

NCC2022 SECTION J PART J4 PERFORMANCE-BASED DESIGN BRIEF (PBDB)

**NOVUS ON VICTORIA, CHATSWOOD
(NON-RESIDENTIAL AREAS)**

ESD SERVICES

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DOCUMENT CONTROL SHEET

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Project Name	Novus on Victoria, Chatswood
Description	NCC 2022 Section J Part J4 Performance-Based Design Brief (PBDB)
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1 INTRODUCTION

The purpose of this document is to define the environmental performance targets and objectives for the non-residential areas within the proposed shop-top housing development located at 410-416 Victoria Ave Chatswood NSW 2067.

This report has been prepared for the Department of Planning and Environment (DPE) in support of the RTS Lodgement associated with the State Significant Development Application (SSD-63324208) and in accordance with Item 15 of the SEARs issued by DPHI on 4 February 2025.

1.1 NCC 2022 SECTION J PART J4 PERFORMANCE-BASED DESIGN BRIEF (PBDB)

A Section J Part J4 performance-based design brief (PBDB) is a mandatory Governing requirement under Part A2 to identify and summarise the performance solution process and to assess and validate the proposed development against the performance requirements of NCC 2022 Volume One Amendment 2 Section J Energy Efficiency Part J4 Building Fabric.

The purpose of a PBDB is to record fundamental activities and outcomes of the performance-based design process, as agreed upon during key stakeholder negotiations.

When the PBDB is finalised, all critical activities and outcomes would have been identified.

Consequently, the design process can commence with confidence that the proposed design will be approved provided the process of the PBDB are followed.

This PBDB is a live document that is circulated to the client, project manager, architect, certifier and all other stakeholders for discussion and comments. After all such feedback is received, an “agreed framework” will be adopted and subsequently serve as the basis for design development and validation.

2 PROJECT INFORMATION

2.1 PROJECT DESCRIPTION

The project Nous on Victoria includes construction of a shop-top housing development. The non-residential areas include the following:

- **Basement Level:** Below ground storage and services.
- **Ground Floor:** Retail uses, and single access point for loading and servicing.
- **Level 1:** Retail uses connected to the Ground Floor and Basement through stairs and lifts.

The site is located at 410-416 Victoria Ave Chatswood NSW 2067, within the Willoughby City Council Local Government Area (LGA). The area is bounded by Victoria Avenue to the north, Victor Street to the east, and Post Office Lane to the south and within proximity to the train and metro station Chatswood. The site extends across approximately 1049.9m², comprising three (3) separate allotments Lot B in DP406105 (410 Victoria Avenue, Chatswood), Lot A in DP406105 (412-414 Victoria Avenue, Chatswood) & Lot 4 in DP82303 (416 Victoria Avenue, Chatswood).

The site location is identified in Figure 1.



Figure 1: Site area (Source: Nearmap, Ethos Urban)

2.2 BUILDINGS CLASSIFICATION (NON-RESIDENTIAL AREAS)

Building type and function: Class 6, Class 7

NCC Climate Zone: Climate Zone 5

Non-Residential Area	NCC Class
Basement levels	Predominantly Class 7
Ground: Bar/Bistro & Café	Class 6
Level 1	Class 6

3 SECTION J PART J4 BUILDING FABRIC

3.1 NOMINATED APPLICABLE PERFORMANCE REQUIREMENT(S)

This PBDB addresses the following performance requirements of NCC 2022 Volume One Amendment 2:

- Section J Energy Efficiency J1P1 Energy Use
 - Part J4 Building Fabric

3.1.1 OTHER PARTS OF SECTION J & SPECIFICATION 33

Compliance with other parts of Section J, namely:

- Part J5 Building Sealing;
- Part J6 Air-conditioning and ventilation;
- Part J7 Artificial Lighting and Power;
- Part J8 Heated Water Supply and Swimming Pool and Spa Pool Plant; &
- Part J9 Energy Monitoring and On-site Distributed Energy Resources,

remains the responsibility of the relevant services consultant/architect.

It is the responsibility of the contractor to ensure the construction of the proposed development complies with the requirements of J4D3 Thermal Construction – General (1) – (5). If the floor has an in-slab or in-screed heating or cooling system, it is the responsibility of the contractor to comply with slab edge insulation requirements J4D7(3) and J4D7(4).

