheme, relevant Australian Standards and current practice, and

e) there are no traffic engineering reasons why the proposed mixed-use development at 171 Swan Street, Richmond should not be approved.

Please contact Brent Chisholm or Nathan Woolcock at Traffix Group if you require any further information.

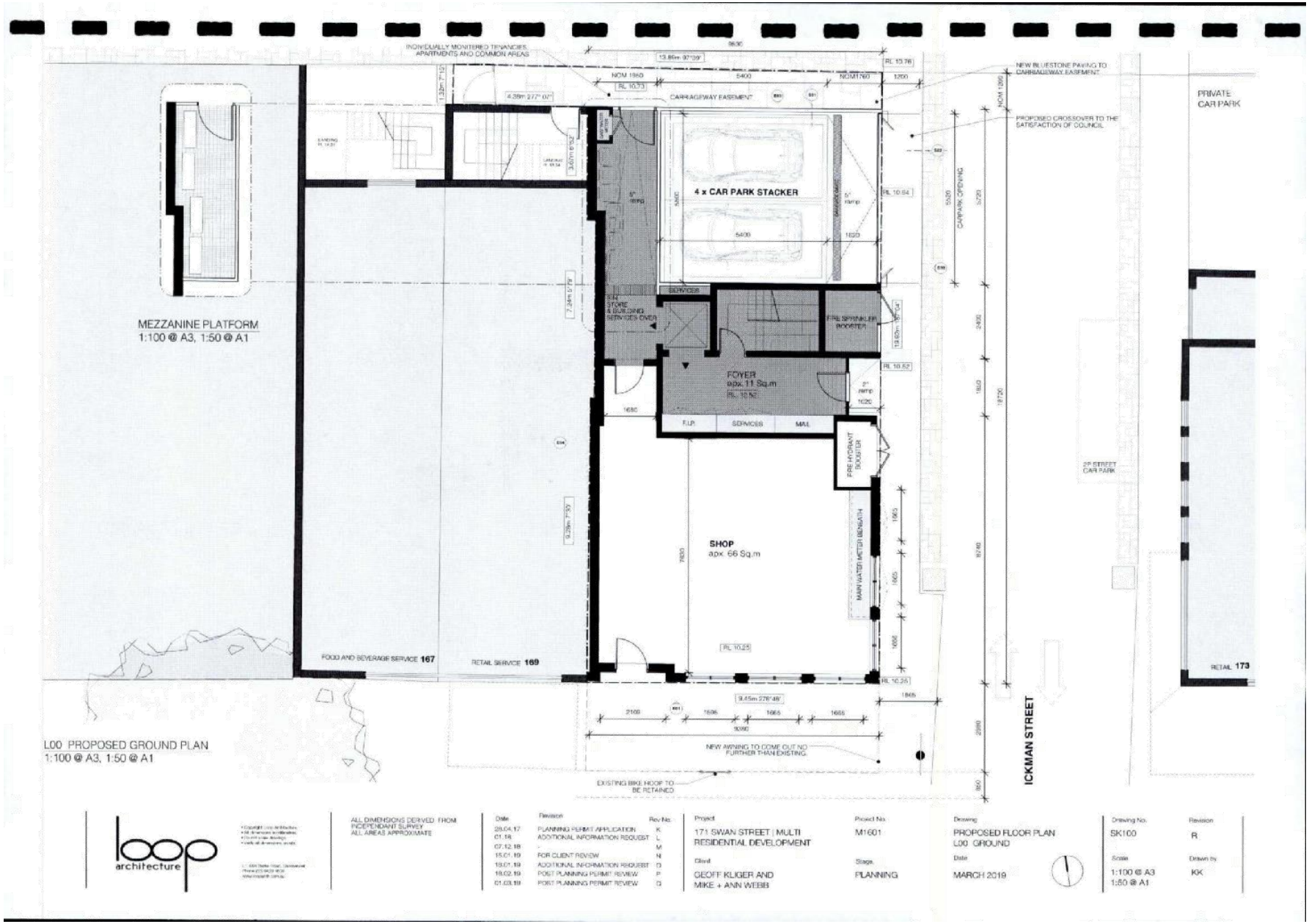
Yours faithfully,
TRAFFIX GROUP PTY LTD

NATHAN WOOLCOCK
Director

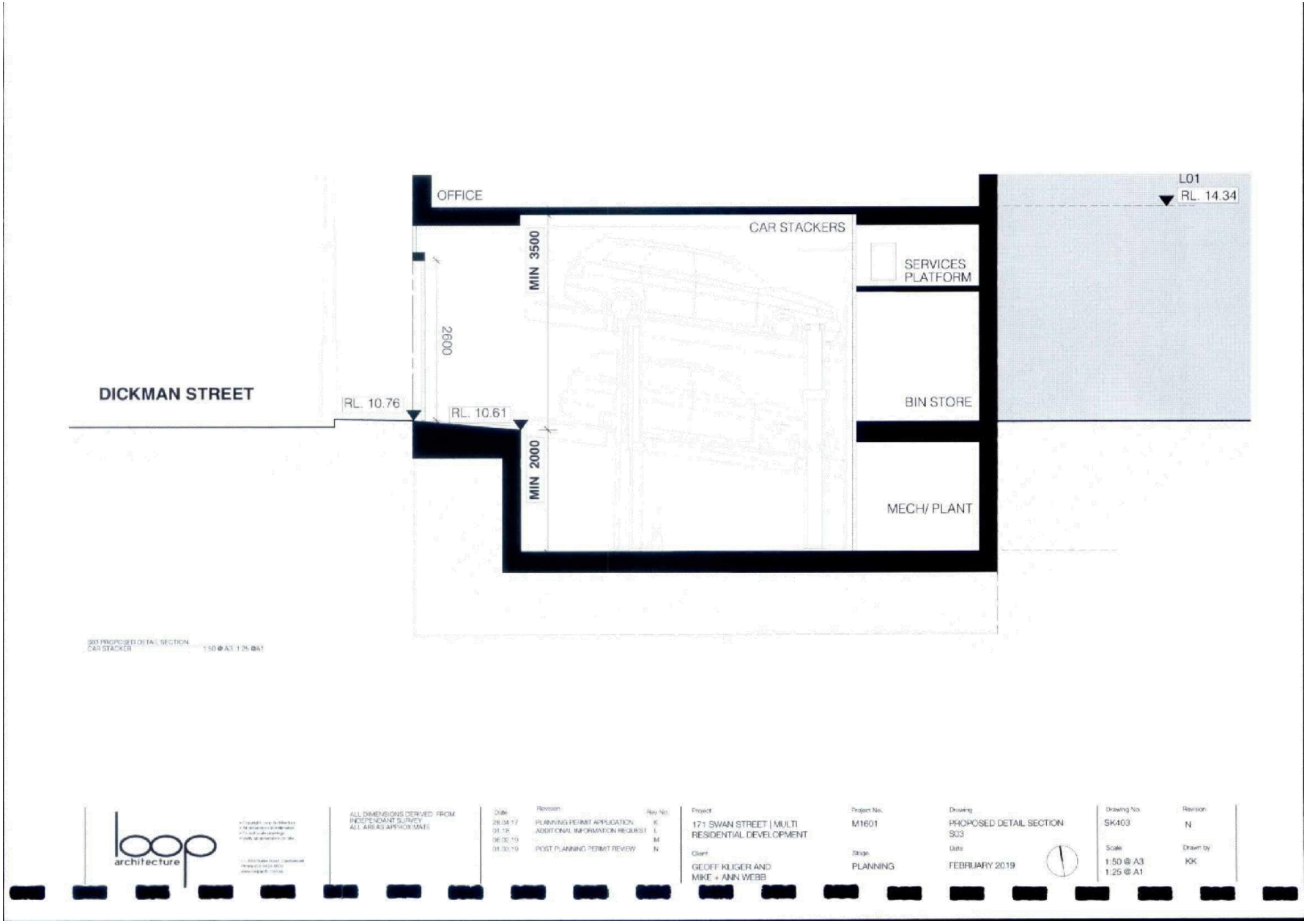
Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Appendix A: Proposed Floor Plan

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report



Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

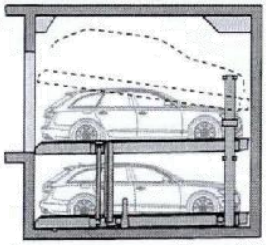


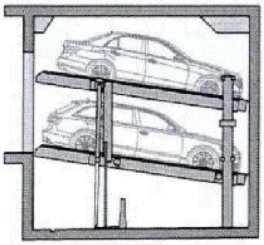
Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Appendix B:
Car Stacker Specifications

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Data Sheet
WÖHR Parklift 405

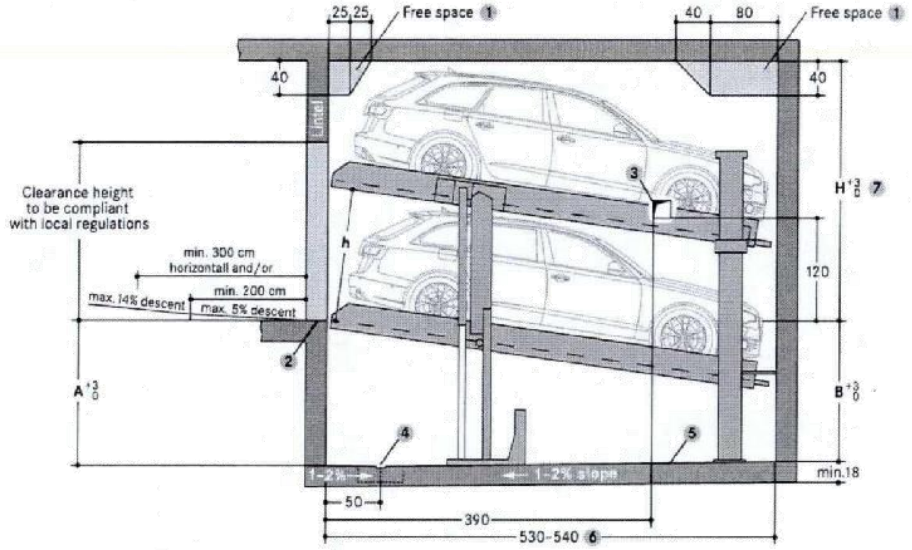




- **Single units: 2 cars**
  Double units: 4 cars
- **Platform load options:**
  - max. 2000 kg, load per wheel 500 kg
  - max. 2600 kg, load per wheel 650 kg
- **Platform slopes for drive-on:**
  - upper level: 1° = 2% ascent
  - lower level: 8° = 14% descent

  Platform slope of the top platform help drainage

Height and length dimensions (underground car park)



Type	Height (H) 7	Pit depth A	Pit depth B	Vehicle height 8 UL	Vehicle height 8 LL	Platform distance (h)
405-170	290	170	165	only L: 150	L+S: 150	155
	300	170	165	L+S: 150	L+S: 150	155
405-175	295	175	170	only L: 150	L+S: 155	160
	300	175	170	only L: 155	L+S: 155	160
	305	175	170	S: 150 L: 160	L+S: 155	160
	310	175	170	L+S: 155	L+S: 155	160
405-180	300	180	175	only L: 150	L+S: 160	165
	310	180	175	S: 150 L: 160	L+S: 160	165
	320	180	175	L+S: 160	L+S: 160	165
405-185	305	185	180	only L: 150	L+S: 165	170
	315	185	180	S: 150 L: 160	L+S: 165	170
	320	185	180	S: 155 L: 165	L+S: 165	170
	330	185	180	L+S: 165	L+S: 165	170
405-190	310	190	185	only L: 150	L+S: 170	175
	320	190	185	S: 150 L: 160	L+S: 170	175
	330	190	185	only L: 170	L+S: 170	175
	340	190	185	L+S: 170	L+S: 170	175
405-195	315	195	190	only L: 150	L+S: 175	180
	325	195	190	S: 150 L: 160	L+S: 175	180
	340	195	190	only L: 175	L+S: 175	180
	350	195	190	L+S: 175	L+S: 175	180
405-200	320	200	195	only L: 150	L+S: 180	185
	330	200	195	S: 150 L: 160	L+S: 180	185
	350	200	195	S: 170 L: 180	L+S: 180	185
	360	200	195	L+S: 180	L+S: 180	185

1. Free spaces for any connections performed by the customer:
   - please ask WÖHR for the dimension sheets
2. Yellow-black safety marking:
   - compliant to ISO 3864, 10 cm wide, along the pit edges (see page 3 »Static calculations and construction works requirements«)
3. In case of intermediate walls:
   - 15 x 15 cm opening for electric and hydraulic system cables and piping
   - after installation, do not close the opening
4. Recommended drainage channels:
   - 10 x 2 cm, with a 50 x 50 x 20 cm drainage pit
   - in case of installation of a sump pump, it is necessary to comply with the drainage pit dimensions specified by the pump manufacturer
5. Channels or undercuts/concrete haunches:
   - not allowed along the pit floor-to-wall joints
   - should channels or undercuts be necessary, the system width needs to be reduced or the pit needs to be wider
6. A pit length of 540 cm is recommended. This will allow for increased safety clearances and distances also in the event of future changes to vehicle lengths.
7. With an increase in headroom available, correspondingly taller cars will be able to park on the upper platform.
8. UL= upper level / LL = lower level
   L = Limousine / S = Station wagon

Dimensions

- all dimensions specified are the minimum, finished dimensions
- tolerances must be taken into consideration
- all dimensions are given in cm

Parklift 405 | 11.2015 | C027-4334 | © Otto Wöhr GmbH

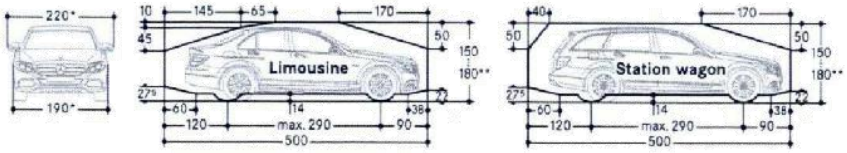
01 **Otto Wöhr GmbH**
Auto-Parksysteme
Ölgrabenstrasse 14
71292 Friolzheim | Germany
Fon +49 [0] 7044 46-0
Fax +49 [0] 7044 46-149
www.woehr.de
info@woehr.de

We compact parking space

WÖHR

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Clearance profile (for standard vehicles)



* for a 250 cm platform width

** The overall vehicle height including roof luggage rails and antenna mounts must not exceed the max. vehicle height dimensions specified

Width dimensions

Platform widths:

250 cm (single units), 500 cm (double units):
- for 190 cm vehicle width

260–270 cm (single units), 520–540 cm (double units):
- for vehicles wider than 190 cm
- for units with intermediate walls
- for units at the end of the driving aisle

In case of reduced maximum platform widths:
- when parking wider vehicles or two-door sports car models, there may be difficulties in climbing in and out of the vehicle, depending on the type of vehicle, on how the entrance area is arranged and on individual driving habits

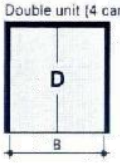
Width dimensions (underground car park)

Intermediate walls

Single unit (2 cars)

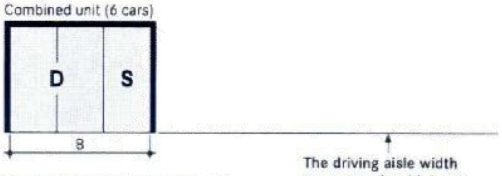
Space requirements B	clear platform width
260	230
270	240
280	**250**
290	**260**
300	**270**

Double unit (4 cars)



Space requirements B	clear platform width
490	460
510	480
530	**500**
550	**520**
570	**540**

Combined unit (6 cars)

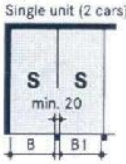


Space requirements B	clear platform width
750	460+230
780	480+240
810	**500+250**
840	**520+260**
870	**540+270**

It is possible to combine different widths

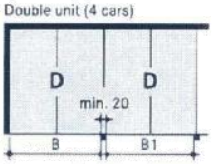
Columns external to the pit

Single unit (2 cars)



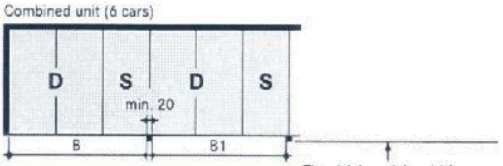
Space requirements wall-column B	column-column B1	clear platform width
250	240	230
260	250	240
270	**260**	**250**
280	**270**	**260**
290	**280**	**270**

Double unit (4 cars)



Space requirements wall-column B	column-column B1	clear platform width
480	470	460
500	490	480
520	**510**	**500**
540	**530**	**520**
560	**550**	**540**

Combined unit (6 cars)

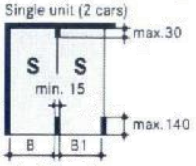


Space requirements wall-column B	column-column B1	clear platform width
740	730	460+230
770	760	480+240
800	**790**	**500+250**
830	**820**	**520+260**
860	**850**	**540+270**

It is possible to combine different widths

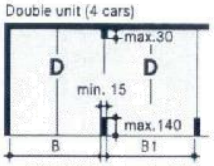
Columns in the pit

Single unit (2 cars)



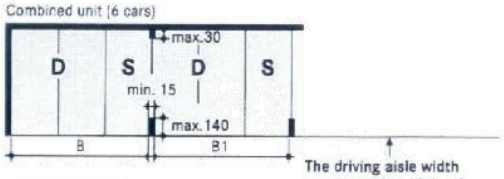
Space requirements wall-column B	column-column B1	clear platform width
255	245	230
265	255	240
275	**265**	**250**
285	**275**	**260**
295	**285**	**270**

Double unit (4 cars)



Space requirements wall-column B	column-column B1	clear platform width
485	475	460
505	495	480
525	**515**	**500**
545	**535**	**520**
565	**555**	**540**

Combined unit (6 cars)

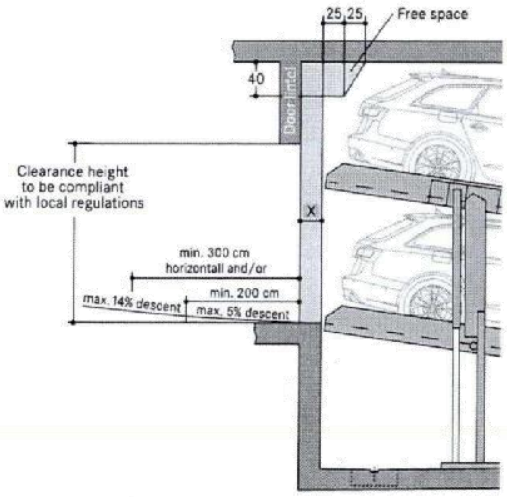


Space requirements wall-column B	column-column B1	clear platform width
745	735	460+230
775	765	480+240
805	**795**	**500+250**
835	**825**	**520+260**
865	**855**	**540+270**

It is possible to combine different widths

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

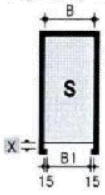
Garages with doors



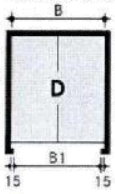
X = 10/15 cm for roller shutters

Dimension X to be defined by customer with the door supplier.

