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Attention: N.Babik

Dear Nora,

**RE: National Construction Code (NCC) 2019 Volume One
Amendment 1 Section J Part J1 Statement of Compliance**

JOB NO.: 210296

REV. NO.: FINAL B

SUBJECT PREMISE: Uniting Charlestown

This NCC Section J Part J1 statement has been prepared to demonstrate design compliance for the proposed Uniting Charlestown Building B development located at 27 Tiral Street, Charlestown.

The proposed development is located in climate **Zone 5** as defined by the NCC.

The table below shows the areas assessed, NCC building classification and the method of compliance.

| Building Area Description | NCC Classification | Method of Compliance |
|----------------------------|--------------------|----------------------|
| Building B Wellness Centre | 9b | DTS |
| Building B Clubhouse | 9b | DTS |

The assessment is based on the architectural drawings listed below.

Architectural Drawings

Plus Architecture
Project no. 20456
Issued 18/08/2023

| Building | Title | Drawing No | Revision |
|------------|----------------------------------|------------|----------|
| Building B | FLOOR PLAN - BASEMENT | 00100 | [05] |
| | FLOOR PLAN - LOWER GROUND | 00101 | [05] |
| | FLOOR PLAN - UPPER GROUND | 00102 | [05] |
| | FLOOR PLAN - LEVEL 01 | 00103 | [05] |
| | FLOOR PLAN - LEVEL 02-03 | 00104 | [05] |
| | FLOOR PLAN - LEVEL 04 | 00105 | [05] |
| | FLOOR PLAN - LEVEL 05-06 | 00106 | [05] |
| | FLOOR PLAN - LEVEL 07 | 00107 | [05] |
| | FLOOR PLAN - LEVEL 08 | 00108 | [05] |
| | FLOOR PLAN - LEVEL 09 | 00109 | [05] |
| | FLOOR PLAN - LEVEL 10 | 00110 | [05] |
| | FLOOR PLAN - LEVEL 11 | 00111 | [05] |
| | FLOOR PLAN - LEVEL 12 | 00112 | [05] |
| | ROOF PLAN | 00113 | [05] |
| | NORTH ELEVATION JAMES ST | 00200 | [05] |
| | SOUTH ELEVATION TIRAL ST | 00201 | [05] |
| | BUILDING A EAST & WEST ELEVATION | 00202 | [05] |
| | BUILDING B EAST & WEST ELEVATION | 00203 | [05] |
| | BUILDING C EAST & WEST ELEVATION | 00204 | [05] |
| | BUILDING D EAST & WEST ELEVATION | 00205 | [05] |

As per the Deemed-to-Satisfy Provisions of **NCC 2019 Volume One Amendment 1**, design compliance with Part J1 can be met subject to the following specifications:

Part J1 Building Fabric

Required **total R-value** including allowance for **thermal bridging**:

| Elements | Total Construction R-value | Notes |
|------------------------------------|-------------------------------|---|
| All Roof | R3.7 (Downward, SA < 0.45) | <ul style="list-style-type: none"> It is a total system performance value and NOT the insulation. The impact of Thermal Bridging must be included in the building envelope total system R-value calculations. Building B Wellness centre Slab on ground expected to achieve R1.3 as per Specification J1.6 Sub-floor thermal performance, hence additional R0.7 insulation required. |
| Envelope Walls | R1.4 | |
| Envelope Suspended External Floors | R2.0 (Downward) | |

Required total system **U-value** and **SHGC**:

| Location | Azimuth | Window Assembly (Glass & Frame) | | Description |
|-------------------|---------|---------------------------------|------|-----------------------------|
| | | U-value | SHGC | |
| B Clubhouse | All | 4.9 | 0.29 | Single Low-e Tinted Glazing |
| B Wellness centre | All | 5.8 | 0.34 | Single Low-e Tinted Glazing |

Please refer to Attachment A for the facade calculator demonstrating compliance, and Attachment B for the mark-ups of the building fabrics thermal construction requirements.

Additional Section J Compliance Notes

Note project needs to adhere to the following NCC2019 Section J construction requirements as applicable:

- J1.2 (a-d) Thermal Construction – general installation requirements for insulations
- J1.2 (e) – The required total R-value and total system U-value, including thermal bridging calculation.

JHA recommend the following general construction requirements from Section J of the NCC 2019 be included in the architectural specification and drawings to ensure compliance.

Part J3 – Building Sealing

- J3.2 Chimneys and flues
- J3.3 Roof lights
- J3.4 Windows and doors
- J3.5 Exhaust fans
- J3.6 Construction of ceilings, walls and floors
- J3.7 Evaporative coolers

Full Name of Designer: Ivan Miao
Qualifications: B. Mechanical Eng (Honours)
Address of Designer: JHA
Level 23, 101 Miller Street,
NORTH SYDNEY NSW 2060
Business Telephone No: (02) 9437 1000
Name of Employer: JHA

Yours sincerely,



Ivan Miao
Sustainability Engineer

Disclaimer

This statement is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

Revision History

| REV | DATE | Amendment |
|----------|----------|---------------------------|
| Draft V1 | 16/08/22 | |
| Final A | 24/08/22 | |
| Final B | 31/08/23 | Final Doc for CC drawings |
| | | |
| | | |
| | | |

Attachment A – Facade Calculator:

The total representative Air-Conditioning energy value of the proposed building is 17.47 (less than 17.50) and total System U-value is 1.93 (less than 2.00). Therefore, the proposed building façade complies with Part J1 via *Method 2*.