3.2 APPLICABLE AREAS (NON-RESIDENTIAL)

The provisions of Part J4 apply to building elements forming the *envelope* of a building.

3.2.1 ENVELOPE

For the purposes of Section J in Volume One Amendment 2, Envelope means the parts of a building's fabric that separate a *conditioned space* from:

- the exterior of the building; or
- a non-conditioned space including—
 - the floor of a rooftop plant room, lift-machine room or the like; and
 - the floor above a car park or warehouse; and
 - the common wall with a car park, warehouse or the like.

3.2.2 CONDITIONED SPACE

For the purposes of Volume One Amendment 2, Conditioned Space means a space within a building, including a ceiling or under-floor supply air plenum or return air plenum, where the environment is likely, by the intended use of the space, to have its temperature controlled by air-conditioning.

See Section 5 Appendix A – Prelim Part J4 Building Fabric Markups for the agreed envelope for this development.

3.3 APPLICABLE ASSESSMENT PROCESS

The proposed performance solution to the performance requirement specified in section 3.1 above is *Verification Method J1V3 – Verification using a Reference Building*.

J1V3 is applicable for Class 3, 5, 6, 7, 8 or 9 buildings.

Under J1V3, compliance with J1P1 is verified when it is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a *reference building*. More specifically, J4 is verified when it is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building when the proposed building is modelled with the same services as the reference building as per J1V3(1)(a)(ii).

Reference building, for the purposes of this PBDB, means a hypothetical Part J4 DTS compliant building. This is used to calculate the maximum allowable annual greenhouse gas emissions for the proposed building.

As per J1V3(2)(a), the annual greenhouse gas emissions of the proposed building can be offset by renewable energy that is generated and used on-site.

In addition to the above, the proposed building must demonstrate a thermal comfort level of between a Predicted Mean Vote (PMV) of -1 to +1 is achieved across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building.

The calculation method used for determining the annual greenhouse gas emissions and thermal comfort level of the building will be in accordance with ANSI/ASHRAE Standard 140, Specification 34 Modelling Parameters for J1V3 and Specification 35 Modelling Profiles for J1V3.

As noted in section 3.1 above, it is the responsibility of the contractor, relevant services consultant and the architect to ensure the building complies with the additional requirements in Specification 33.

3.4 AGREED ACCEPTANCE CRITERIA

3.4.1 CONSTRUCTION CERTIFICATE STAGE

For Construction Certificate, the agreed acceptable documentation is a J1V3 Report containing as a minimum the following:

- General
 - Property title/address
 - Building Class and use
 - Verification Method used
 - NCC Climate Zone
 - Details of reference documentation (architectural drawings etc.)
 - Name and version and software used in the analysis
 - Name and qualifications of the person responsible for the analysis
- Proposed Building Fabric and Glazing thermal specifications
 - Total R-value, direction (upwards, downwards etc.) and solar absorptance values as applicable for opaque elements
 - Total U-value and Total SHGC as applicable for transparent/translucent elements
 - Minimum onsite renewable energy system type and peak capacity (if required)
- Modelling Inputs
 - Reference building and proposed building thermal specifications
 - Confirmation Specification 34 Modelling Parameters for J1V3 and Specification 35 Modelling Profiles for J1V3 are followed
 - For PMV: temperature setpoints, clothing value, activity level and air velocity

- Peak capacity and type of onsite renewable energy system (if any)
- Modelling Outputs
 - Annual greenhouse gas emissions of proposed building and reference building
 - Percentage of operational hours the PMV is within the range of -1 to +1 for all “conditioned” spaces.
 - 3D Image of the energy model
- Building Fabric Markups showing the extent of total R-value required

3.4.2 OCCUPATION CERTIFICATE STAGE

For Occupation Certificate, the agreed acceptable evidence for signoff is as follow:

- Letter of Confirmation from Contractor(s) that construction of the building fabric has been undertaken in accordance with this design brief and the most up-to-date revision of the J1V3 Report, including supporting evidence in the form of datasheets, calculations and purchase receipts to confirm the performance of building fabric/glazing or as required by the certifier.

3.4.2.1 Trade/Supplier Certificates

Typically, a range of trade/supplier certificates will be required as part of the sign-off process at the OC stage. These may include, work involved in insulation/thermal breaks, glazing, etc. JHA recommends the requirement for a Section J certificate from relevant trades (or suppliers) should be set out in the terms of engagement of the trade/supplier. These certificates should be obtained immediately after the work is done rather than at the end of construction.