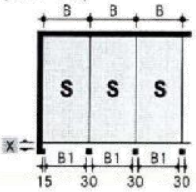
Single unit (2 cars)



Double unit (4 cars)

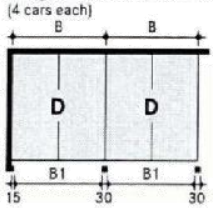


Garage rows with single doors (2 cars each)



Space requirements B	B1*	clear platform width
260	230	230
270	240	240
280	**250**	**250**
290	**260**	**260**
300	**270**	**270**

Garage rows with double doors (4 cars each)

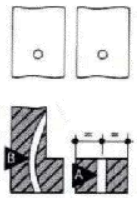


Space requirements B	B1*	clear platform width
490	460	460
510	480	480
530	**500**	**500**
550	**520**	**520**
570	**540**	**540**

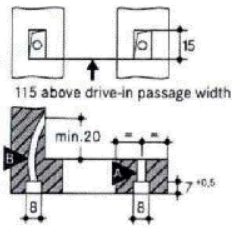
* B1 = drive-in passage width

Operating panel recesses and empty piping requirements

Flush mounted



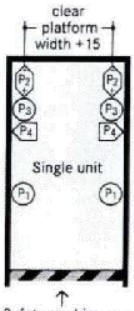
Recess mounted

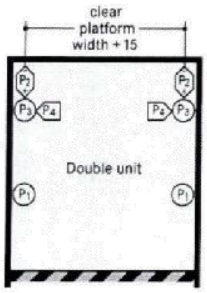


A M20 plastic or steel-armoured piping

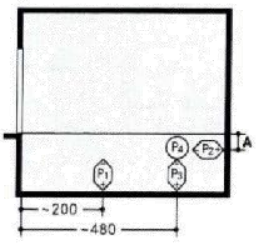
B M20 flexible, plastic-insulated piping

Static calculations and construction works requirement





Safety marking compliant to ISO 3864



Fixing of the system frames to the floor slab:
- using base plates (approx. 140 cm²)
- using adhesive anchor bolts
- hole depth to 10–12 cm
- concrete thickness of at least 18 cm

Concrete quality grade:
- compliant to the static requirements of the construction
- min. C20/25 grade (for dowel fastening)

Walls:
- front drive-in wall and rear wall in concrete
- perfectly flat wall surfaces
- without protruding sections such as border edgings, pipes and tubes, etc.

Frame bearing points:
- the specified lengths are expressed as mean value
- for the exact data, specific TÜV-tested data sheets are available

P1	+ 43 kN* – 14 kN
P2	+ 4 kN – 4 kN
P3	+ 17 kN – 3 kN
P4	+ 3 kN

P1	+ 75 kN* – 24 kN
P2	+ 4 kN – 4 kN
P3	+ 28 kN – 3 kN
P4	+ 3 kN

* specified load bearing data includes the vehicle weight

	A
Parklift 405-170	0
Parklift 405-175	5
Parklift 405-180	10
Parklift 405-185	15
Parklift 405-190	20
Parklift 405-195	25
Parklift 405-200	30

Extra space for hydraulic power packs

Dimensions in cm	1–5 Parklifts	6–10 Parklifts
Length:	100	150
Height:	140	140
Depth:	35	35

Hydraulic power pack placement options:
- located either on the top platform so that it moves with unit or on the wall
- where this is not possible, it is necessary to arrange for an extra space above drive-in level (i.e. for a wall recess or a niche)

Attachment 6 - PLN17/1014 - 171-173 Swan Street - Applicant section 57A Traffic Assessment Report

Electrical specifications

To be performed by the customer

Item	Quantity	Description	Position	Recurrence
❶	1 piece	power meter	in the feed cable	
❷	1 piece	fuse protection or automatic circuit breaker compliant to DIN VDE 0100 part 430: 3 x 16 A slow blow for 3,0 kW 3 x 25 A slow blow for 5,5 kW	in the feed cable	1 x per power pack
❸	based on site conditions	compliant to local power supply regulations 3 phases + N + PE* 230/400 V, 50 Hz	feed cables to main switch	1 x per power pack
❹	every 10m	equipotential bonding safety lead-out connection	along pit floor edges/ rear wall	
❺	1 piece	equipotential bonding safety compliant to DIN EN 60204	from lead-out connection to system	1 x per system

* to DIN VDE 0100 sections 410 and 430 (no permanent load) 3 phases + N+ PE (three phase current)

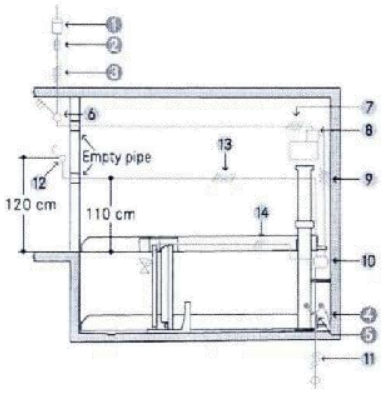
Note: for garages with doors the door manufacturer must be consulted before the electrical feed cabling is laid.

Scope of delivery by WÖHR

(unless as otherwise specified in the relative offer/contract)

Item	Description
6	Lockable main switch
7	5 x 2,5² PVC control cable leading from the main switch to the power pack
8	Hydraulic power pack with three-phase motor, 3.0 or 5.5 kW. Ready-wired switching cabinet with motor safety contactor
9	5 x 1,5² PVC control cable
10	Branch connector
11	5 x 1,5² PVC control cable lead-out to the system alongside
12	UP/down operating unit with EMERGENCY STOP. Possibly located on the left, but always out of the platform's range of movement. Cable feed-in strictly from below leading upwards (2 keys for each parking space).
13	7 x 1,5² PVC control cable
14	3 x 1,5² control cable for the cylinder valve lead

Installation diagram



Cabling preparation to be performed by the customer:
- up to the main switch to be in place prior to starting the installation operations
- connection to the main switch during installation
- system functional check testing can be performed by WÖHR together with the electrician provided by the customer
- if requested at a later date, functional check testing can be performed by WÖHR at extra-cost

Equipotential bonding safety:
- to be performed by the customer compliant to DIN EN 60204
- connections required every 10 metres

Notes and directions

Scope of application

- suitable for residential buildings, office buildings and business premises, hotels
- only for long-term users that have been instructed on how to use the system
- for frequently changing users (e.g. for office, hotel and business premises or similar):
  - only use of the top platform is possible
  - performance of technical system adjustments is necessary
  - consultation with WÖHR is mandatory

Noise protection

Foundations:
- to the German DIN 4109 »Noise protection in buildings«

Requirements for maintaining a max. 30 dB(A) sound pressure level in living quarters:
- noise protection kit available as an optional WÖHR accessory
- overall building sound insulation to be min. $R'_w = 57$ dB
- single-pane (monocoque) construction of the parking system border walls, with a flex rigidity of min. m' = 300 kg/m²
- overall parking system solid ceiling slab of min. m' = 400 kg/m²

Implementation of additional noise protection measures in the event of changes or amendments to the construction requirements.

The best results are given by installing system base plates separated from the actual construction.

For increased noise protection:
- airborne sound insulation values compliant to the DIN 4109-10
- increased noise protection levels need to be pre-planned and confirmed by WÖHR to project requirements (increased construction dimensions are necessary)

Drainage

Water leaks into the pit:
- in the winter, up to 40 litres of snow water can come with the wheel housings in just one parking process

Recommended drainage channels:
- along the front end sections of the pit
- connecting to a floor drain or drainage pit (50 x 50 x 20 cm)
- with manual emptying out of the drainage pit
- alternatively installation of a pump or drainage channel into the sewerage system, to be performed by the customer

Sideways slope drainage:
- only into a gutter
- not possible in the remaining pit section

Lengthways slope drainage:
- provided according to specified construction dimensions

Environmental safety:
- coating of the pit flooring is recommended
- installation of an oil and/or petrol separator unit between the drainage connection and the main sewerage system

Lighting

- sufficient lighting of the driving aisle and of the parking places must be performed by the customer

Temperature

- system operating range: -10° to +40° C (with unloaded platforms lowering speed is reduced if less than +5° C)
- humidity: 50% at +40° C
- in the event of changes to system conditions please consult with WÖHR accordingly

Declaration of conformity

The parking systems are compliant to:
- EC Machinery Directive 2006/42/EC
- DIN EN 14010

Railings

Wherever construction gaps and openings exceed permissible dimensions (to local, country-specific requirements):
- the system must feature safety railings

In the event of walkways/traffic passageways running directly alongside or behind the Parklifts and/or systems positioned along border walls:
- safety fences and barriers compliant to DIN EN ISO 13857 must be performed by the customer (also during the construction phases).

Maintenance

- WÖHR and all the WÖHR partners abroad provide an installation and customer service network
- regular, annual maintenance is provided subject to the stipulation of a maintenance agreement

Prevention of corrosion damage

- all operations listed in the WÖHR Cleaning and Maintenance Instructions are to be performed regularly (independently of maintenance operations))
- zinc-plated parts, components and platforms are to be kept clean of dirt, road-salt and any other debris (due to corrosion hazards)
- always keep the garage well ventilated and deaerated

Fire safety

- all fire safety requirements and all mandatory equipment (fire extinguisher and fire alarm systems, etc.) must be performed by the customer

Construction formalities

- the documentation necessary for construction permit applications is provided by WÖHR

Construction alterations and/or modifications

- the right to construction or mocel modifications and/or variations is hereby reserved
- the right to any subsequent part modification and/or variation and amendments in procedures and standards due to technical and engineering progresses or due to environmental regulation changes is also hereby reserved

Parklift 405 | 11.2015 | 0027-4334 | © Otto Wöhr GmbH | Vehicle drawings © creativ collection Verlag GmbH/www.scrasan.de

Acoustic Design Report

171 Swan Street Richmond

April 2019

Document history and status

Revision	Date	Description	By	Review	Approved
A	13/4/17	Design Report	N Broner		N Broner
B	15/1/19	Additions in Response to Council Comments	N Broner		N Broner
C	11/4/19	Updated plans	N Broner		N Broner

Executive Summary

Broner Consulting Pty Ltd was engaged by Loop Architects to provide an acoustics design report for the proposed development at 171 Swan Street. The proposed development includes basement car parking and plant area, ground level retail, level 1 commercial and residential apartments from level 2 – 4.

Noise Level measurements were conducted at night time to characterise the background noise level in the area as well as during the daytime to characterise the tram and traffic noise levels.

Noise criteria for various occupancies were noted and the Sleep Disturbance criterion was also noted. Internal wall options were provided and glazing/sliding doors also provided to achieve the indoor noise criteria. Criteria for internal air conditioning noise levels were also provided and a Sound Power Level limit was set for the outside condensers. Due to the roof slab, no special recommendation was required for rain noise. General recommendations for hydraulic noise control were also provided. To minimize stacker noise emission, the rear car park area ceiling area should be acoustically lined.

Contents

Glossary

Term	Description
Noise Spectrum	The sound pressure level (or sound power level) as a function of frequency (eg octave band, 1/3 octave or narrow band). Generally used to identify noise sources or items contributing disproportionately to an overall noise level.
Ambient Noise Level	The prevailing noise level at a location due to all noise sources but excluding the noise from the specific noise source under consideration. Generally measured as a dB(A) noise level.
Background Noise Level	The lower ambient noise level, usually defined as the value of the time varying ambient noise level exceeded for 90% of the measurement time. Usually defined in the dB(A) scale - L_{A90}.
dB	Sound pressure levels are expressed in decibels as a ratio between the measured sound pressure level and the reference pressure. The reference pressure is $2x10^{-6}$ Pascal (Newtons per square meter).
dB(A)	The A-weighted sound pressure level in decibels, denoted dB(A) is the unit generally used for the measurement of environmental, transportation or industrial noise. The A-weighting scale approximates the sensitivity of the human ear when it is exposed to normal levels and correlates well with subjective perception. An increase or decrease in sound level of approximately 10 dB corresponds to a subjective doubling or halving in loudness. A change in sound level of 3dB is considered to be just noticeable.
Frequency	The rate of repetition of a sound wave. The unit of frequency is the Hertz (Hz), defined as one cycle per second. Human hearing at everyday sound pressure levels ranges approximately from 20 Hz to 20,000 Hz. For design purposes, the octave bands between 63 Hz to 8 kHz are generally used. The most commonly used frequency bands are octave bands. For more detailed analysis each octave band may be split into three one-third octave bands or in some cases, narrow frequency bands.
L_{Fast}	The sound pressure level during the measurement period when using a Fast time response (0.125 seconds)
L_{eq}	The Equivalent Continuous Noise Level over the measurement time period eg over a 5 minute time period
Sound Level Meter	An instrument consisting of a microphone, amplifier and data analysis package for measuring and quantifying noise.
Rw	The Weighted Sound Reduction Index is a single-number quantity which characterises the airborne sound insulation of a material or building element such as a wall, window or door over a range of frequencies.
C_{tr}	An adjustment factor which is used to account for low frequency noise - typically the biggest problem with sound insulation. Ctr is always a negative number, so the Rw+Ctr will always be less than the Rw value.

1.0 Introduction

Broner Consulting Pty Ltd was engaged by Loop Architects to prepare an Acoustics Design Report for the proposed development at 171 Swan Street. The proposed development includes a basement car park and commercial tenancy, ground level retail, level 1 commercial and residential apartments from level 2 – 4.

The purpose is to provide noise attenuation measures to ensure the internal amenity of the residential building is not adversely affected by external noise sources (e.g. traffic and tram noise from Swan Street, mechanical plant equipment from nearby commercial uses, live music venues, etc.) and that the surrounding and proposed dwellings are not adversely impacted upon by mechanical plant equipment noise from the proposed development, including the garage entrance and car stackers.

This report presents our design recommendations for external and internal noise levels in accordance with the EPA Policy No N-1, the ABCB National Construction Code (BCA) requirements, AS2107 and sleep disturbance criteria.

2.0 Site Description

The proposed development at 171 Swan Street, Richmond, is in an area dominated by commercial and retail development. See Figure 1 below. The immediate area is zoned Commercial with Residential close by – see Figure 2.

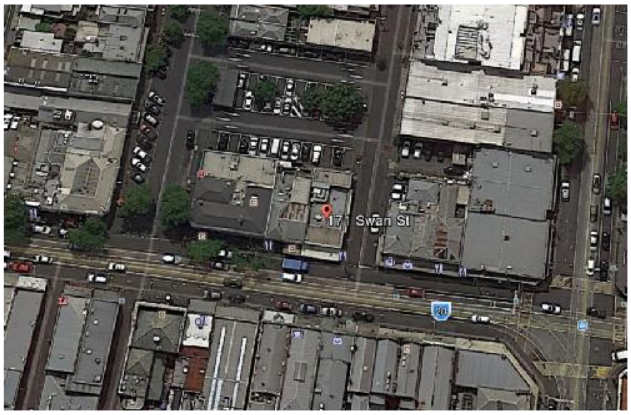


Figure 1 Plan showing 171 Swan Street and Environs

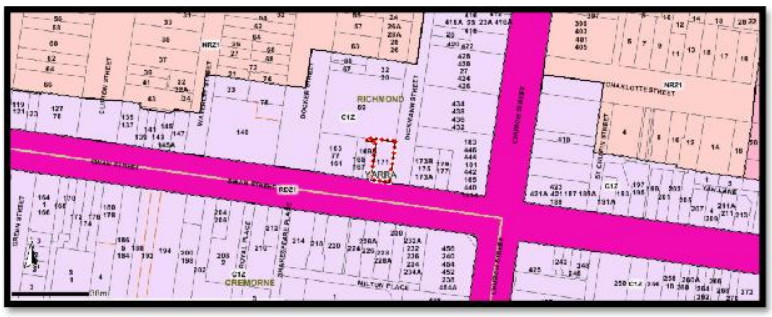


Figure 2 Zoning Map for the Area Around 171 Swan Street, Richmond

3.0 Noise Level Measurements

3.1. Ambient Noise Level

To derive the Noise Limit for noise emission from the proposed development, a Rion NL-001 noise logger was located on the roof of 171 Swan Street. The roof itself felt a little bit unstable so the logger was placed on the ductwork as shown in Figure 3 below.

Figure 3 Location of the Noise Logger on the Roof of 171 Swan Street

At this location, the noise logger was somewhat shielded from the traffic noise on Swan Street. This means that the derived Noise Limit would be somewhat conservative. It also means that an allowance should be made with respect to the traffic noise intrusion level when considering the front façade design. Figure 4 below shows the diurnal noise level variation over time measured from 19 – 23 December 2016.

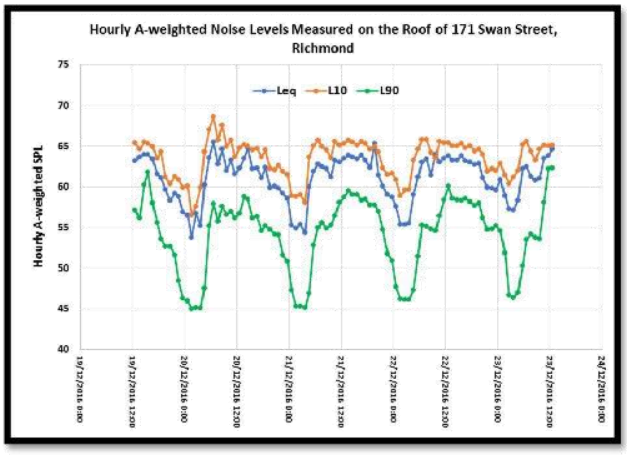


Figure 4 Hourly Noise Level Variation on the Roof of 171 Swan Street from 19 – 23 December 2016

3.1.1. Noise Limit

To derive the appropriate Noise Limit in accordance with the EPA Policy No N-1, the Influence Factor (IF) is first calculated based on the Zonings and the measured Period Background Noise Levels. Figure 5 shows the basis for the IF calculation.

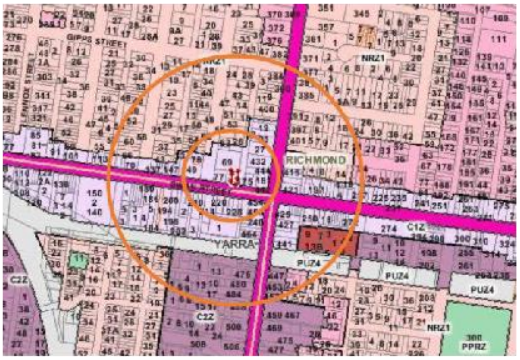


Figure 5 Circles Marked Up for Calculating the Influence Factor

The night time Noise Limit is the most stringent of all three time periods. The derived night time Noise Limit is 45 dBA and is considered a conservative estimate.

This night time Noise Limit applies to noise emission for air conditioning condenser units at neighbouring residential locations and for neighbouring plant potentially impacting the development.

3.2. Traffic Noise Level

The traffic noise level was measured at 1m from the facade and at 6m back from the facade to obtain an indication of the incident traffic noise levels – see Figures 6 and 7 which show the measurement setup . This was for the purpose of determining the glazing design required to achieve compliance with Standards.

Figure 6 Measurement Location at 1 metre from the Facade

Figure 7 Measurement Location 6m back from the Facade

Figure 8 and 9 show the traffic noise level versus time traces at 1m and 6m from the curb respectively. The measurements were conducted over a 15 minute period. Trams, trucks and motorbikes caused the greatest increase in noise levels with trams going away from the city (closest line) generating the highest noise level (up to 85 $L_{Aeq,1s}$). At 1 metre from the curb, the $L_{A10,15mins}$ was 70.3 dBA, the $L_{Aeq,15mins}$ was 67.4 dBA and the $L_{A90,15mins}$ was 60.7 dBA. At 6 metres from the curb, the $L_{A10,15mins}$ was 68.3 dBA, the $L_{Aeq,15mins}$ was 65.3 dBA and the $L_{A90,15mins}$ was 58.8 dBA.

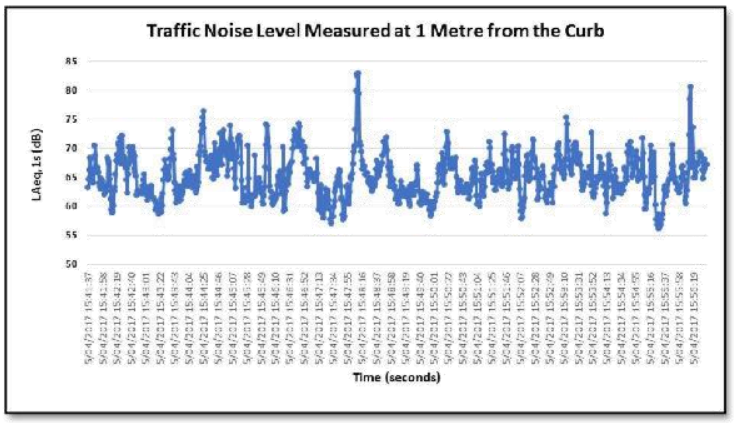


Figure 8 Traffic Noise Level Versus Time at 1m from the Curb

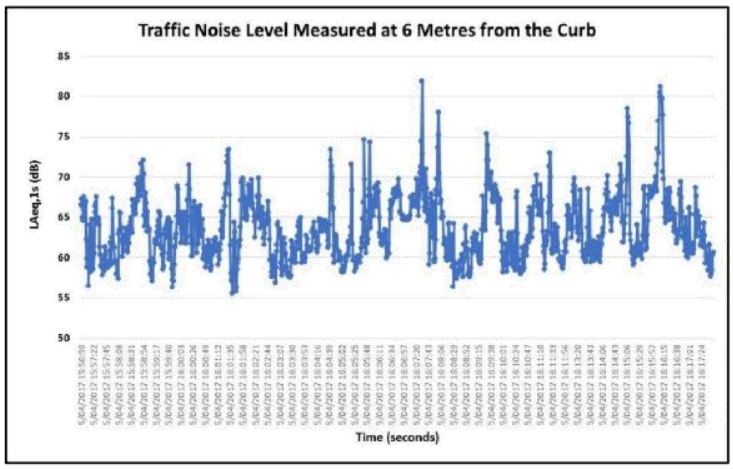


Figure 9 Traffic Noise Level Versus Time at 6m from the Curb

3.3. Mechanical Services and Music/Patron Noise

Figures 10 - 12 show some of the buildings surrounding the proposed development. There are quite a number of roof mounted mechanical plant servicing either residential or commercial premises nearby. There are also a number of restaurants/bistros/coffee shops nearby that have some form of music and some with patrons outside talking.

To determine the potential noise impact due to this noise on the proposed development, a noise level measurement was conducted on the roof of the current building starting at 8PM (we were not able to gain access after 9 PM). It was judged that at this time, it was likely for all air conditioning systems to be running and that the eateries would be at peak service.

During the measurement, the air conditioning system on the premises was switched off. Air conditioning and patron noise was audible on the roof and music noise was also audible on occasions.

Figure 10 Location of the Sound Level Meter on the Roof

Figure 11 Location of Mechanical Services to the East

Figure 12 Location of Adjacent Commercial Activity

The noise was measured for 30 minutes beginning 8 PM. For this period, the $L_{A10,30mins}$ was 60.3 dBA, the $L_{Aeq,30mins}$ was 59.3 dBA and the $L_{A90,30mins}$ was 55 dBA. Figure 13 shows where on the roof the measurement was conducted

and Figure 14 shows the level versus time trace. The passing of some trams, cars and motorcycles are clearly evident.

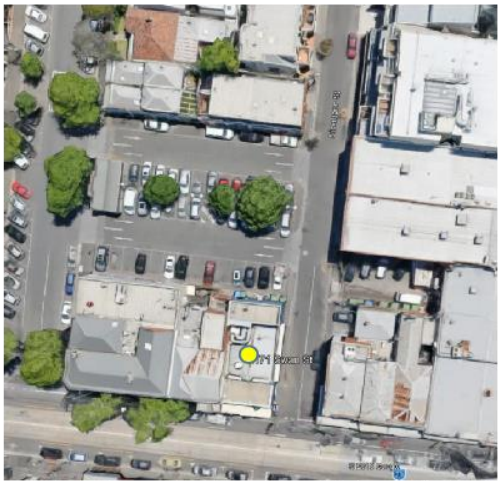
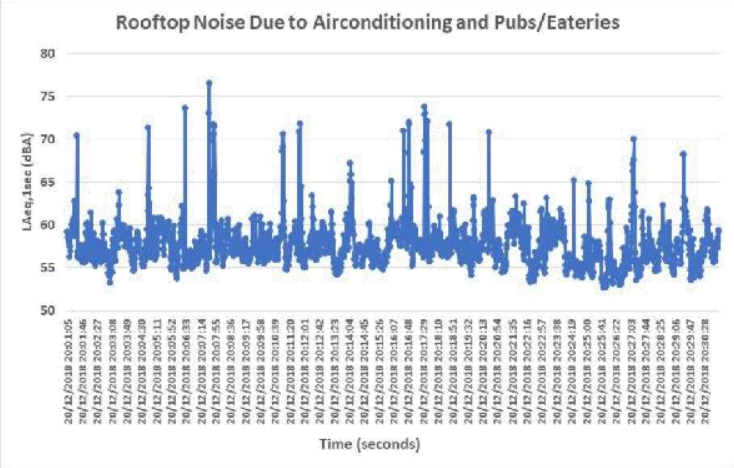


Figure 13 Location of the Sound Level Meter on the Roof



4.0 Criteria

4.1. AS2107:2016

AS2107:2016 "Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors" recommends acoustic design sound levels for various occupied spaces due to background steady noise sources such as air conditioning and distant traffic. The recommended design levels are for ensuring a healthy, comfortable and productive environment for the occupants and the users.

The relevant criteria for the proposed development are shown in Table 1 below excerpted from Table 1 of the Standard.

Table 1 DESIGN SOUND LEVELS FOR DIFFERENT AREAS OF OCCUPANCY IN BUILDINGS

Type of occupancy/activity	Design sound level ($L_{Aeq,t}$) range
OFFICE BUILDINGS	
Board and conference rooms	30 to 40
Corridors and lobbies	45 to 50
Executive office	35 to 40
General office areas	40 to 45
Meeting room (small)	40 to 45
Open plan office	40 to 45
Reception areas	40 to 45
Toilets	45 to55
Undercover carparks	< 65
SHOP BUILDINGS	
Small Retail Stores	< 50
Show Rooms	< 50
RESIDENTIAL BUILDINGS Houses and apartments in inner city areas or entertainment districts or near major roads	
Apartment common areas (e.g. foyer, lift lobby)	45 to 50
Living areas	35 to 45
Sleeping areas (night time)	35 to 40
Work areas	35 to 45

For the purpose of design, the following traffic noise level criteria have been chosen:

- 40 dB LAeq, 16h in all habitable rooms (6 am to 10 pm)
- 35 dB LAeq, 8hr in bedrooms (10 pm to 6am)
- Not more than 40 dBA Leq,1hr in bedrooms during the loudest night hour (but extended to include 6 am to 7 am for this assessment)
- Not more than 45 dBA, Leq, 1hr in all habitable rooms during the loudest day period hour (7am to 10pm)

4.2. Sleep Disturbance

The potential impact on sleep of residents due to road traffic and trams on Swan Street needs to be considered. There is no sleep criterion approach in Victoria. However, the NSW Road Traffic Noise Policy (March 2011) reviewed sleep disturbance criteria and concluded that:

"From the research on sleep disturbance to date it can be concluded that:

- maximum internal noise levels below 50–55 dB(A) are unlikely to awaken people from sleep
- one or two noise events per night, with maximum internal noise levels of 65–70 dB(A), are not likely to affect health and wellbeing significantly".

The LAmax descriptor is used to measure and quantify maximum noise level events. The LAmax is the maximum fast time weighted sound level of an event measured with a sound level meter satisfying AS IEC 61672.1-2004.

4.3. Sound Insulation

The ABCB National Construction Code (BCA) specifies in Section F5 the insulation for walls, floors and services for different adjacencies. Table 2 below indicates the sound insulation requirements relevant to the apartments.

Table 2 Sound Insulation Requirements for Apartments

WALLS

AREA	ADJOINING AREA	BCA Requirement
Habitable	Habitable	Rw + Ctr 50
Habitable room (other than Kitchen)	Bathroom, sanitary compartment, laundry or Kitchen	Rw + Ctr 50 discontinuous
Any Room in Apartment	Corridor, Stairway, Lobby	Rw 50
Any Room in Apartment	Lift shaft, plant room	Rw 50 discontinuous

FLOORS

Apartment	Sound Insulation Requirement
Floor separating sole occupancy units or a sole occupancy unit from plant room, lift shaft, stairway, public corridor or lobby	Rw + Ctr not less than 50 Lnw + Ci not more than 62

DOORS

Apartment	Sound Insulation Requirement
A door in wall that separates an apartment from a stairway, public corridor, public lobby	Door Assembly not less than Rw 30

SERVICES

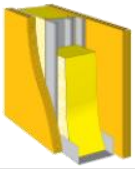
Apartment	Sound Insulation Requirement
If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one sole occupancy unit, the duct or pipe must be separated from the rooms of any sole occupancy unit	Rw + Ctr not less than: 40 if the adjacent room is a habitable room (other than a Kitchen) or 25 if the adjacent room is a Kitchen or non habitable room
If a storm water pipe passes through a sole occupancy unit	As Above

5.0 Design Recommendations

5.1. Sound Insulation

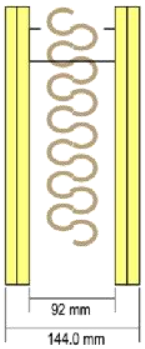
There are many options for compliance with respect to Sound Insulation. We show below indicative solutions but many others can be considered.

5.1.1. Wall Options Rw + Ctr 50

CSR 048			
	*Both Sides* • 2 x 13mm GYPROCK SOUNDCHEK plasterboard.	(a) Nil	49/43
		(b) 50 GW Partition 11kg	57/49
		(c) 75 GW Partition 11kg	58/**50**
		(d) TSB3/ASB3 Polyester	56/**50**
		(e) 60 Soundscreen™ 2.0 batts	58/49
		WALL THICKNESS mm	144

System Reference:	SS120.1A
Lining Side One:	2 x 13mm Firestop plasterboard
Plate Size(mm):	92
Framing:	Any Staggered Steel Stud
Insulation:	75mm Pink® Partition 11kg/m3 glasswool by Fletcher Insulation or 75mm polyester insulation 14kg/m3
Lining Side Two:	2 x 13mm Firestop plasterboard
FRL - LB:	Non-Fire Rated
FRL - NLB:	-/120/120 - from both sides
Acoustic Ratings:	Rw = 57 , Rw+Ctr = 50
Nom Wall Width (mm):	144
Acoustic Basis:	RT&A TE405-05F03
FRL Basis:	FR 2539, FCO-0512, 99/1370, EWFA 27211-00

System SS120.1A shown

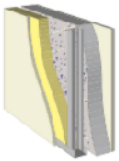


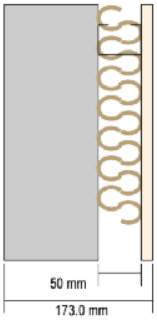
Rw 59 dB
C -3 dB
C_{tr} -8 dB
D_{nTw} 61 dB

System description

Panel 1 : 2 x 13.0 mm CSR Gyprock 13mm Soundchek plasterboard (ρ:1000 kg/m3,E:3.8GPa,η:0.01)

Cavity: Steel stud (0.55mm): Stud spacing 600 mm , Infill Earthwool 11kg/m³ 50mm Acoustic Wall Batt Thickness 50 mm (ρ:11 kg/m3, Rf:9000 Pa.s/m2)
Panel 2 + 2 x 13.0 mm CSR Gyprock 13mm Soundchek plasterboard (ρ:1000 kg/m3,E:3.8GPa,η:0.01)

CSR 739				
	*Masonry Side* • 1 x 13mm GYPROCK plasterboard CD *Stud Side* • 1 x 10mm GYPROCK plasterboard CD.	(a) 75 GW Partition 11kg	60/**51**	62/**54**
		(b) 90 Gold Batts™ 2.0	61/**52**	63/**55**
		(c) TSB4/ASB4 Polyester	59/**50**	61/**53**
		ADDITIONAL WALL THICKNESS mm	104	132

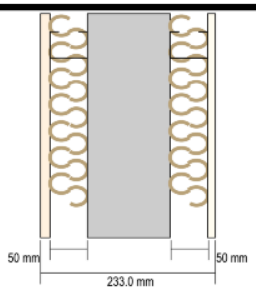


Rw 59 dB
C -2 dB
C_{tr} -8 dB
D_{nTw} 61 dB [V:36m3] [A:11m2]

System description

Panel 1 : 1 x 110.0 mm Solid Conc Blocks (ρ:2100 kg/m3,E:20GPa,η:0.04)

Cavity: Steel stud (0.55mm): Stud spacing 600 mm , Infill Earthwool 11kg/m³ 50mm Acoustic Wall Batt Thickness 50 mm (ρ:11 kg/m3, Rf:9000 Pa.s/m2)
Panel 2 + 1 x 13.0 mm CSR Gyprock 13mm standard plasterboard (ρ:650 kg/m3,E:1.9GPa,η:0.01)



Rw 65 dB
C -7 dB
C_{tr} -15 dB
D_{nTw} 67 dB [V:50m3] [A:11m2]

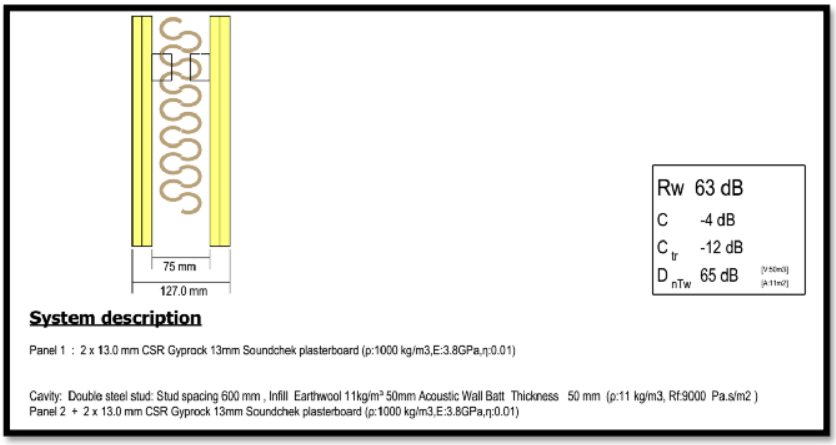
System description

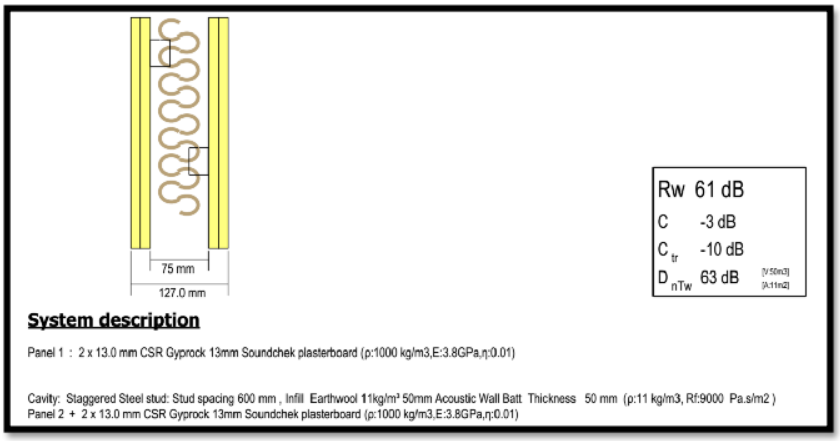
Panel 1 : 1 x 13.0 mm CSR Gyprock 13mm standard plasterboard (ρ:650 kg/m3,E:1.9GPa,η:0.01)

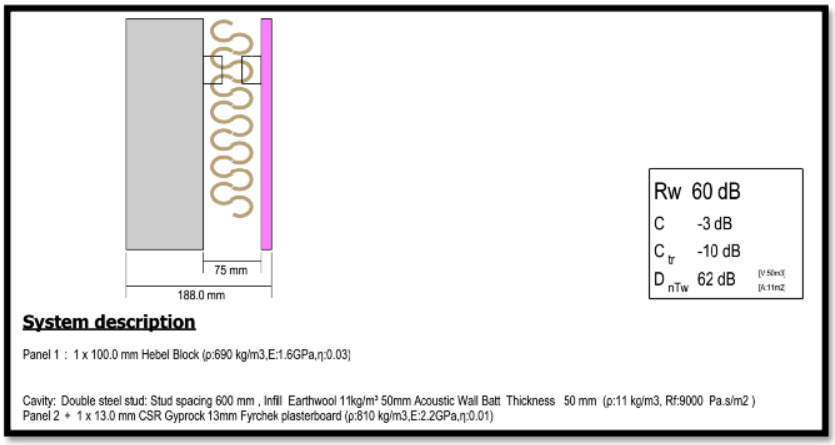
Cavity: Steel stud (0.55mm): Stud spacing 600 mm , Infill Earthwool 11kg/m³ 50mm Acoustic Wall Batt Thickness 50 mm (ρ:11 kg/m3, Rf:9000 Pa.s/m2)
Panel 2 + 1 x 110.0 mm Solid Conc Blocks (ρ:2100 kg/m3,E:20GPa,η:0.04)

Cavity: Steel stud (0.55mm): Stud spacing 600 mm , Infill Earthwool 11kg/m³ 50mm Acoustic Wall Batt Thickness 50 mm (ρ:11 kg/m3, Rf:9000 Pa.s/m2)
Panel 3 + 1 x 10.0 mm mm Plasterboard (ρ:710 kg/m3,E:2GPa,η:0.01)