Each relevant trade/supplier certificate must:

1. Clearly identify the person giving the certificate
 - a. Full Name,
 - b. Job Title,
 - c. Company Details/Letterhead, &
 - d. Qualifications and Experience
2. State the relevant Section J clause(s)/requirement(s) being certified and that they comply.
3. Signed and Dated

4 PRELIMINARY PART J4 BUILDING FABRIC ASSESSMENT (NON-RESIDENTIAL AREAS)

A preliminary Section J DTS assessment has been carried out for the proposed non-residential areas to identify the constraints and opportunities particular to this project and to ensure compliance is achievable. Note these are not the proposed thermal specifications for the project; J1V3 assessment will be undertaken to further refine and optimise the thermal specifications in accordance with the objectives of this project during detail design.

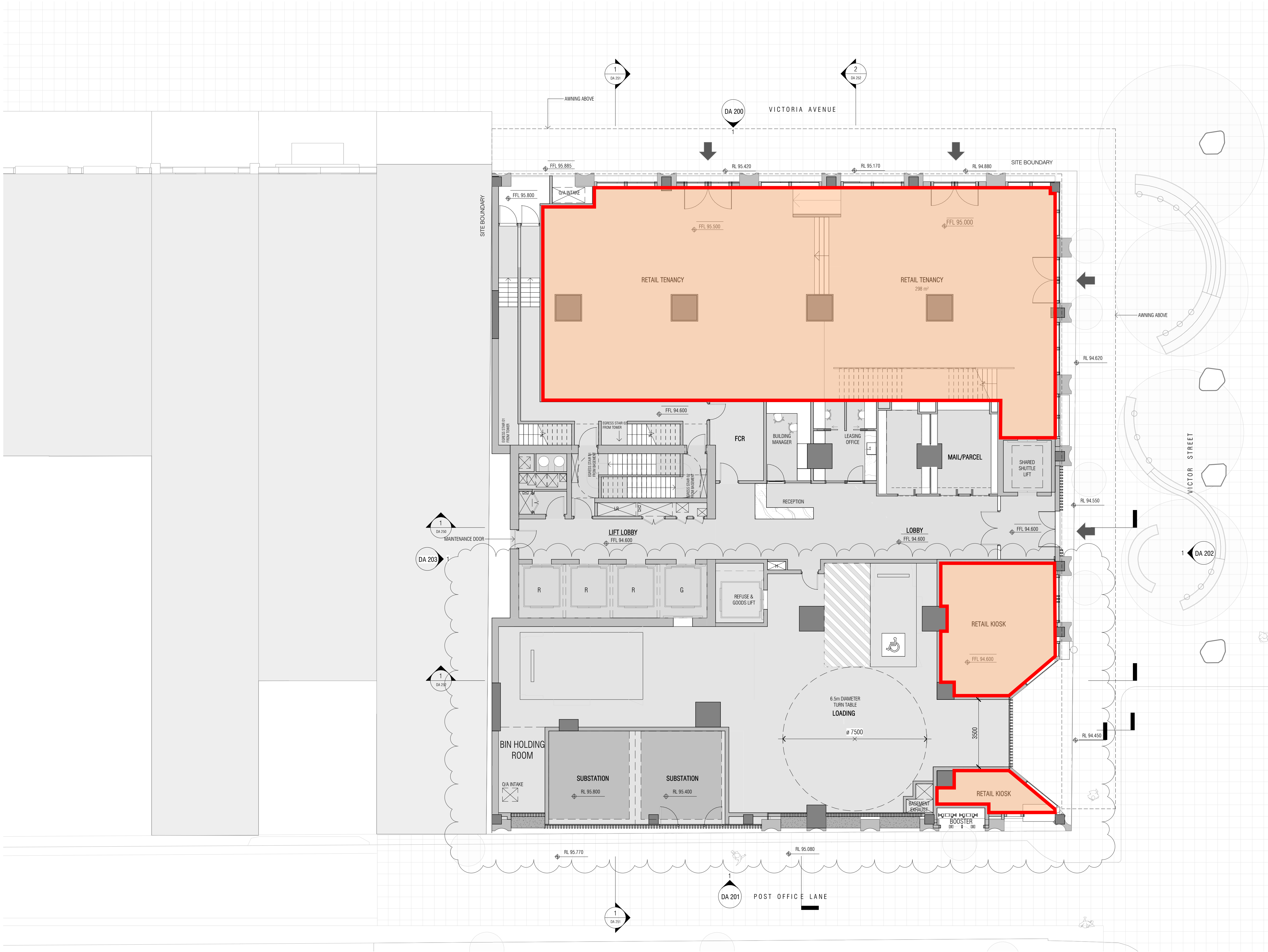
The building fabric requirement under the DTS pathway are provided below:

Elements	Indicative Requirements	Comments/Recommendation
Envelope Roof/Ceiling	Total R-Value of 3.7 (Downwards, Light Colour Roof Solar absorptance of the upper surface of a roof must be not more than 0.45)	Potential to relax light roof colour requirement via J1V3 modelling.
Envelope Walls	Total R-Value of 1.4	Should be readily achievable.
Envelope Floors	Total R-Value of 2.0 (Downwards)	Should be readily achievable.
Vertical Envelope Glazing	Total U-value = 5.0 Total SHGC = 0.38	Should be readily achievable. Note: The project targets fixed glazing with a Total U-Value=3.0 & Total SHGC=0.27 and awning/casement windows with a Total U-Value=4.5 & Total SHGC=0.20 in the non-residential areas. These glazing thermal performance targets would comply with the minimum glazing requirements.

No skylights are proposed.

See Section 5 Appendix A – Prelim Part J4 Building Fabric Markups for the indicative locations of where insulation is required.

5 APPENDIX A – PRELIM PART J4 BUILDING FABRIC MARKUPS (NON-RESIDENTIAL AREAS)



JHA

MARKUP / SKETCH

DOCUMENT No.: 240482.....

DOCUMENT TITLE: Novus on Victoria, Chatswood -
Building Fabric Requirement (non-residential).....

DOCUMENT REV: Rev B.....

DOCUMENT BY: LG..... DATE: 01/08/2025.....

KEY

ROOF/CEILING ENVELOPE - TOTAL R3.7
(DOWNWARDS, SOLAR ABSORPTANCE NO MORE THAN 0.45)

ENVELOPE FLOORS (SUSPENDED) -
TOTAL R2.0 (DOWNWARDS)

ENVELOPE WALLS - TOTAL R1.40

Note: The above construction are only to be applied to the **non-glazed portions of the envelope**; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report (Total Systems U-Value, and Total Systems SHGC value)

*According to clause 2 of Section J4D7, a slab-on-ground that does not have in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0. Hence an additional insulation of R0.2 is only required for Envelope Floors (Slab-on-Ground).

Autodesk Docs://23115 410-416 Victoria Avenue Chatswood/23115_GENERAL_R24_GROUND FLOOR SCENARIO OPTION 02.rvt

REVISION		
A	SSDA LODGEMENT	15.04.2025
B	RTS LODGEMENT	30.07.2025

QUALITY ASSURANCE (FK IS A CERTIFIED COMPANY TO ISO 9001:2015)

THIS PROJECT IS SUBJECT TO THE FK QUALITY ASSURANCE SYSTEM

SCHEMATIC DESIGN REVIEW FOR THIS PROJECT IS COMPLETED.

DESIGN DEVELOPMENT REVIEW FOR THIS PROJECT IS YET TO BE COMPLETED.

TENDER DOCUMENTATION REVIEW FOR THIS PROJECT IS YET TO BE COMPLETED.

CONSTRUCTION DOCUMENTATION REVIEW FOR THIS DRAWING IS YET TO BE COMPLETED.