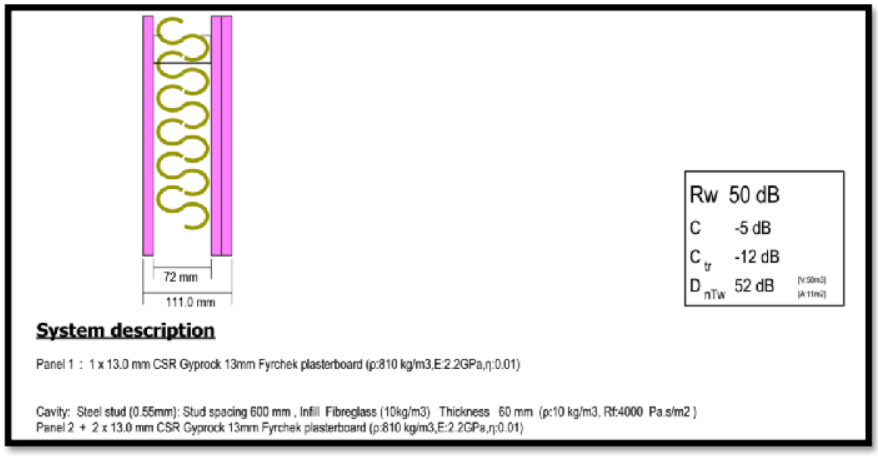
5.1.2. Rw + Ctr 50 discontinuous

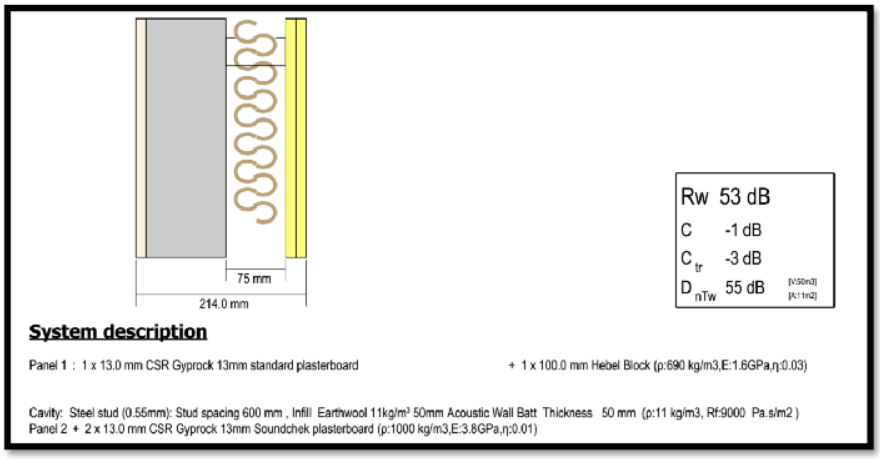






5.1.3. Wall Options Rw 50



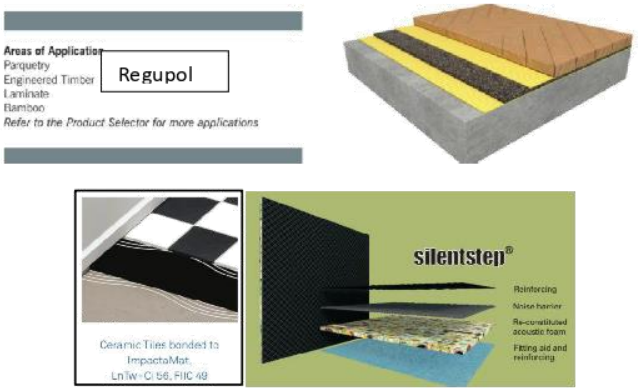


5.1.4. Floor/Ceiling Systems

The floor coverings in this instance will be carpet in the bedrooms, tiles in the bathrooms and T&G timber floorboards in the living areas.

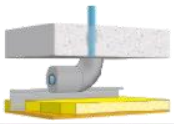
As 200mm concrete slabs are proposed for use as the floors, it will only be necessary to use underlay under the carpet.

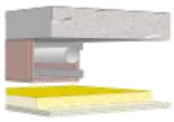
Regupol 4515 9mm can used as an underlay under the ceramic tile flooring and Regupol 6010 10mm can be used under the T&G timber with plywood. Other underlays that can be considered are Embelton Impactamat 800 (5mm thick) or Pyrotek Silentstep 10mm. The suppliers should be consulted to obtain the optimum installation information.



5.1.5. Services

Services running in ceiling voids should be enclosed as for example as below:

CSR SS12 	• 1 x 13mm GYPROCK SOUNDCHEK plasterboard.	(a) Nil	Nil	0	27
		(b) Nil	Acoustilag™ 45	0	41
		(c) 75 GW Partition – 11kg	Acoustilag™ 45	5	43

CSR SS42 	*Inner Layer* • 2 x 13mm GYPROCK FYRCHEK. *Outer Layer/Ceiling* • 2 x 13mm GYPROCK Plasterboard CD.	(a) 50 GW Partition – 11kg	Nil	53/44
		(b) TSB4 Polyester	Nil	53/46

Piping can be lagged with Pyrotek Soundlag 4525C or Rehau piping can be used.

5.1.6. Doors

To comply with the Rw 30 requirement for an apartment door, a solid core door 40mm thickness with door seals is required. A Spence Sontron 40SC-1 with perimeter and floor seals and threshold plate or equivalent will be acceptable.

5.2. Façade Glazing

We have based our analysis on the assumption that the façade structure will be constructed from 150mm precast concrete.

For the retail and commercial office, use Capral XO 6.38 laminated or equivalent.

Figures 14 – 16 show the façade glazing requirements. Capral or equivalent acoustic performance should be used. Where no glazing is specified, then any glazing option can be used to suit.

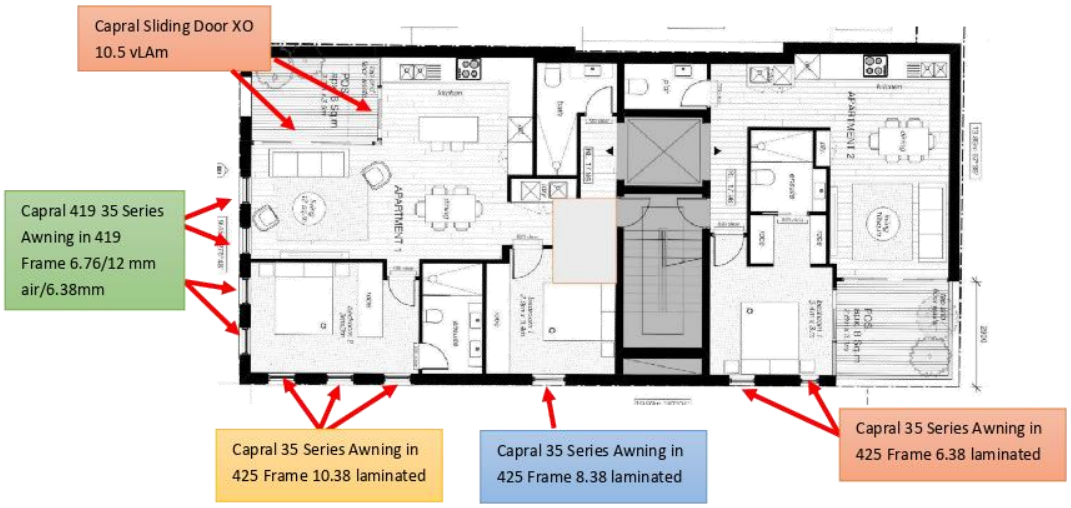


Figure 14 Glazing/Sliding Doors For Level 2

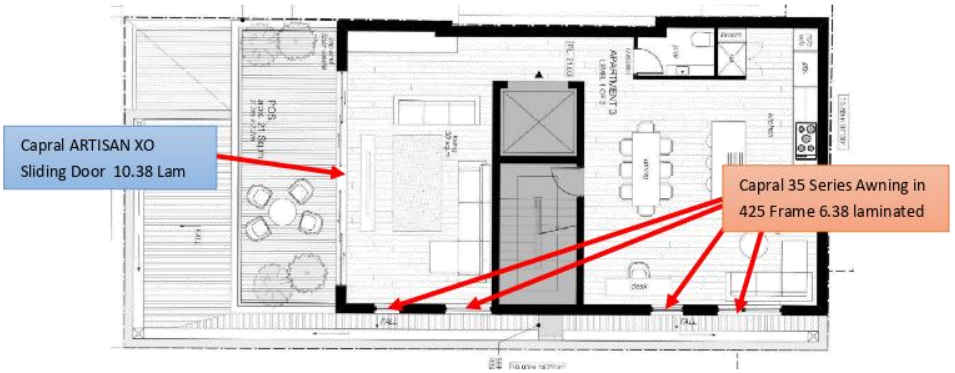


Figure 15 Glazing/Sliding Doors For Level 3

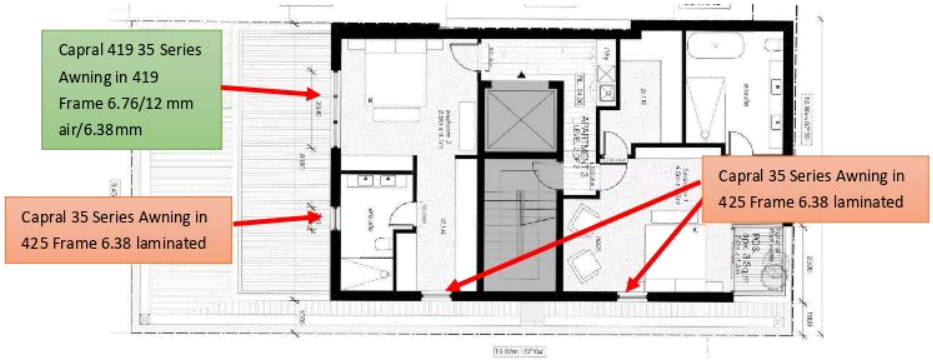


Figure 16 Glazing/Sliding Doors For Level 4

Table 3 Acoustic Specification for Doors and Glazing

Door/Glazing	Rw	Rw + Ctr
Sliding door XO 10.5 vLam	37	34
Sliding door XO 10.38 Lam	33	30
Series 425 6.38mm lam	36	33
Series 425 10.38mm lam	34	31
Series 419 6.76/12/6.38	37	31

We have given glazing/sliding door recommendations based on the Capral range of products. Alternatives are acceptable as long as they have a similar acoustic performance.

5.3. Rain Noise

The plant area is to be a 200mm structural slab with a vapour retarder, rigid insulations and a waterproofing membrane with a slope of min 1:50 over. A 350mm floor thickness is available for addition structure and insulation as required for thermal purposes.

For the balance of the roof areas which has roof sheeting alone, there will be a 200mm structural slab with timber framing to support the ribbed roof decking above with a min 2° pitch. Insulation over slab may be required for thermal purposes only.

5.4. Mechanical Services

Fan coil units and split ducted units should be chosen to ensure that so that the noise level in each room will comply with the requirements of AS2107:2016 for the various occupancies.

Where ducts are used for supply air, internal acoustic lining may be necessary to achieve the internal noise levels. FCU exhaust may require lined ducting or acoustic insulation in the ceiling void to ensure that the exhaust noise level is not excessive.

5.5. Condenser Noise Emission

External Condenser units are planned for some balconies and the noise emission at the nearest residential neighbours will need to comply with the Night Time Noise Limit of 45 dBA.

For the balcony on the south side of Level 3, the Outdoor Unit Sound Power Level must be less than 70 dBA and should be located on the south western corner of the balcony.

For the balconies on the north eastern side on Levels 2 and 4, the Outdoor Unit Sound Power Level must be less than 64 dBA and placed on the north eastern side (adjacent to the parapet which should be 100mm higher than the top of the condenser unit.

The acoustic design for any plant/equipment associated with the commercial tenancies (or serving the building) should be detailed during the design stage of the project to achieve the SEPP No N1 noise limits.

5.6. External Plant/Equipment & Venue Noise Impact on the Development

The noise level due to mechanical equipment/plant and due to the operations of commercial bars/restaurants in the vicinity of the proposed development was measured as described in Section 3.3 above.

The nominal external noise criteria for commercial plant/equipment, assessed in accordance with SEPP N-1 procedure are as follows:

> Not more than 10 dBA above any SEPP N-1 period noise limits, outside any openable windows or doors, AND
> For balconies and other private open spaces:
> - Not more than 65 dBA during the day
> - Not more than 55 dBA during the evening and night

The derived Night time Noise Limit was 45 dBA. The measured $L_{Aeq,15mins}$ was 59 dBA so that the balcony noise level would appear to slightly exceed the nominal guideline. However, the measured noise level does include noise due to traffic passing by and due to patrons and music from the nearby restaurants/bars.

Two points to note:

Firstly, the character of the area is such that anyone moving into this development should expect outdoor noise to be impacted by traffic, bars and restaurants nearby and some mechanical plant noise. Further, the noise level during the measurement was not found to be intrusive. There was no particularly tonal or other character to the noise.

Secondly, with the windows/doors closed, internal noise level criteria will be met.

5.7. Hydraulic Noise Control

Typical sources of hydraulic noises include fitting noises, filling noise, draining noises, inlet noises and impact noises. To minimise airborne and structure borne noise transmitted by hydraulic services, the following general guidelines should be followed:

- Good space planning is imperative.
- No direct rigid contact should occur between piping and surrounding structures or wall materials. Use flexible caulking or mastic to fill oversize penetrations.
- Use a minimum of 6 - 12 mm neoprene rubber to isolate any clamps or fixtures from the piping.
- Size pipes for maximum flow velocities of 1.8 m/sec maximum.
- Regulate maximum water pressure to 3.5kg/sq cm in main risers and lines, and 2.5kg/sq cm in distribution branches.
- Select quiet fixtures.
- Use cast iron pipe for waste/drain lines.
- Install tubs and showers on 2.5cm thick glass fibrepads and coat the back of the tub/shower enclosure with a mastic damping material.
- Incorporate flexible connections between piping systems and noise producing equipment, such as booster pumps, dishwashers, garbage disposals, etc.
- Acoustically lag piping with Pyrotek Acoustic Lag 4525 or use Rehua Rapiano Plus

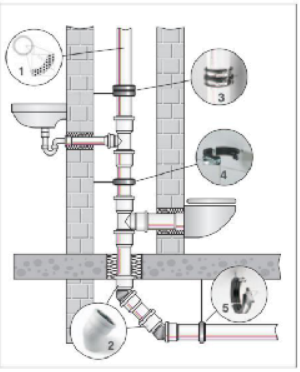


Figure 17 Hydraulic Noise Treatments

5.8. Car Stacker Noise

Car stackers create a tonal noise during their operation and when the lift hits the stops. The maximum level is LAmax 80 dBA at 6 metres when the stops are hit. There are no existing residential receivers in close proximity to the car entry area that would be impacted by the car stacker / entry door. To comply with the requirements of both SEPP No N1 and sleep disturbance targets at the nearest apartment, we recommend that the car park entry door should be a minimum of Rw 28.

6.0 Summary

Broner Consulting Pty Ltd was engaged by Loop Architects to provide an acoustics design report for the proposed development at 171 Swan Street. The proposed development includes basement car parking and plant area, ground level retail, level 1 commercial and residential apartments from level 2 – 4.

Noise Level measurements were conducted at night time to characterise the background noise level in the area as well as during the daytime to characterise the tram and traffic noise levels.

Noise criteria for various occupancies were noted and the Sleep Disturbance criterion was also noted. Internal wall options were provided and glazing/sliding doors also provided to achieve the indoor noise criteria. Criteria for internal air conditioning noise levels were also provided and a Sound Power Level limit was set for the outside condensers. Due to the roof slab, no special recommendation was required for rain noise. General recommendations for hydraulic noise control were also provided. To minimize stacker noise emission, the rear car park area ceiling area should be acoustically lined.

Prepared by:

Broner

Dr Norm Broner
Principal
Broner Consulting Pty Ltd

Attachment 8 - PLN17/1014 - 171-173 Swan Street - Applicant Waste Management Report

Waste Management Plan

171 Swan Street
Richmond, 3121
Planning Application

Client: 171 Swan Street Pty. Ltd. C/O Loop Architecture

This waste management plan has been prepared by Loop Architecture to accompany the Planning Permit application for 4x Apartments, 1 level of Commercial office and Ground level Retail located at 171 Swan Street, Richmond, 3121, Victoria.
The Waste Management plan has referred to with the '*Guide to Best Practice for Waste Management in Multi-Unit Developments*' prepared by *Sustainability Victoria*

Melbourne
Level 1, 664 Burke Road
Camberwell 2124,
Melbourne
p. 03 9429 4600
e. melbourne@looparch.com.au

Attachment 8 - PLN17/1014 - 171-173 Swan Street - Applicant Waste Management Report

loop architecture

General Provisions

The proposed development consists of 1 ground level retail tenancy, 1 commercial tenancy on level 1 and 4 apartments over level 2-6.

Each apartment will have 2 receptacles fitted in the kitchen, 1 for general waste and 1 for recyclable waste. It is the responsibility of tenants to transfer their waste to the appropriately marked bin in the ground level bin store area. Access to the bin store is direct via the communal elevator.

Ground level retail tenant and level 1 commercial tenant are responsible for supplying their own receptacles within their tenancy and transferring waste to the appropriately marked bin in the ground level bin store area. Access for the retail tenant is via service doors direct into the bin store. Level 1 commercial tenant access the bin direct via the communal elevator.

General waste will be placed in suitable bags tied prior to depositing into the designated bin. Recycling waste will be directly deposited into the designated bin. It is the responsibility of each tenant to correctly dispose of recyclable materials as described by the City of Yarra.
No plastic bags will be placed in recycle bins. All cardboard will be flattened and folded prior to depositing into the designated bins.

It is the responsibility of the Owners Corporation and Commercial/retail Tenants to appoint a person/s in charge of rotating bins ensuring only full bins are placed at the kerbside in front of the development for collection by Council Collection Contractors. Bins shall be placed on and removed from the kerb in alignment with the City of Yarra Council requirements.

A steel frame with perforated mesh screening will enclose the designated bin store. The screening will visually disguise the contents within the store while facilitating natural ventilation to avoid trapping bad odours. The bin store will be fitted with a 24hour sensor light for the safety of tenants. The bin store will also be fitted with a water tap and hose for bin washing/store cleaning and a drain connected to the sewer.

a. Weekly Waste Generation

Waste Source	Waste Stream	Waste Total
Apartments X4	General Waste	320 L
	Recycle Waste	160 L
Ground Retail	General Waste	266 L
	Recycle Waste	133 L
Commercial Office	General Waste	77 L
	Recycle Waste	77 L

b. Allocated Space and Collection

Waste Source	Waste Stream	Bin Size	Number of bins	Weekly collections	Bin Area provided
Apartments X4	General Waste	240 L	2	1	$1m^2$
	Recycle Waste	240 L	1	1	$1m^2$
Ground Retail	General Waste	140 L	2	1	$0.65m^2$
	Recycle Waste	140 L	1	1	$0.3m^2$
Commercial/Office	General Waste	80 L	1	1	$0.3m^2$
	Recycle Waste	80 L	1	1	$0.3m^2$
Total bin area required					$3.55m^2$

The allocated space and waste volume can be altered to reflect increased/decreased waste volumes and /or unforeseen requirements.

c. Proposed bin store layout

All tenant bins are located in the store space to the rear of the car stacker. Residential and Commercial tenants will access the bin store via the lift directly opening into the bin store and Retail tenant via the access doors to the rear of their tenancy. Commercial /office tenant and the retail tenant bins will be fitted with a lock and key. It is the responsibility of each tenant to remove the lock when placed kerbside for collection. The bin store passageway is to be kept clear and safe at all times. It is the responsibility of the owners' corporation to ensure a safe storage area is maintained.

Drawing not to scale, refer to Architectural drawings for dimensions.

e. Noise and Odour management, safety and signage.

All bins are to kept within the communal bin store room at all times except during servicing. Mobile Garbage bins (MGB) bins have rubber wheels for quieter performance during transportation.

Council contracted collectors will ensure council guidelines are met at all times.

Bin lids will be kept closed at all times to control odour and vermin and prevent bin overfilling.

Professional bin cleaning contractors will be engaged to assist with odour and vermin control.

Signage

Bins will be coloured according to local council requirements to identify waste stream types.

Each bin will clearly indicate the waste stream.

Signage room walls will clearly direct tenants to the bin storage area and the process of rubbish removal in alignment with the waste stream requirements.

Advertising and promotional material will be on offer from Council to remind tenants of their green obligations.

d. Waste Removal - Council

Full bins will be places in front of the development at the kerbside to Dickman Street the evening prior to collection by the person/s allocated by the owners corporation and the ground and level 1 tenants.

Collection will take place on Mondays in correspondence with the Council timetable.

Once collection has taken place is the responsibility of the person/s allocated by the owners corporation and the ground and level 1 tenants to return the bins to the bin store room. This should be done as soon as possible and no longer than 24 hours after collection.

e. Summary

Collection service by City of Yarra Council of Mobile garbage bins (MGB) of 240L, 140L, and 80L units is the most practical and effective method of servicing this development.

Attachment 9 - PLN17/1014 - 171-173 Swan Street - ESD comments

Sustainable Design Assessment (SDA)
Referral Response by Yarra City Council

Assessment Summary:

Planning Application No:	PLN17/1014		Date: 5/6/19
Subject Site:	171-173 Swan Street, Richmond		
Responsible Planner:	Laura Condon		
ESD Advisor:	Scott Willey		
Project Description:			
Site Area:	Approx. 194m^2	Site Coverage:	100 %
Pre-application meetings:	-		

ESD Review

Review

The architectural and the Sustainable Design Assessment (SDA) for the above project were reviewed against the WSUD (LPP 22.16), and ESD (LPP 22.17) policies.

Summary comments

The building has potential for good access to natural light, outlook, and natural ventilation. However the first floor commercial tenancy is provided with full-height glazing to the north and northeast, with no operable sashes indicated. No shading is provided to windows on the eastern boundary line.

Access from Level 3 to Level 4 of Apartment 3 is unclear, as no cross-section is provided to indicate if a scissor stair allows private stair access over reliance on the lift. The private open space provided on the south of this apartment would benefit from breeze screening on the southwest, as it is likely to be very exposed to cool south-west breezes.

A good number of bicycle parks are provided in the basement with access to showers and lockers, and an existing rack to Swan Street. The basement racks are all in a vertical format, however, which can be difficult to use for some riders.

No details are provided of material improvement commitments, and the language used in the ESD report appears conflicted, and lacks clear commitments to some of the initiatives mooted.

Assessment

This application partially meets the standards sought for 'Environmentally Sustainable Design' (ESD), however, further information is needed before the proposal could be considered to meet Council's standards for best practice.

It is noted in particular that the is no comment on Building Materials and Construction and Building Management category is not responded to. Please respond to the The 10 Key Sustainable Building Categories referred to in Step 3 of 'How do I incorporate environmentally sustainable design in my planning application?' :

(www.yarracity.vic.gov.au/services/planning-and-development/planning-applications/environmentally-sustainable-design-in-planning)

Comment on ESD commitments

Comments on areas where improvement could be made are itemised below. Should the application progress to permit stage, it is recommended that all ESD commitments (1), deficiencies (2) and the outstanding information (3) are conditioned to be addressed in an updated SMP report, and where noted – clearly shown on Condition 1 drawings.

Attachment 9 - PLN17/1014 - 171-173 Swan Street - ESD comments

1. Application ESD Commitments

- Natural light and outlook – Good natural light appears well-balanced with window size
- Bicycle facilities – A good number of bicycle parks with end-of-trip lockers and showers
- Irrigation – Is provided to terraces to allow residents potted plants
- Thermal performance (apartments) – Preliminary modelling indicates an average 6.6 star NatHERS rating
- Water efficiency – Water efficient fixtures, fittings and appliances
- Hot water – Efficient gas water heating
- Rainwater – A 5000L rainwater tank will supply water for flushing for 5 toilets

2. Application ESD Deficiencies:

- Best practice - ESD reports are sought in order to establish if proposed designs will exceed business-as-usual construction to achieve 'best practice'. Reference to legal minima such as 'compliance' with the NCC are not relevant and should be removed.
- Bicycle parking – Some bike riders are unable to lift bicycles into vertical racks. A minimum of 20% horizontal bicycle parks are sought per 'AS 2890.3:2015 Parking facilities Bicycle parking'
- Building materials – The section provided on page 3 of the SDA contains no clear commitment to materials. Rewording is sought to clarify how material impacts will be reduced. Suggestions include:
  - Concrete – incorporation of cement replacement materials, and recycled aggregate
  - Timber – use of third-party certified 'sustainable' timber such as AFS, or FSC
  - Recycle content – use of materials with recycled content such as thermal insulation
- Solar energy – No photovoltaic or solar hot water collectors are proposed despite appropriate sun-exposed roof
- Thermal performance (non-res.) – No details are provided for improvements to the thermal performance of the commercial levels.
- Shade – No effective external shade is provided to the first floor full-height glazed wall to the northeast of Level 1.

3. Outstanding Information:

- Non-committal language – This report uses non-committal language to describe some initiatives, and therefore these are unable to be assessed. Statements using language such as: "recommended", "suggested", "encouraged", etc. are sought to be reworded to that which provides clear commitments to design outcomes and performance measures. Clarity is sought around commitments in sections 5, 6 and 7 of the SMP.
- BESS report – Some credits appear to require adjustment. Republish the report and resubmit after any revision including clarification of the following:
  - Energy efficiency – rating improvements on heating and cooling
  - Water credit 4.1 – clarify provision of building systems (fire test water, and water based heat rejection)
  - Waste credit 1.1 – clarifying retention of 30 % of building fabric
- Space heating and cooling – The rating of the systems proposed does not meet Council's standards for best practice. BESS Water credit 4.1 has been claimed with no details of water-based heat rejection systems or wet fire-suppression systems. Please clarity details with consideration of best practice systems, and note strategy for HVAC use minimisation.
- Indoor Air Quality – Clarify if low/zero VOC and formaldehyde products are to be used
- Natural ventilation – Clarification is sought as to if effective natural ventilation is provided. Multiple operable window sashes are sought on both the north and northeast Level 1 glazed walls.

- Thermal performance (non-res) – Details are sought of how the thermal performance of the building fabric will be improved above the legal minimum. A minimum 10% improvement is considered best practice.
- Urban ecology – Clarify commitments to urban ecology, including how Urban Heat Island effect has been addressed. Lighter coloured roofs/decking/paving are sought where sun exposed.
- Lighting – Further details are sought as to if daylight and movement sensors will be utilised in commercial and common areas of the building. All LED lighting commitment is sought to meet the current (NCC 2019) minimum lighting power densities.
- Active transport – Details are sought on the nature of stair access between levels of Apartment 3. Separation is sought to the common stair below, with the inclusion of natural light in both stairs – to encourage use of stairs over llfts.

Drawings are sought to clearly show the following:	
FLOOR PLANS	- Rainwater tank – Indicate water reuse - Electric vehicles – Annotate any charging infrastructure for electric cars and/or bikes - Bicycle parking – Indicate any horizontal format racks - Electric bicycles – Annotate any electrical bike charging points are to be provided - Clothes drying – Indicate clotheslines for each dwelling per Energy credit 3.4 - Shade – Indicate the line of any overhanging levels/roofs - Ceiling fans – Indicate any fans on drawings
ROOF PLAN	- Solar panels – Indicate panel location for any photovoltaic (annotate array size) and solar hot water panels (annotate percentage boost). - UHI effect – Indication of light/dark shade for sun-exposed roofing
ELEVATIONS / SECTIONS	- Sash operation – Indicate sash operation for all windows and glazed doors. - Sun shading – Indicated effective shading as above - Ceiling height – Show indicative ceiling heights for habitable room

4. ESD Improvement Opportunities

- Vegetation – Provision of planter boxes to improve the ecological value of the site (e.g. adjacent the ground floor entry
- Electric vehicles - Electric vehicle charging infrastructure is sought
- Building user guide – Consider provision of a BUG for commercial and residential occupants

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.

Attachment 10 - PLN17/1014 - 171-173 Swan Street - Engineering comments

MEMO

To:	**Laura Condon**	
From:	**Artemis Bacani**	
Date:	**29 August 2018**	
Subject:	**Application No:**	**PLN17/1014**
	Description:	**Original application plans: Mixed Use Development**
	Site Address:	**171 & 173 Swan Street, Richmond**

I refer to the above Planning Application received on 18 July 2018 and the accompanying Traffic Engineering Assessment prepared by Traffix Group in relation to the proposed development at 171 & 173 Swan Street, Richmond. Council's Civil Engineering unit provides the following information:

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	Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Office	153 m²	3 spaces to each 100 m² of net floor area	4	0
Shop	76 m²	3.5 spaces to each 100 m² of leasable floor area	2	0
Two-bedroom dwelling	4	1 space to each dwelling	4	4
		Total	**10**	**4**

The development would have a total car parking shortfall of six spaces (four office spaces and two spaces associated with the shop use). 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 the Office Use*.
  Parking associated with office type developments is generally long-stay parking for employees and short term parking (say up to two hours' duration) for customers and clients. The actual parking demand generated by the office is expected to be lower than the statutory parking rate of 3.5 spaces per 100 square metres of floor space, since the area has very good access to public transport services.

  Throughout the municipality, Council has, in recent times, approved small scale office developments with no on-site car parking. The following table lists some sites that have been approved with no on-site car parking:

Development Site	Approved Office Parking Rate
Collingwood	
86 Smith Street PLN16/0216 issued 15 April 2016	96 m² Reduction: 3 spaces
187-195 Langridge Street PLN17/0867 issued 19 January 2018	470 m² Reduction: 16 spaces
Cremorne	
46A Stephenson Street PLN17/0017 issued 8 August 2017	55 m² Reduction: 1 space
Richmond	
19 David Street PLN17/0395 issued 15 April 2016	175 m² Reduction: 6 spaces

The provision of no on-site parking for the proposed office use is considered appropriate, having regard to the site's accessibility to public transport services and its proximity to Melbourne.

- *Parking Demand for the Shop Use*.
  A parking rate of 3.0 spaces per 100 square metres of floor area could be adopted for the shop as the premises is located along a commercial area/activity centre. Using this rate would result in a car parking demand of two spaces. The shortfall of two spaces could be accommodated off-site.

- *Availability of Public Transport in the Locality of the Land*.
  The site is very well positioned in terms of public transport services, with tram services operating along Swan Street and Church Street. Rail services are within walking distance of the site from East Richmond and Richmond railway stations.

- *Convenience of Pedestrian and Cyclist Access*.
  The catchment area surrounding the site includes residential properties and local businesses that would provide a source of local patrons. The site has excellent exposure to high pedestrian numbers and much of the café's source of patrons would be pedestrians. 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*.
  Although the demand for on-street parking in Richmond is generally very high, customers, clients and visitors to the site have the option of parking on-street along Swan Street (outside of peak period Clearway times) or at the paid public off-street car park off Docker Street and Dickmann Street.

- *Access to or Provision of Alternative Transport Modes*
  The site has very good access to public transport and the on-road bicycle network. Car share pods are located within walking distance of the site and provide an alternative transport option for staff and patrons. A Flexicar car share pod is located in Church Street, approximately 50 metres east of the site.

- *Car Parking Deficiency Associated with Existing Land Use*.
  According to the traffic report, the existing site is currently occupied by a betting agency with a floor area of 168 m^2. Under the provisions of Clause 52.06-5, a betting agency has a parking

rate of 3.5 spaces to each 100 square metres of leasable floor area. The previous use would have had a car parking credit of five spaces. The parking deficiency of the site would have been accommodated on the street.

Adequacy of Proposed Parking Provision
From a traffic engineering perspective, the waiver of car spaces for the proposed development should not result in an adverse impact on existing parking conditions in the area. The area's coverage of short-stay parking and high parking demand would encourage employees, customers, clients and visitors to utilise more sustainable transportation modes, which are conveniently available near the site. The Civil Engineering unit has no objection to the reduction in the car parking requirement for this site.

DEVELOPMENT LAYOUT DESIGN
Layout Design Assessment Loop Architecture Drawing Nos. SK100 Revision L dated January 2017, SK301 Revision K dated April 2017, and SK101 and SK304 Revision L dated January 2018

Item	Assessment
Access Arrangements	
Car Park Entrance	The width of the car park entrance is not dimensioned on the drawings.
Visibility	A pedestrian sight triangle for the exit lane has not been provided.
Headroom Clearance	The overhead clearance at the development's car park entry is not dimensioned on the drawings.
Vehicle Crossing	Not shown on the drawings.
Mechanical Car Parking	
Car Stacker Device	The car stacker model to be used for this development is the Wohr Parklift 405-200. This model has a platform width of 2.5 metres.
Vehicle Clearance Height	The selected variant for this model can accommodate at least 50 per cent of car spaces with a minimum height of 1.8 metres to satisfy *Design standard 4 – Mechanical parking*..
Gradient	
Ramp Grade for Frist 5.0 metres inside the Property	The ramp inside the property has a grade of 1 in 11.43 to satisfy *Design standard 3 – Gradients*.

Design Items to be Addressed

Item	Details
Car Park Entrance	The width of the car park entrance is to be dimensioned on the drawings.
Visibility	Since there are no visibility triangles at the entrance to the car park, it is recommended for convex mirrors to be installed on the north and south side of the entrance to improve the visibility of pedestrians along the footpath.
Headroom Clearance	The headroom clearance at the entrance of the car park is to be dimensioned on the drawings.
Vehicle Crossing	The vehicle crossing servicing the development's car park is to be shown and dimensioned on the drawings.
Ramp Grade for Frist 5.0 metres inside the Property	The length of the internal ramp is to be dimensioned on the drawings.

Service Cabinet Doors	Any service cabinet door opening onto a Public Highway must swing 180-degrees and be latched to the building when opened.
Building Canopy/Awning	The new canopy/awning at the Swan Street road frontage must be setback 750 mm from the face of kerb.

Capital Works Programme
A check of the Capital Works Programme for 2018/19 indicates that no infrastructure works have been approved or proposed within the area of the site at this time.

IMPACT ON COUNCIL ROAD ASSETS
The construction of the new buildings, the provision of underground utilities and construction traffic servicing and transporting materials to the site will impact on Council assets. Trenching and areas of excavation for underground services invariably deteriorates the condition and integrity of footpaths, kerb and channel, laneways and road pavements of the adjacent roads to the site.

It is essential that the developer rehabilitates/restores laneways, footpaths, kerbing and other road related items, as recommended by Council, to ensure that the Council infrastructure surrounding the site has a high level of serviceability for residents, employees, visitors and other users of the site.

ENGINEERING CONDITIONS
Civil Works

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

- The footpath immediately outside the property's Swan Street and Dickmann Street road frontages must be stripped and re-sheeted 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.
- The vehicle crossing servicing the development's entrance on the west side of Dickmann Street must be constructed to Council's satisfaction. Materials to be used must comply with Council's *Infrastructure Road Materials Policy*. The vehicle crossing must satisfy the vehicle ground clearance requirements for the B99 design vehicle.
- All redundant property drains must be removed and Council assets reinstated to Council's satisfaction and at the Permit Holder's cost.

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, valves or meters on Council property will be accepted.

Car Stacker Device

- The car stacker devices must be installed, operated and maintained in accordance with the manufacturer's specifications and requirements.
- No pipes, ducting or protrusions from the ceiling or walls are to be installed above or within the space clearance envelopes for the car stacker devices.

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 (signs and line markings) as a result of development works must be approved by Council's Parking Management unit.

ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT

Legal Point of Discharge

The applicant must apply for a Legal Point of Discharge under Regulation 610 – Stormwater Drainage of the *Building Regulations 2006* 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 610.

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.
- Contaminated ground water seepage into basements from above the water table must be discharged to the sewer system through a trade waste agreement with the relevant authority or in accordance with EPA guidelines.
- Contaminated groundwater from below the water table must be discharged to the sewer system through a trade waste agreement from the relevant sewer authority.
- 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.

Clearances from Electrical Assets

Overhead power lines run along the north side of Swan Street, close to the property boundary. The developer needs to ensure that the building has adequate clearances from overhead power cables, transformers, substations or any other electrical assets where applicable. Energy Safe Victoria has published an information brochure, *Building design near powerlines*, which can be obtained from their website: http://www.esv.vic.gov.au/About-ESV/Reports-and-publications/Brochures-stickers-and-DVDs

Construction Over an Easement

Levels 1 to 5 of the development will project over an easement on the northern boundary of the site. The easement is approximately 1.2 metres in width and does not contain any Council assets. A height clearance of 3.16 metres has been provided from the ground level to the underside of Level 1. Council's Civil Engineering unit has no objection with the projection over the easement as shown on the *Proposed Elevations E02* Drawing No.SK304 Revision L.

Additional Information

- The existing public waste bin at the Swan Street road frontage is to be retained.
- The existing fire hydrant at the Swan Street road frontage is to be converted to an in-ground hydrant.
- The existing bicycle hoop at the Swan Street road frontage is to be retained

Attachment 10 - PLN17/1014 - 171-173 Swan Street - Engineering comments

MEMO

To:	**Laura Condon**	
From:	**Artemis Bacani**	
Date:	**16 May 2019**	
Subject:	**Application No:**	**PLN17/1014**
	Description:	**Section 57A Amended Plans**
	Site Address:	**171-173 Swan Street, Richmond**

I refer to the above Planning Application received on 11 April 2019 and the accompanying Traffic Engineering Assessment prepared by Traffix Group (dated 15 March 2019) in relation to the proposed development at 171-173 Swan Street, Richmond. Council's Civil Engineering unit provides the following information:

CAR PARKING PROVISION
Amended 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	144 m²	3 spaces to each 100 m² of net floor area	4	1
Shop	76 m²	3.5 spaces to each 100 m² of leasable floor area	2	0
One-bedroom dwelling	1	1 space to each dwelling	3	3
Two-bedroom dwelling	2			
		Total	**9**	**4**

* 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.