REVIEW DATE: 26.03.25

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SCALE

BW/DS

CB

30.07.2025

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PROJECT

NOVUS ON VICTORIA

410-416 VICTORIA AVE CHATSWOOD

DRAWING TITLE

GROUND FLOOR PLAN

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ISSUE PURPOSE

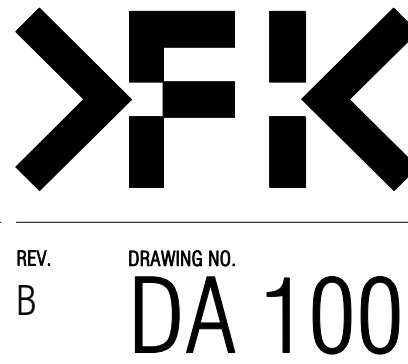
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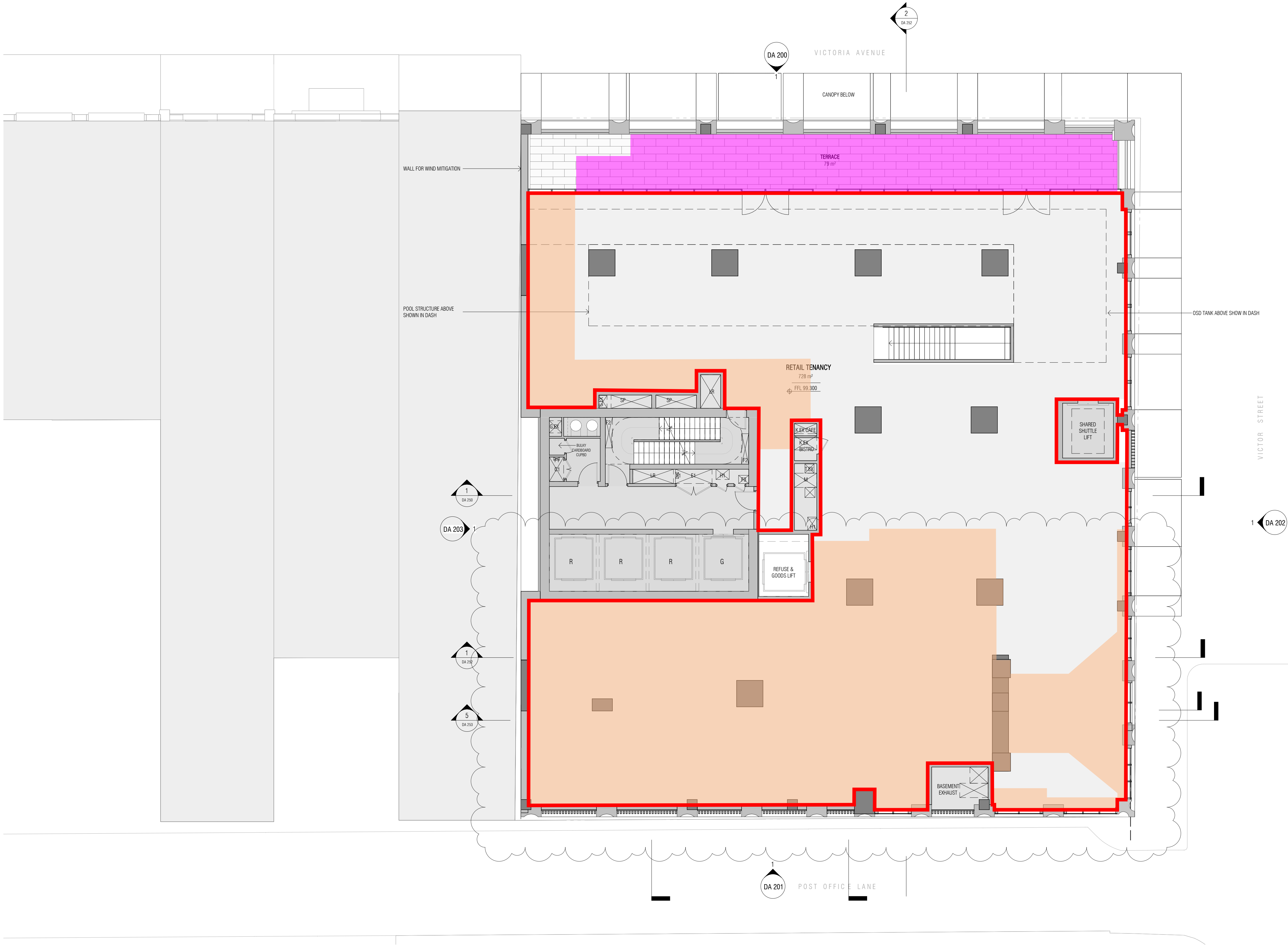
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PROJECT

NOVUS ON VICTORIA

410-416 VICTORIA AVE CHATSWOOD

DRAWING TITLE

LEVEL 01 FLOOR PLAN

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