The amended plans would result in the waiver of five car spaces, which is one car space less than the original proposal.

Adequacy of Proposed Parking Provision
From a traffic engineering perspective, the waiver of five car spaces comprising of three spaces for the office use and two spaces for the shop use should not result in an adverse impact on existing

parking conditions in the area. Employees, clients, and visitors would be fully aware of the high parking demand in the Richmond area and choose to utilise more sustainable transportation modes, which are conveniently available near the site.

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

AMENDED DEVELOPMENT LAYOUT DESIGN

Loop Architecture Drawing Nos. SK100 Revision P dated February 2019
SK301 Revision N dated February 2019

Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance	The entrance to the car park is 5.52 metres in width which satisfies *Design standard 1*.
Visibility	In-lieu of pedestrian sight triangles, the applicant has proposed to use convex mirrors on each side of the car park entrance. The convex mirrors are shown on the plans located beyond the property boundary.
Headroom Clearance	The headroom clearance at the car park entrance is not dimensioned on the drawings.
Vehicle Crossing	The proposed vehicle crossing is 5.52 metres in width.
Mechanical Car Parking	
Car Stacker Device	The car stacker model to be used for this development is the Wohr Parklift 405-200. This model has a platform width of 2.5 metres.
Vehicle Clearance Height	The selected variant for this model can accommodate at least 50 per cent of car spaces with a minimum height of 1.8 metres to satisfy *Design standard 4 – Mechanical parking*..
Gradient	
Ramp Grade for Frist 5.0 metres inside the Property	The 1 in 20 grade for the first 1.62 metres inside the property satisfies *Design standard 3 – Gradients*.

Design Items to be Addressed

Item	Details
Convex Mirrors	The convex mirrors are to be installed inside the property boundary.
Headroom Clearance	To be dimensioned on the drawings.
Service Cabinet Doors	Any service cabinet door opening onto a Public Highway must swing 180-degrees and be latched to the building when opened.
Building Canopy/Awning	The new canopy/awning at the Swan Street road frontage must be setback 750 mm from the face of kerb. The setback of the canopy from the face of kerb is to be dimensioned on the drawings.
Other	The waste bin and bicycle hoop on the Swan Street road frontage are to be retained.

Capital Works Programme
A check of the Capital Works Programme for 2018/19 indicates that no infrastructure works have been approved or proposed within the area of the site at this time.

IMPACT ON COUNCIL ROAD ASSETS
The construction of the new buildings, the provision of underground utilities and construction traffic servicing and transporting materials to the site will impact on Council assets. Trenching and areas of excavation for underground services invariably deteriorates the condition and integrity of footpaths, kerb and channel, laneways and road pavements of the adjacent roads to the site.

It is essential that the developer rehabilitates/restores laneways, footpaths, kerbing and other road related items, as recommended by Council, to ensure that the Council infrastructure surrounding the site has a high level of serviceability for residents, employees, visitors and other users of the site.

ENGINEERING CONDITIONS
Civil Works

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

- The footpath immediately outside the property's Swan Street and Dickmann Street road frontages must be stripped and re-sheeted 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 property drains must be removed and Council assets reinstated to Council's satisfaction and at the Permit Holder's cost.

Vehicle Crossings

Before the building is occupied, or by such later date as approved in writing by the Responsible Authority, the new vehicle crossings 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, 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.
- Contaminated ground water seepage into basements from above the water table must be discharged to the sewer system through a trade waste agreement with the relevant authority or in accordance with EPA guidelines.
- Contaminated groundwater from below the water table must be discharged to the sewer system through a trade waste agreement from the relevant sewer authority.

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.

Car Stacker Device

- The car stacker devices must be installed, operated and maintained in accordance with the manufacturer's specifications and requirements.
- No pipes, ducting or protrusions from the ceiling or walls are to be installed above or within the space clearance envelopes for the car stacker devices.

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 (signs and line markings) as a result of development works must be approved by Council's Parking Management unit.

ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT
Legal Point of Discharge
The applicant must apply for a Legal Point of Discharge under Regulation 610 – Stormwater Drainage of the *Building Regulations 2006* 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 610.

Clearances from Electrical Assets
Overhead power lines run along the north side of Swan Street, close to the property boundary.

The developer needs to ensure that the building has adequate clearances from overhead power cables, transformers, substations or any other electrical assets where applicable. Energy Safe Victoria has published an information brochure, *Building design near powerlines*, which can be obtained from their website:

http://www.esv.vic.gov.au/About-ESV/Reports-and-publications/Brochures-stickers-and-DVDs

Construction Over an Easement
Levels 1 to 4 of the development will project over an easement on the northern boundary of the site. The easement is approximately 1.2 metres in width and does not contain any Council assets. A height clearance of approximately 3.19 metres has been provided from the ground level to the underside of the slab projection of Level 1. Council's Civil Engineering unit has no objection with the projection over the easement as shown on *Proposed Street Elevations 01 & 02* Drawing No.SK301 Revision N dated February 2019.

Attachment 11 - PLN17/1014 - 171-173 Swan Street - Acoustic comments

4 December 2018

640.10090.05640 171-173 Swan St RevA 20181204.docx

Yarra City Council
PO Box 168
RICHMOND 3121

Attention: **Laura Condon**

Dear Laura

171-173 Swan Street Richmond
Development Application Acoustical Review

SLR Consulting Pty Ltd (SLR) has been retained by the City of Yarra to provide a review of the acoustic assessment report for the proposed mixed use development at 171-173 Swan Street Richmond.

Details of the report are as follows:

- Title: Acoustic Design Report, 171 Swan Street Richmond
- Reference: Revision A
- Date: 13 April 2017
- Prepared for: Loop Architects
- Prepared by: Broner Consulting

The report was prepared prior to issue of the planning permit.

Note the report includes significant additional information and advice in relation to BCA compliance matters, which are not planning related aspects, and have been excluded from this review.

1 Preliminary

(Sections 1 - 2 of the report)

The proposed development and the surrounds are generally described in these sections of the report, as is the intent of the assessment report.

The proposal is for a mixed use development including basement carpark and commercial tenancy, ground level retail, level 1 commercial use and residential apartments on levels 2 to 4.

The site is located in a general commercial / retail area.

The purpose of the report is explained as addressing:

- Internal amenity in relation to external noise source (including traffic and tram noise, mechanical plant from nearby commercial uses, live music venues etc.)

SLR Consulting Australia Pty Ltd Suite 2, 2 Domville Avenue Hawthorn VIC 3122 Australia
T: +61 3 9249 9400 E: melbourne@slrconsulting.com
www.slrconsulting.com ABN 29 001 584 612

- mechanical plant and equipment from the proposed development to existing and proposed dwellings.

SLR Comments: *The proposal has been generally described. The nearest existing residential dwelling is not identified, but appears to be approximately 30 m to the north at 27 Dickman Street. Nearby commercial operations that could impact the site are not specifically noted.*

From review of aerial and street photography for the site we observe that there is some roof mounted mechanical plant approximately 13 m to the east (above no. 175), as well as numerous exhaust fans and other mechanical equipment serving restaurants in the area (in the order of 15-25 m away), which would likely operate during the night. The image below shows these items which could impact the east façade of the development.

There is also some plant and equipment to the west (north-west), approximately 8 m from the boundary (above 165 or 169). The building design has minimal window interface to the west so mechanical plant in the westerly directly is unlikely to be an issue, although the top floor apartment has a balcony which could be impacted by sources to the west.

Some comment or assessment needs to be provided on the above. Noise from these items either needs to be shown to be compliant with SEPP N-1 noise limits, or be addressed by the development using an agent of change principle if the plant is not SEPP N-1 compliant. The preferred option is for some consultation to occur between the developer and commercial operator such that treatments can be applied at the source. Alternatively (as a last resort), City of Yarra have previously accepted an approach that achieves internal amenity in the apartments, and adoption of good internal targets to minimise the risk of nuisance or complaint. The following internal targets have been recommended previously with the above approach:

- *Achieve SEPP N-1 indoor limits, being the outdoor limits less 15 dB, and*
- *Not more than 30 dBA Leq in bedrooms and 35 dBA Leq in living rooms (30 min.).*
- *Not more than 45 dBA Lmax in bedrooms and 50 dBA Lmax in living rooms (relevant to sources with short term high noise events).*

In addition to the above, commercial plant and equipment noise levels should not exceed the following levels externally:

- *Not more than 10 dBA above any SEPP N-1 period noise limits, outside any openable windows or doors, AND*
- *For balconies and other private open spaces:*
  - *Not more than 65 dBA during the day*
  - *Not more than 55 dBA during the evening and night*

All assessment methodologies should apply corrections for character in accordance with SEPP N-1 procedure.

The document also does not discuss any potential entertainment noise impacts from nearby venues. From our review, we note:

- *The Richmond Social, 157 Swan Street, approximately 50 m west of the subject site. This appears to be predominantly a bar / bistro pub type use with no indication of live music, however, there could be loud pre-recorded music and there are private functions noted on the website.*
- *Fargo and Co, at 214 Swan Street, approximately 35 m south-west of the subject site. The application for that site (as provided by City of Yarra) suggests a bar with 'atmospheric recorded music' on the ground and level 1, and potential live duo (6pm to 9pm Sundays only) or pre-recorded background music on the Level 1 terrace. The proposed development at 171-173 Swan Street would represent the nearest residential use to this venue.*
- *There are also two venues on the corner of Swan St and Church Street (The Ugly Duckling and The Swan Hotel)*

Given the above, we would consider it appropriate that a night time survey be conducted at the site during peak / busy operations at nearby venues to quantify potential music impacts. More than one visit may be required.

2 Ambient Noise Measurements and SEPP N-1 Noise Limits

(Section 3.1 of the report)

A noise logger was deployed on the roof of the existing building on the site for the purposes of collecting background noise levels and deriving noise limits. The measurement was conducted from 19-23 December 2016.

The results are presented as a level versus time trace.

SLR Comments: *The test interval used for measurements is reasonable. The location is also reasonable in terms of quantifying background levels at a partly shielded location of the development (eg. along Dickmann St).*

The final derived day, evening and night period background levels are not presented in the report (only a level versus time graph). The determination of the noise limit in Section 3.1.1 only presents the night period limit which is indicated to be 45 dBA. It is not possible for SLR to formally check the provided noise limits, but based on indicative consideration of the provided time trace graph, we would expect the night period noise limit to be 45 dBA or higher (45 dBA would appear to be quite conservative). Noise limits along the south façade (and possible the east façade) would likely be higher, but the use of 45 dBA is a conservative preliminary approach for planning purposes.

Attachment 11 - PLN17/1014 - 171-173 Swan Street - Acoustic comments

Comments provided 20 May 2019 on in response to revised section 57A amended Acoustic report dated April 2019:

- There are a couple of outstanding issued from my perspective as follows:
- Music Noise impacts to site. While some additional measurements appear to have been collected from 8pm to 9 pm on the roof of the building (not sure which day of week) and the commentary mentions some music was audible at times, I am not completely comfortable that worst case music impacts have been checked to the site during the later night period.

- The only other matter is the commentary provided in relation to the adjacent mechanical plant. Section 5.6 needs a bit more careful discussion and is missing the internal targets we provided in the last review - without those internal targets we don't know what internal criteria have been adopted in the last line of this section.

Comments provided 14 June 2019

- We need more commitment in the report, a lot of it is general discussion and there is no inspection during the late night to address our concerns with some of the late night venues. Some suggested conditions:
    - A revised acoustic report to provide an assessment of late night music noise between midnight and 1am and 2am and 3am on a Friday or Saturday night. Should the music assessment demonstrate exceedances in SEPP N-2 requirements, the revised acoustic report must provide recommendations for the building façade design to demonstrate the proposal will achieve internal SEPP N-2 noise limits with windows and doors closed.
    - A revised acoustic report to assess noise from nearby commercial mechanical plant and patron noise and to demonstrate internal noise targets of 30dBA Leq will be achieved in bedrooms, 35dBA Leq in living rooms, and 55dBA Leq on private balconies.

Attachment 12 - PLN17/1014 - 171-173 Swan Street - Waste Management comments

MEMO

From	**Patrick Orr** Acting Services Contracts Coordinator
To	**Laura Condon**
Application No:	**PLN17/1014**
Description:	**Review of Waste Management Plan – 5 storey residential and commercial building**
Address:	**No.171-173 Swan Street, Richmond**

Comments provided 18 April 2019

The waste management plan for 171-173 Swan St, Richmond authored by Loop Architecture and dated 12/04/19 is not satisfactory from a City Works branch's perspective. Issues to be rectified include, but may not be limited to the following:

1. Council has a limit on the sizes of waste and recycling bins that are provided to businesses. Please check the website for further information.
2. Council does not allow private and council services to operate at the same site.

Further comments provided 14 June 2019: Conditions to address issues with waste management plan for 171-173 Swan St, Richmond authored by Loop Architecture and dated 12/04/19

- Commercial is fine in the plan. We asked this building to go to a private service because the commercial waste generation rates were higher than what is reasonable from a kerbside allocation. Once a private collection is nominated, commercial waste can be more reflective of that particular business.
- Condition residential bins need to be 1x240L waste and 1x240L recycling.
- Condition private collection for the whole development.

Attachment 13 - PLN17/1014 - 171-173 Swan Street - Heritage comments

City of Yarra
Heritage Advice

Application No.: PLN17/1014: Assessment on original application plans

Address of Property: 171 – 173 Swan Street, Richmond

Planner: Laura Condon

Yarra Planning Scheme References: Clauses 43.01, 21.05 and 22.02.

Heritage Overlay No. 335 **Precinct:** Swan Street, Richmond Precinct. External paint controls apply.

The north side of the Swan Street Precinct abuts HO332, the Richmond Hill Heritage Overlay Area, Area D which is predominantly a low-rise Victorian and Edwardian residential area dominated by two church spires at the peak of Richmond Hill.

Level of significance Double-storey shop and offices, is listed as being Not contributory in Appendix 8, *City of Yarra Review of Heritage Overlay Areas 2007 (Revised May, 2018)*.

The citation in the *City of Yarra Review of Heritage Overlay Areas 2007 (Updated March 2013*), prepared by Graeme Butler, reads, *inter alia*:

> The Swan Street Heritage Overlay Area, Richmond is significant:
>
> - As one of the two major early commercial thoroughfares in the former City of Richmond, with a good collection of well-preserved, mainly Victorian and Edwardian commercial buildings, containing a mixture of shops, hotels and other commercial buildings, many of which are substantially intact at first floor level, with a number of historic shopfronts at ground floor, including those dating from the interwar period;
> - For the landmark or individually significant buildings from all eras including early hotels, from the gold rush era, and famous retail stores such as Maples, Dimmey's and Ball and Company, many with architecturally significant upper facades; and
> - As a good illustration of commercial architectural styles in the City, from the late 1850s to the inter-war period. [Emphasis added]

It also notes that:

> Some 24% of the buildings identified along Swan St are from the early Victorian-era and nearly 26% are individually significant, being a high percentage among other Heritage Overlay Areas but typical for the City's old commercial strips, with Brunswick St being 21%, Smith Street 27%, Queens Parade at 33%. [Emphasis added]

It also identifies façade parapets and two storey wall heights as contributing to the significance of the precinct. In addition, Individually significant buildings which make a major contribution to the nature and scale of the historical streetscape are no higher than three storeys (Maples (Nos. 122-124 Swan Street – Individually significant), Dimmey's clock tower (No. 150 Swan Street - Individually significant), the National Bank of Australasia (No. 105 Swan Street - Individually significant) and part of the former ANZ Bank site (No. 127 Swan Street). The new

building on the Dimmey's site (approximately 10 storeys) is set considerably back from the streetscape so as to preserve its heritage nature and that of the Dimmey's clock tower.

Proposal

Demolition of a non-contributory building and construction of a six-storey building above a single level basement.

Drawing Numbers

31 pages of town planning drawings; prepared by Loop Architecture, Council date stamp, 24 Nov 2017 and 08 Feb 2018.

Context

The context of Dickman Street behind and around the site, including the car park, is non-descript and of no heritage value. The principal heritage concern is the impact on Swan Street and in views southwards from Richmond Hill. The Swan St. precinct has a consistency of scale (predominantly two storeys), buildings from similar eras, with generally stylistically similar detailing and with some higher buildings which are individually significant (see above) and which should remain dominant along the street wall line i.e. in views along Swan Street from east and west. Swan Street also has a fine grain.

Assessment of Proposed Works

Demolition

There is no issue with the demolition of a Non-contributory building.

Proposed works

Built form (height/setbacks)

The building height appears to be 20.77 metres which is higher than No. 125 – 133 Swan Street which is a comparable site (on the corner of Clifton Street). I believe that the approved height was 17.17 metres, reduced from the originally proposed height of approximately 19 metres (for a five storey building). Presently, and leaving aside the Dimmeys apartment building, which incidentally is a different consideration and not a relative comparator here, No. 125 – 133 Swan Street is already the highest building in the Swan Street Precinct. The height proposed on the present site will also be out-of-keeping and one level should be deleted to reduce the height to approximately 17 metres. The heritage assessment of the proposal at No. 125 – 133 Swan Street was that it would be out-of-keeping and this has been borne out by existing conditions in Swan Street now. That said, the design evolved as a response to heritage concerns and some aspects are now acceptable or have been ameliorated in some degree.

The street wall height proposed is 10 metres which is 2.25 metres higher than the abutting buildings to the west, which are both Contributory. However, 10 metres is in the height range for a Victorian commercial building; there are historical precedents for higher façades on some sites in Swan Street; the historical height of street walls varies; and the street wall of No. 125 – 133 Swan Street is comparable to that which is proposed here and which is acceptable. The street wall height on this site is acceptable.

The setbacks from Swan and Dickman Streets at Levels Ground, 1 and 2 are zero which is acceptable.

At Level 3 the setback from Swan Street is 3 metres to the balustrade and 3 metres to the elevation. The setback to Dickman Street is 1 metre.

At Levels 4 - 5 the setback from Swan Street is 6 metres to the elevation there is no balcony. The setback to Dickman Street is 1 metre

The setbacks to Levels 3 – 5 appear to be broadly comparable to those at No. 125 – 133 Swan Street and are acceptable.

No. 125 – 133 Swan Street, Richmond. Note that on this site the street wall height is effectively the same as the abutting building to the west.

Attachment 13 - PLN17/1014 - 171-173 Swan Street - Heritage comments

The design of No. 125 – 133 Swan Street, Richmond echoes the characteristics of this former hotel building on the corner of Docker and Swan Streets and in this regards is an appropriate response to the streetscape.

In addition to the abutting shops to the west, the street wall façade design should also be a response to the shops on the opposite (east) corner of Dickman and Swan Streets, in a similar way that No. 125 – 133 Swan Street responds to the streetscape. That is not to say copy it but rather understand the historic streetscape and express it in a contemporary manner to achieve a comfortable, subtle and recessive appearance.

Colours/materials

The street wall façade has been designed as three components which is an acceptable response to the fine grain of the street. The eastern two thirds has a pair of vertically-oriented rectangular windows extending over two levels which is without historic precedent in the Swan Street Precinct. While the windows are separated by a spandrel where the floor level abuts the façade, in the perspectives the spandrel is almost invisible and fails to be a separating element which indicates separate floor levels. The fenestration needs to be redesigned to indicate the separate floor levels.

The western third has a balcony at Level 2 which is within the street wall façade. There are no balconies at this level in the Swan Street Precinct which is comprised of "a good collection of well-preserved, mainly Victorian and Edwardian commercial buildings … many of which are substantially intact at first floor level." The balcony will create a void which will be out-of-keeping in terms of its depth and opening size. Either delete the balcony or re-design this portion of the façade to make the balcony less apparent, such as set it back behind a window as on the level below – meaning unify the façade as per the eastern portion.

The east elevation has been designed with a curved section rather like a ship's bow at one end and the castle, or bridge, at the other. An inverted element is also at the Ground level and a similar shiplike element is on the north elevation which faces Richmond Hill. There is no precedent for such a design in Swan or Dickman Streets where elements are rectilinear in various sizes and proportions. This shiplike element should be redesigned to respond to the historic streetscape and to be in-keeping with it i.e. be more rectilinear. The new built form should not stand out; rather it should be a subtle or comfortable element in the streetscape derived from an understanding of the historical characteristics.

Given the scale of the drawings it is not clear whether the shopfront has a stallboard or plinth, although the perspectives indicate that there are none. As these are typical in Swan Street the inclusion of a similar element is required.

The colours and materials palette is generally acceptable however other than for Dimmeys there is little precedent for red face brick. Further, the combination of the red brick and the white brick facing is strident and discordant. The red brick facing should be reconsidered as should the combination of the red and white – something more subdued and recessive is preferred such as at No. 125 – 133 Swan Street which evolved in response to the heritage assessment.

Perforated mesh is proposed for the garage door and possibly elsewhere. There are increasing numbers of examples of recently constructed apartments in Yarra where this material has been used similarly. Due to lack of maintenance even on recently constructed buildings it has become dusty and damaged. Some material which does not attract urban detritus is required.

Recommendation / Comments:

As designed the building is too high and in this regard is out-of-keeping in the precinct. While the street wall façade design to Swan and Dickman Streets, in terms of proportion, rhythm etc. is an acceptable response to the streetscape, this is undermined by unrelated detailing which is an inappropriate response to the historic attributes of the streetscape. The levels above the street wall are attention-grabbing and need to be redesigned to have a far more subtle, subdued and recessive appearance.

Not approved at this time as the following changes are required:

Delete one level from the building overall to reduce the height to approximately 17 metres.

Attachment 13 - PLN17/1014 - 171-173 Swan Street - Heritage comments

The fenestration of the eastern portion of the street wall façade needs to be redesigned to indicate the separate floor levels behind as is typical in Swan Street – refer to the pattern of fenestration at No. 125 – 133 Swan Street.

Either delete the balcony to Swan Street at Level 2 or re-design this portion of the façade to make the balcony less apparent, such as set back behind a window as per the design of the level below – meaning unify the façade as per the eastern portion.

Delete the shiplike elements on the east and north elevations so as to respond to the historic streetscapes and to be in-keeping with them i.e. be more rectilinear.

A plinth to the shopfront is required.

Reconsider the combination of the red and white brick facing so as to have something more comfortable, subdued and recessive in appearance.

Replace the perforated mesh with a material which does not attract urban detritus.

Signed:

Robyn Riddett

Director – Anthemion Consultancies

Date: 28 August, 2018.

Attachment 13 - PLN17/1014 - 171-173 Swan Street - Heritage comments

City of Yarra
Heritage Advice – 1st section 57A Amended Plans

Application No.: PLN17/1014

Address of Property: 171 – 173 Swan Street, Richmond

Planner: Laura Condon

I provided advice of 28 August, 2018, and I understand that the amended plans discussed below are a response to that advice. Information contained in the previous advice is only included here as relevant.

Yarra Planning Scheme References: Clauses 43.01, 21.05 and 22.02.

Heritage Overlay No. 335 **Precinct:** Swan Street, Richmond Precinct. External paint controls apply.

The north side of the Swan Street Precinct abuts HO332, the Richmond Hill Heritage Overlay Area, Area D which is predominantly a low-rise Victorian and Edwardian residential area dominated by two church spires at the peak of Richmond Hill.

Level of significance Double-storey shop and offices, is listed as being Not contributory in Appendix 8, *City of Yarra Review of Heritage Overlay Areas 2007 (Revised May, 2018)*.

Proposal

Demolition of a non-contributory building and construction of a five-storey (previously six-storey) building above a single level basement.

Drawing Numbers

13 pages of town planning drawings; prepared by Loop Architecture, Council date stamp, 08 Apr 2019.

Assessment of Proposed Works

The Recommendations / Comments in my previous advice are:

As designed the building is too high and in this regard is out-of-keeping in the precinct. While the street wall façade design to Swan and Dickman Streets, in terms of proportion, rhythm etc. is an acceptable response to the streetscape, this is undermined by unrelated detailing which is an inappropriate response to the historic attributes of the streetscape. The levels above the street wall are attention-grabbing and need to be redesigned to have a far more subtle, subdued and recessive appearance.

Not approved at this time as the following changes are required:

Delete one level from the building overall to reduce the height to approximately 17 metres.

One level has been deleted and the height proposed is now approximately 18.36 metres to the Overrun and 17.35 metres to the parapet. This is acceptable.

The fenestration of the eastern portion of the street wall façade needs to be redesigned to indicate the separate floor levels behind as is typical in Swan Street – refer to the pattern of fenestration at No. 125 – 133 Swan Street.

The fenestration is now acceptable.

Either delete the balcony to Swan Street at Level 2 or re-design this portion of the façade to make the balcony less apparent, such as set back behind a window as per the design of the level below – meaning unify the façade as per the eastern portion.

The balcony has been set back behind a window and the façade (south elevation to Swan Street) of the west portion at Levels 1 and 2 are now the same as each other and are different from the eastern portion. This is acceptable.

Delete the shiplike elements on the east and north elevations so as to respond to the historic streetscapes and to be in-keeping with them i.e. be more rectilinear.

Both the façade and the eastern elevation (Dickman Street) are now acceptably rectilinear.

A plinth to the shopfront is required.

An acceptable plinth has now been included.

Reconsider the combination of the red and white brick facing so as to have something more comfortable, subdued and recessive in appearance.

The overall appearance is in accord with this recommendation but white polished concrete (EF01) is proposed for the western portion of the Swan Street (south) façade and return wall on the west side and grey polished concrete (EF02) for the south portion of the east (Dickman Street) elevation. On this elevation off form concrete with a timber texture (EF18) is also proposed around the entrance. Experience in Yarra continues to show that exposed concrete with whatever finish treatment, particularly at the street level (Dickman Street entrance) does not maintain a pristine appearance as should be the case in these significant streetscapes and a major thoroughfare. A different treatment is required i.e. one which will maintain a pristine appearance over time e.g. grey and white brickwork in stretcher bond or painted render to Swan Street and possibly stone or ceramic to the entrance in Dickman Street – these are indicative suggestions and there might be other materials which are acceptable. The colours proposed are acceptable. This could be a permit condition to the satisfaction of the Responsible Authority.

I note that the timber is actually timber-look aluminium which will not rot or change colour as a consequence of weather. This is acceptable.

Replace the perforated mesh with a material which does not attract urban detritus.

At this time I am not sure exactly what was proposed previously but the perforated panels (EF08) and the perforated mesh for the balustrade (EF09) do not deal with the issue raised. There are numerous examples in Yarra where this material also attracts urban detritus and where used for a vehicle entrance, has been damaged and not repaired and is unsightly in the

streetscape. Vertical bars, or a solid material is preferred. This could be a permit condition to the satisfaction of the Responsible Authority.

Recommendation / Comments:

Approved, subject to replacing the exposed concrete and metal mesh/perforated metal with other materials as recommended above.

Signed:

Robyn Riddett

Director – Anthemion Consultancies

Date: 21 May, 2019.

Attachment 14 - PLN17/1014 - 171-173 Swan Street - Urban Design comments

CITY OF YARRA

MeMO

TO:	Laura Condon (Statutory Planning)
FROM:	Amruta Pandhe (Urban Design)
DATE:	16 July 2018: Comments on original application plans
SUBJECT:	171-173 Swan Street, Richmond
APPLICATION NO:	PLN17/1014
DESCRIPTION:	Construction of a six storey mixed use development incorporating residential, retail and commercial uses.

COMMENTS SOUGHT

Urban Design comments have been sought on:

- Acceptability of proposed height;
- Appearance, architectural quality and material;
- Upper level window design to Swan Street; and
- Compliance with the incoming DDO

These set of comments are provided on the plans received on 24 November 2017.

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 by removing the top level;
- Increase the upper level setback along Dickmann Street;
- The design of the street wall needs to give consideration to the architectural details of surrounding heritage buildings and 3-dimensional form when viewed from the public realm;
- The windows on the street wall fronting Swan Street are not acceptable;
- The design of the upper levels needs more articulation in form (not just through material) to reflect the use of the building and provide an interesting form by balancing light and shadow;
- The ground floor interface along Dickmann Street needs to be improved;
- The floor to ceiling height for level 1 should be increased;
- The window and balcony along northern frontage for Level 5 present equitable development challenges.
- The internal layout of some apartments are concerning as they provide very small spaces that do not appear to be functional; and
- There are some discrepancies in elevation and 3d renders which makes it challenging to assess.

Attachment 14 - PLN17/1014 - 171-173 Swan Street - Urban Design comments

DEVELOPMENT PROPOSAL

The development proposes demolition of existing building and construction of six storey mixed use development. The proposal provides pedestrian entrance from Swan Street and Dickmann Street and vehicular entrance from Dickmann Street.

URBAN DESIGN FEEDBACK

- **Height and Massing**
  The subject site sits within Swan Street activity centre where there is a need to balance accommodating growth and respecting heritage significance of the place. Clause 22.02 seeks new development in heritage overlay to not dominate the heritage place and respect the character of the historic streetscape. There is consideration given to Council's current amendment for interim controls for Swan Street in this assessment.

  The six storey development comprises retail at ground floor, office at first floor and apartments for upper levels. The proposed building height (excluding architectural features) is 19.8m. The proposed streetwall height is 10m that transitions down to 8m on the western side.

  The surrounding context of site has predominantly two storey heritage buildings with majority being of contributory and individually significant gradings. All the heritage buildings sit within an activity centre and hence it is accepted that there will be some level of development above the heritage buildings. However, these are only 2 storey (8m) heritage buildings which might allow for additional 2-3 storeys above them. This assumption is based on standard practise of upper level occupying one-third or one-quarter of the vertical angle defined by the whole building in the view from opposite side of the footpath. It is important that new infill developments on non-heritage sites do not compete and dominate these heritage sites. The current proposal for six storey will dominate the two storey heritage streetscape and provide a visually bulky form which is not acceptable in this context. Any new development on subject site should merge into its existing and potential future setting rather than draw too much attention to itself. To ensure future development respects the intact heritage character the DDO recommends a mandatory overall height of 18m for the northern side of Swan Street. Hence, the proposed overall height is not acceptable and it is suggested to remove the top level.

  Further, it is noted that the floor to ceiling height for retail and apartment spaces are acceptable, however, the 2.9m height for office level is not acceptable. Commercial uses generally have service requirements and hence it is preferred to have a 4m floor to ceiling height. It is recommended to provide a higher floor to ceiling height for Level 1.

  The proposal presents a three storey street wall with upper level setback by 6m from Swan Street and 1m from Dickmann Street. The site is a corner site and hence the demarcation of corner by a slightly higher street wall and transition from 10m to 8m at the heritage interface is an acceptable outcome. The upper level setback of 6m will positively contribute in maintaining the street wall as a distinct element in the streetscape and respects the surrounding heritage. The 1m setback from Dickmann Street does not contribute in clearly distinguishing the lower form and upper form. Hence, the street interface almost reads like a 6 storey sheer wall. This is not acceptable and it is recommended to increase the setback along this interface.

- **Architecture and Design Details**
  Clause 22.02 seeks new development in heritage overlays to consider the architectural integrity and context of the heritage place or contributory elements. The architecture of the development needs work to respond appropriately to the surrounding context. The information provided on number of elevations, sections and 3d renders don't match which makes it challenging to assess the proposal.

  The design of street wall needs to give consideration to the architecture details of the surrounding heritage buildings (like design and proportion of windows and colour of doors/windows frames). The windows on the corner element of three storey street wall does not provide clear distinction between the floor levels making the development stand out too much. The elevations show that there is a paint used in the central section of this window, whereas

the 3d renders show use of glass throughout the windows. The street wall along Dickmann Street is very busy with use of multiple materials. The design of the street wall needs to be improved and should give consideration to three-dimensional form when viewed from public realm.

The design of the upper levels needs more articulation in form and not just through use of multiple materials. The design will be benefit if the form reflects the use of the building. Given the scale of the development it is important that the upper levels provides an interesting form by balancing light and shadow through use of recessed windows, balconies, integrating shading, etc. Currently there are number of materials used and each level is separated by a band of glass over solid wall, two colour of bricks and grooved element to create articulations. The use of glass over solid wall for large portions will not provide an architecturally interesting façade, particularly along south and east elevation. The details of this grooved elements are not clear as they are shown in elevations and 3D renders but the cross-sections don't have them. It is suggested to relook into the design of the facades and provide correct information. The use of brick for upper levels and grey render for streetwall is supported.

The pedestrian entrance from Dickmann Street for upper levels is not wide and clearly legible. The ground floor interface along Dickmann Street will be beneficial by use of better materials. It is recommended to avoid use of mesh over solid paint finish.

- **Equitable Development**
  The subject site needs to take into consideration the development opportunities of the adjoining sites along northern and western boundary. The majority of the development is okay except the window and balcony along northern frontage for Level 5. As recommended above level 5 needs to be removed and this will contribute in resolving this concern.

- **Other concerns**
  The design presents some internal layout concerns. For example, the private open space (balcony), kitchen and living area for some apartments are very small and do not appear to be very functional. It is recommended to explore opportunity to provide wider windows for the bedroom windows.

Attachment 14 - PLN17/1014 - 171-173 Swan Street - Urban Design comments

CITY OF YARRA

MeMO

TO:	Laura Condon (Statutory Planning)
FROM:	Lucy Ferguson (Urban Design)
DATE:	22 May 2019
SUBJECT:	171-173 Swan Street, Richmond
APPLICATION NO:	PLN17/1014
DESCRIPTION:	Construction of a five storey mixed use development incorporating residential, retail and commercial uses.

COMMENTS SOUGHT

Urban design comments have been sought on the following matters:

- Is the revised design acceptable and has it addressed concerns raised in the original urban design advice?
- Are there are any capital works approved or proposed within the area of the subject site (as relevant to the planning application)?

These set of comments are provided on the plans with issue date 1 April 2019 (Rev Q). We refer to our previous comments provided on 16 July 2018. Comments are provided below from an urban design perspective. Please refer to comments from Strategic Planning for a detailed assessment against Design and Development Overlay 17 – Swan Street Activity Centre (DDO17).

COMMENTS SUMMARY

A number of key concerns have been addressed including the overall height of the development. A few comments remain relevant to the revised proposal and new concerns have arisen. 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.

- Minimise the extent and visibility of the roof plant from the public realm.
- Clarify the height of screening to Level 3 balcony to determine the impact on the street wall distinction.
- Increase the upper level setback above the street wall along Dickmann Street.
- Simplifying the architectural composition and detail of the proposals Swan street wall.
- Ensure the material palette and composition reinforces the base and recessive upper composition to Dickmann Street.

There are planned capital works around the site which are being led by the Urban Design team.

DEVELOPMENT PROPOSAL

- The development proposes demolition of existing building and construction of five storey mixed use development. The proposal provides pedestrian entrance from Swan Street and Dickmann Street and vehicular entrance from Dickmann Street.

Attachment 14 - PLN17/1014 - 171-173 Swan Street - Urban Design comments

URBAN DESIGN FEEDBACK

Height and Massing

- The reduction in height from six to five storeys and amendments of floor to floor heights, results in an overall height of 17.38m (plus lift overrun), in keeping with the mandatory 18m height (DDO17). The proposed revised overall height at five storeys is supported as per previous comments.
- In response to previous comments regarding functional floor to floor heights, the revised design increases the floor to floor height for Level 1 commercial tenancy from 2.9m to 3.6m.
- The extent of screened roof plant area has increased substantially from the previous scheme. The visibility and bulk of this upper level cap from the public realm should be minimised.
- The previous scheme employed a stepped street wall from 3 to 2 storeys to meet the existing street wall to the immediate west. The amended scheme provides a consistent 3 storey street wall with a parapet height of 11.1m. Despite the consistent height approach, the distinction of materiality and fenestration has been maintained. The consistent three storey street wall is appropriate within the immediate context.
- The proposed balcony (Apartment 3 - POS) at Level 03, projects into the 6m setback, contrary to the requirements of DDO17. We note there is a discrepancy in plan and elevation as to the height of balcony screening, as it is nominated on plan as 1.7m high, however appears lower in elevation. The height of this will determine the extent of visibility, appearance as a secondary parapet and distinction of the street wall.
- The 1m upper level setback along Dickmann Street does not distinguish the street wall and upper levels. The lack of meaningful setback combined with the materiality and composition results in a form that overwhelms the narrow (approx. 10m wide) Dickmann streetscape. As per the previous urban design comments provided the setback should be increased along Dickmann Street.

Architecture and Design Details

- The amended material palette consists of pre cast/render polished concrete (grey and white), tile (off-white), brick (off-white), render (white and grey), off form concrete (timber texture grey), cladding (natural timber look), perforated panel and mesh (charcoal).
- As an infill building within the Heritage Overlay (HO335), the façade treatment and articulation must be simple, respect the vertical proportions of and not compete with adjoining heritage buildings (DDO17). Similarly Clause 22.02 seeks new development to preserve the scale and pattern of streetscapes.
- The street wall fenestration along the Swan Street and southern portion of Dickmann Street has been amended in response to previous comments and expresses the first and second storey levels in keeping with the surrounding context. However the increased punctuation, combined with the change in materiality and detail along the Swan Street frontage where the street wall previously stepped down create an overly complex street wall. We suggest the proposal employ a consistent design along the Swan Street frontage, in materiality, fenestration and design detail to simplify the street wall. Ensuring the scale and rhythm of fenestration maintains visual proportions relative to the immediate streetscape.
- With regard to the Dickmann Street (East) Elevation, the palette of proposed material composition exacerbates the lack upper level setback and defined street wall along Dickmann Street, presenting as shear wall. The composition should work to reinforce the three storey base and recessive 2 storey upper level form, as the proposal utilises the same palette and language across Levels 2-5.
- The Dickmann Street pedestrian entrance remain is recessed and approximately 1.8m wide. While the width remains unchanged, the amended materiality is sufficient in improving the legibility and appearance of the entrance. The removal of perforated metal over solid wall and use of off form concentre in timber finish at Ground Floor is supported.

Attachment 14 - PLN17/1014 - 171-173 Swan Street - Urban Design comments

- The architectural resolution of the western sheer boundary wall has diverged from the previous scheme. The palette is limited to predominately brick (off-white) with tile (white), with the exception of a small portion at Level 02. The revised design provides some level of articulation, and is adequate in oblique streetscape view along Swan Street until such time as adjoining allotment redevelops.

Equitable Development

- The proposal has direct abuttals with two properties within the C1Z and affected by DDO17. To the west is a two storey commercial building (No 169 Swan Street) and to the north is an at-grade car park (No 69-75 Docker Street).
- On-boundary construction for the full height of the proposal to the west is sound, and reasonably facilitates the equitable development opportunities of the C1Z abuttal.
- Along the northern interface the proposal is setback 1.3m (approx.) at Ground Floor and Level 01, over the carriageway easement, with north facing glazing to the Level 01 commercial tenancy. Levels 02-04 are built to boundary, with dual aspect balconies at Level 02 (Apartment 2) and Level 04 (Apartment 3) located along this interface.
- While the proposal will provide upper level surveillance to the existing car park, it is also a C1Z site within the Activity Centre and DDO17. If the site was to develop in the long term, it has comparatively larger dimensions, allowing for greater design flexibility and ability to adopt a greater role in managing amenity and equitable development along the common boundary.

Capital Works Projects

- The Urban Design Unit is planning to upgrade streetscape furniture fixtures along the length of Swan Street next financial year (funding to be confirmed). As part of these works the existing furniture and fixtures, may be replaced or reinstated to meet the current standard suite and create a consistent and well-presented streetscape.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

PLANNING APPLICATION REFERRAL TO STRATEGIC PLANNING
Strategic planning comments- 1st 57A amended plans

Strategic Planning comments are provided below.

The comments in this assessment focus on compliance with Design and Development Overlay 17 (DDO17). They do not provide commentary on other sections of the planning scheme or fully assess the internal amenity impacts of the application.

Development details

Property address	**171-173 Swan St Richmond VIC 3121**
Application number	**PLN17/1014**
Referral prepared by	Alayna chapman
Description	Demolition of the existing building for the development of a five-storey mixed use building, including a reduction in car parking requirements.
Relevant amendment & status	**Approved interim controls** In October 2018, the Minister for Planning approved Amendment C263. This amendment introduces new planning controls to the Swan Street Major Activity Centre. Schedule 17 to Clause 43.02 – Design and Development Overlay applies to the site. No transitional provisions apply. **Permanent controls** The Amendment C191 proposes to introduce a Design and Development Overlay to the area (Schedule 17 to the Design and Development Overlay) on a permanent basis. Amendment C191 also proposes to: • Rezone properties within the Commercial 2 Zone to the Commercial 1 Zone. • Apply the Environmental Audit Overlay to some sites being rezoned from the Commercial 2 Zone to Commercial 1 Zone. • Introduce a new local area policy at Clause 21.12 of the Yarra Planning Scheme. • Apply the Heritage Overlay to 15 places. • Remove 4 places from the Heritage Overlay. • Regrade 3 places as 'not contributory' to the broader heritage precinct. • Remove 57 Swan Street (the Corner Hotel) from the Richmond Hill Precinct (HO332) and include it as an individually significant place within the Swan Street Precinct (HO335). • Correct a number of historical mapping errors. Council is exhibiting Yarra Planning Scheme Amendment C191 (Swan Street Activity Centre) from Thursday 28 February until Monday 15 April 2019 (six weeks). The permanent controls vary slightly to the interim controls due to the Minister for planning proving authorisation to prepare the Amendment subject to conditions.
Existing and proposed controls	• Commercial 1 Zone (C1Z)

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

	• Design and Development Overlay Schedule 17 – Swan Street Activity Centre Precinct t 2 (DDO17-2)
Subject Site	

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Strategic Planning comments - Summary

- The purpose of the definition section in DDO17 is to clarify the meanings of terms used throughout the control. The definitions are to be used in addition to (and not contradict) those contained in Clause 73.01.

  The definition of "setback" in DDO17 is the shortest horizontal distance from a building façade, including projections such as balconies, building services and architectural features, to the boundary.

  The proposed balcony/ POS (with a 1.7 high screen) is a projection and thus a façade along Swan Street. It also clearly creates a well-defined secondary parapet.

  Given the above, the actual upper-level setback along Swan Street is 3m at Level 3 (not 6m) and, as such, does not comply with the mandatory minimum upper-level setback of 5m in DDO17.

- The DDO provides an exemption for lift, plant, equipment and services from the overall height if specific criteria are met. While the service equipment is positioned to somewhat minimise views from the public realm, it does not appear that the criteria has been met in terms of the floor area of the equipment and integration into the design of the building.

Other comments:

- The proposal does not exceed the mandatory maximum height in DDO17 of 18m.
- While the street wall parapet height does not match the height of the adjoining contributory heritage buildings, the proposed street wall heights, along Swan Street and Dickmann Street, do comply with the requirement of 11m max. As such, the proposal reinforces and responds to the street wall edge and create a distinct difference between upper and lower levels.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Assessment of compliance with built form requirements

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
Building height	**Mandatory:** 18m (approximately 5 storeys) (excluding lift, plant and services) Non-structural elements that project above the building must meet all the following criteria: • The total roof area occupied by the equipment (other than solar panels) is minimised; • The service equipment is located in a position on the roof so as to minimise its visibility; • The non-structural elements and service equipment minimise additional overshadowing of neighbouring properties and public spaces; • The equipment does not extend higher than 3.6 metres above the maximum building height; and • The non-structural elements and equipment are integrated into the design of the building the	17.38m (10 storeys) - taken from the lowest existing site level South West of Corner Swan Street). This excludes lift, plant and services.	• The proposal at 17.38 **does comply** with the preferred maximum building height requirement of 18m in DDO17. The DDO provides an exemption for lift, plant, equipment and services from the overall height if specific criteria are met. While the service equipment is positioned to somewhat minimise views from the public realm, it does not appear that the criteria has been met in terms of the floor area of equipment and integration into the design of the building – it's very prominent from all angles in the elevations. Note: Dimensions were unclear on scanned plans.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	satisfaction of the responsible authority.		
Street wall height	**Mandatory:** 11m maximum or the parapet height of the adjoining individually significant or contributory building if higher than 11m along Swan Street. 8m minimum along Swan Street. **Preferred:** Match the parapet height of the adjoining heritage building along Swan Street. 11m maximum along Dickmann Street. A permit cannot be granted which exceeds the relevant preferred maximum street wall height and/or reduces the relevant preferred mandatory minimum setback requirements specified in this schedule unless the following are met, to the satisfaction of the responsible authority: • The built form outcome as a result of the proposed variation satisfies the general design objectives in Clause 1.0 of this schedule,	South elevation (Swan Street) 10.79m – 11m. Adjoining Heritage Buildings along Swan Street: • Swan Street 169 Richmond Shop & residence 1 contributory constructed c. 1850-1890 • Swan Street 170 Cremorne Shop & residence constructed c contributory 1900-1915 East elevation (Dickmann Street) 11m.	• DDO17 seeks to reinforce a consistent 11m (approximately 3 stories) street wall along Swan Street. While the street wall parapet height does not match the height of the adjoining contributory heritage buildings, the proposed street wall heights, along Swan Street and Dickmann Street, do comply with the requirement of 11m max. As such, the proposal reinforces and responds to the street wall edge and create a distinct difference between upper and lower levels. • In accordance with the Street Wall and Setbacks design requirements, the first two floors are designed with floor to floor ceiling heights (4.09m) suitable to accommodate commercial activity (the development proposes shop at ground floor and office space at first floor). The frontage at ground floor also incorporates a return verandah, consistent with the form and scale of adjoining verandahs, into the façade design. Note: Dimensions were unclear on scanned plans.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	• The built form outcome because of the proposed variation satisfies the relevant requirements specified in this schedule. following requirements also apply to the design of the street wall and upper levels: • Frontages at ground floor and within the street wall must be designed with floor to floor ceiling heights suitable to accommodate commercial activity. • Frontages at ground floor must incorporate verandahs, consistent with the form and scale of adjoining verandahs, into the façade design. • Development must be designed to adopt the same street setback from all interfaces for a minimum of 65% of the height of upper levels to avoid repetitive stepped form. • Upper level development must be designed to ensure buildings are expressed in the round and provide detail on facades when viewed from all directions.		

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
Street wall Setback	**Maximum:** 0m **Preferred:** 0m A permit cannot be granted which exceeds the relevant preferred maximum street wall height and/or reduces the relevant preferred mandatory minimum setback requirements specified in this schedule unless the following are met, to the satisfaction of the responsible authority: • The built form outcome as a result of the proposed variation satisfies the general design objectives in Clause 1.0 of this schedule, • The built form outcome because of the proposed variation satisfies the relevant requirements specified in this schedule.	Swan Street setback: 0m Dickmann Street: 0m	• The proposed street wall setbacks along Swan Street and Dickmann Street **do comply** with the preferred 0m setback.
Upper lever setback	**Maximum:** 5m minimum setback along Swan street **Preferred:**	Swan Street setback: 6.0m (includes a 3.0m trafficable space/terrace/balcony with 1.7 high, 25 % permeable screen). Dickmann Street: 1.0m	• The purpose of the definition section in DDO17 is to clarify the meanings of terms used throughout the control. The definitions are to be used in addition to (and not contradict) those contained in Clause 73.01. The definition of "setback" in DDO17 is the shortest horizontal

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	For all development (along Swan Street) in a heritage overlay, any part of the building above the heritage street wall should be designed to ensure that it occupies no more than one third of the vertical angle defined by the whole building in the view from a sight line of 1.7 metres (on the opposite side of the street). 5m minimum (along Dickmann Street) for land affected by HO335 and individually significant buildings. 3m minimum elsewhere. A permit cannot be granted which exceeds the relevant preferred maximum street wall height and/or reduces the relevant preferred mandatory minimum setback requirements specified in this schedule unless the following are met, to the satisfaction of the responsible authority: • The built form outcome as a result of the proposed variation satisfies the general design objectives in Clause 1.0 of this schedule, • The built form outcome as a result of the proposed		distance from a building façade, including projections such as balconies, building services and architectural features, to the boundary. The proposed balcony/ POS (with a 1.7 high screen) is a projection and thus a façade along Swan Street. It also clearly creates a well-defined secondary parapet. Given the above, the actual upper-level setback along Swan Street is 3m at Level 3 (not 6m) and, as such, the **setback does not comply** with the mandatory minimum upper-level setback of 5m in DDO17. • The development's upper-level setback along Dickmann Street is 1m and also does not comply with the preferred minimum upper-level setback of 5m in DDO17. DDO17 requires that all relevant built form outcomes and criteria must be met before a variation can be supported. It is considered the proposed building height does not satisfy key objectives and relevant requirements in DDO17: Design objectives – Of the five design objectives, three key objectives are relevant: – *To recognise and respond to the distinct character and varying development opportunities defined by the four precincts along Swan Street.* – *To support a new mid rise scale built form character with lower built form at the interfaces with streets and the adjoining low rise residential areas that maintains an active, high quality and pedestrian friendly environment.* – *To ensure development maintains the prominence of the heritage street wall and respects the architectural form and qualities of heritage buildings and the heritage streetscapes.* The other objectives are not directly relevant to the consideration

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	variation satisfies the relevant requirements specified in this schedule. following requirements also apply to the design of the street wall and upper levels: • Frontages at ground floor and within the street wall must be designed with floor to floor ceiling heights suitable to accommodate commercial activity. • Frontages at ground floor must incorporate verandahs, consistent with the form and scale of adjoining verandahs, into the façade design. • Development must be designed to adopt the same street setback from all interfaces for a minimum of 65% of the height of upper levels to avoid repetitive stepped form. • Upper level development must be designed to ensure buildings are expressed in the round and provide detail on facades when viewed from all directions.		of the street wall height. While the absence of a proposed setback along Dickmann Street increases the bulk impacts of the development when view from Dickmann Street, the proposal, overall, does somewhat reinforce and respond to the street wall edge and create a distinct difference between upper and lower levels. Of the heritage design requirements, the following is relevant: – *Upper level development on land within a heritage overlay must Utilise visually lightweight materials and finishes that are recessive in texture and colour and provide a juxtaposition with the heavier masonry of the heritage facades* – *Upper level development on land within a heritage overlay must utilise incorporate simple architectural detailing that does not detract from significant elements of the heritage building and the heritage streetscape* – *Upper level development on land within a heritage overlay must utilise be articulated to reflect the fine grained character of the streetscape.* The development does include visually lightweight materials and incorporate simple architectural detailing that does not detract from significant elements of the heritage streetscape. It also respects the vertical proportions of the nineteenth and early twentieth century facades of the heritage streetscape. Precinct 2 Design Requirements - Of the eight design objectives, one key objective is relevant: – *Development must respect the consistent scale, grain and architectural quality of the highly intact heritage streetscapes and the individually significant buildings in the precinct.* It is considered that the development does somewhat respect the consistent scale, grain and architectural quality of the neighbouring

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
			heritage places. • In accordance with the Street Wall and Setbacks design requirements, the upper levels of the proposal are designed to adopt the same street setback from all interfaces for a minimum of 65% of the height of upper levels to avoid repetitive stepped form. Upper levels are also designed to ensure the building is expressed in the round and provide detail on facades when viewed from all directions.
Building separation, amenity and equitable development	**Preferred:** Where development shares a common boundary and no interface treatment is shown in Plan 1, upper level development must: • be setback a minimum of 4.5m from the common boundary, where a habitable window or balcony is proposed • be setback a minimum of 3.0m from the common boundary where a commercial or non habitable window is proposed. • Where the common boundary is a laneway, the setback is measured from the centre of the laneway.	Separation from common boundaries: • <u>west boundary (side)</u> Ground to 5 floor – 0m (blank wall built to boundary) • <u>Northern boundary (side)</u> Floors 2 – 3.4m (habitable room balconies) Floors 5 – 1.74m (habitable room balconies)	The proposal **complies** as the proposed habitable room balconies front a car park, and impacts are limited.
Overshadowing	**Preferred:** A permit cannot be granted to construct a building or construct or carry out works that would overshadow any of the following	**No shadow diagrams provided**	**Unable to comment** – however, it is likely that proposal complies with the overshadowing requirements, given height, setbacks etc.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	spaces between 10 am and 2 pm at 22nd September: • any part of the southern footpath of Swan Street measured as 4.0m from the southern road boundary of Swan Street, • any part of the opposite footpath of Church Street measured as 4.0 metres from the road boundary of Church Street • any part of the opposite footpath of Burnley Street measured as 4.0 metres from the road boundary of Burnley Street A permit cannot be granted to construct a building or construct or carry out works which are not in accordance with the overshadowing requirements specified in Clause 2.3 of this schedule unless the resultant overshadowing would not unreasonably prejudice the amenity of the public space, to the satisfaction of the responsible authority **Clause 2.3**		

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	Development must not overshadow any part of the potential future open space adjacent to the East Richmond Station (measured as beyond 7.0m from the eastern road boundary of Milton Place and beyond 10.0m from the southern road boundary of Milton Place between 10 am and 2 pm at 22nd September). Development must not overshadow any part of the opposite footpath of Lennox Street, Stanley Street, Clifton Street and Docker Street, (measured as 2.0 metres from the road boundary of the street between 10 am and 2 pm at 22nd September).		
Vehicle and pedestrian access	Development must provide vehicular access from rear lanes or from side streets in the preferred locations in the Access and Movement Plans (Plan 2, 4, 6 and 8) of this schedule except in locations identified as "Left in - Left Out Access Permitted" in the Access and Movement Plans (Plan 2, 4, 6 and 8) of this schedule. Vehicle ingress and egress into development, including loading	Vehicle access and movements have been located to the northwestern corner of the subject site.	The proposal **complies with the requirements** as Dickmann Street is designated as a preferred vehicle access side street. The vehicle access point has been located to maintain a pedestrian-friendly environment (Swan Street is the main entry point to the retail premises and is the main residential entry point). Little Lesney Street is a designated shared zone shown on the Access and Movement Plan 4 which can provide pedestrian access to the buildings, including upper-level apartments.

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Built form requirements	Amendment C263 – DDO17	Proposal	Assessment of proposal
	facilities and building servicing, must be designed to ensure a high-quality pedestrian amenity and limit potential conflict between vehicle movements and pedestrian activity. Pedestrian access to buildings, including upper-level apartments, must be from a street or a shared zone shown on the Access and Movement Plans (Plan 2, 4, 6 and 8) of this schedule. Where pedestrian access can only be provided from a laneway at the rear of buildings the pedestrian entrance must be setback from the rear laneway and well-lit to enable safe access.		

Alayna Chapman
Senior Strategic Planner, Strategic Planning
15 May 2019

Attachment 15 - PLN17/1014 - 171-173 Swan Street - Strategic Planning comments

Attachment 16 - PLN17/1014 - 171-173 Swan Street - Vicroads comments

vicroads
ABN 61 760 960 480

9 May 2019

Yarra City Council
PO Box 168
RICHMOND VIC 3121
Attention: Laura Condon

Dear Sir/Madam

PLANNING APPLICATION NO.: PLN17/1014
VICROADS REFERENCE NO: 29100/19
PROPERTY ADDRESS: 171 SWAN STREET, RICHMOND

Section 55 – No objection subject to conditions

Thank you for your letter referring details of the above application to the Roads Corporation (VicRoads) pursuant to Section 55 of the Planning and Environment Act 1987.

The application is for an awning over footpath and to kerb edge.

If Council regards the proposed development favourably, VicRoads would require that the following conditions be included in any Notice of Decision to issue a Planning Permit or Planning Permit:

1. *Prior to the commencement of the development, the owner of the land must enter into an agreement with the Department of Environment Land Water and Planning (DELWP) pursuant to Section 138A (11) of the Land Act 1958 for the elements of the approved development that project more than 300mm beyond the land's Swan Street boundary (i.e., the canopies, fixed shading devices, architectural features, balcony framing, screening etc), to indemnify the Crown in relation to any claim or liability arising from the projections within the Swan Street road reserve. This condition does not apply where written confirmation is obtained from DELWP that the above agreement is not required.*
2. *Separate consent will be required from VicRoads (the Roads Corporation) under the Road Management Act 2004 for buildings and works undertaken outside the title boundary within a Road Zone Category 1 (i.e. Swan Street). Please contact VicRoads prior to commencing any works.*

Once Council makes its decision, please forward a copy of the decision to VicRoads as required under Section 66 of the Planning and Environment Act 1987.

Should you have any enquiries regarding this matter, please contact our Planning Department on (03) 9313 1187 or MNWPlanning@roads.vic.gov.au

Yours sincerely

Ewa Fiebelkorn

EWA FIEBELKORN
STATUTORY PLANNING SUPPORT OFFICER