Project 210296 - B Club house

| | |
|--------------|-------|
| Climate Zone | CZ 5 |
| Class | Other |
| Azimuth | 8 |

| Exposure | Total Wall-Glazing Area | | | | Walls | | Windows | | | | |
|----------|-------------------------|-------------------|-------------------|---------------|-------|---------|-----------|----------|---------|------|-----------|
| | Reference Wall Type | External Envelope | Internal Envelope | Excluded Area | Sum | R-Value | A*U-Value | Exposure | U-Value | SHGC | A*U-Value |
| North | 1 | 53.1 | | 0.0 | 53.1 | 1.40 | 37.9 | N1 | 5.8 | 0.44 | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N4 | | | 0.0 |
| East | 1 | 29.4 | | | 29.4 | 1.40 | 21.0 | E1 | 5.8 | 0.44 | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | E2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | E3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | E4 | | | 0.0 |
| South | 1 | 54.3 | | | 54.3 | 1.40 | 25.8 | S1 | 5.8 | 0.44 | 105.6 |
| | 1 | | | | 0.0 | | 0.0 | S2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | S3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | S4 | | | 0.0 |
| West | 1 | 45.9 | | 0.0 | 45.9 | 1.40 | 14.6 | W1 | 5.8 | 0.44 | 117.9 |
| | 1 | | | | 0.0 | | 0.0 | W2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | W3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | W4 | | | 0.0 |

| Exposure | Façade Area | | | | Solar Admittance | | | | U-value | | R-value | |
|------------|-------------|-----------|-------------|--------------------|------------------|--------------|--------|--------------|-------------|------------------|--------------|------------------|
| | Total [m²] | Wall [m²] | Window [m²] | Wall Glazing Ratio | Max SA | Achieved SA | Max Er | Achieved Er | Max U-Value | Achieved U-Value | Min. R-Value | Achieved R-Value |
| N | 53.1 | 53.1 | 0.0 | 100% | 0.13 | 0.00 | 0.00 | 0.00 | 2.0 | 0.71 | 1.4 | 1.40 |
| E | 29.4 | 29.4 | 0.0 | 100% | 0.13 | 0.00 | 0.00 | 0.00 | 2.0 | 0.71 | 1.4 | 1.40 |
| S | 54.3 | 36.1 | 18.2 | 66% | 0.13 | 0.12 | 7.06 | 6.44 | 2.0 | 2.42 | 1.0 | 1.40 |
| W | 45.9 | 20.4 | 25.5 | 44% | 0.13 | 0.14 | 10.44 | 11.03 | 2.0 | 3.54 | 1.0 | 1.40 |
| SUM | | | | | | 17.50 | | 17.47 | 2.0 | 1.93 | | |

| Description | Level | Window Exposure | Reference Wall Type | Window | | | P [m] | H [m] | P/H | G/H | Shading Multiplier | A*SHGC |
|-------------|-------|-----------------|---------------------|------------|-----------|-----------|-------|-------|------|------|--------------------|--------|
| | | | | Height [m] | Width [m] | Area [m²] | | | | | | |
| 1 | | S1 | 1 | 190 | 3.00 | 5.7 | 0.90 | 190 | 0.47 | 0.00 | 0.77 | 193 |
| 2 | | S1 | 1 | 190 | 190 | 3.6 | 0.90 | 190 | 0.47 | 0.00 | 0.77 | 122 |
| 3 | | S1 | 1 | 190 | 3.00 | 5.7 | 0.90 | 190 | 0.47 | 0.00 | 0.77 | 193 |
| 4 | | S1 | 1 | | | 3.2 | 1.00 | 190 | 0.53 | 1.00 | 0.96 | 135 |
| 5 | | W1 | 1 | 190 | 100 | 19 | 0.80 | 190 | 0.42 | 0.00 | 0.64 | 0.54 |
| 6 | | W1 | 1 | 2.80 | 2.80 | 7.8 | 0.80 | 2.80 | 0.29 | 0.00 | 0.80 | 2.76 |
| 7 | | W1 | 1 | 190 | 2.40 | 4.6 | 0.80 | 190 | 0.42 | 0.00 | 0.64 | 128 |
| 8 | | W1 | 1 | 2.80 | 4.00 | 11.2 | 4.30 | 2.80 | 1.54 | 0.00 | 0.35 | 172 |

The total representative Air-Conditioning energy value of the proposed building is 14.67 (less than 14.82) and total System U-value is 1.75 (less than 2.00). Therefore, the proposed building façade complies with Part J1 via *Method 2*.

Project 210296 - B Wellness centre

| | |
|--------------|-------|
| Climate Zone | CZ 5 |
| Class | Other |
| Azimuth | 8 |

| Exposure | Total Wall-Glazing Area | | | | Walls | | Windows | | | | |
|----------|-------------------------|-------------------|-------------------|---------------|-------|---------|-----------|----------|---------|------|-----------|
| | Reference Wall Type | External Envelope | Internal Envelope | Excluded Area | Sum | R-Value | A*U-Value | Exposure | U-Value | SHGC | A*U-Value |
| North | 1 | 44.4 | | 0.0 | 44.4 | 1.40 | 31.7 | N1 | 5.8 | 0.31 | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | N4 | | | 0.0 |
| East | 1 | 47.1 | | | 47.1 | 1.40 | 23.6 | E1 | 5.8 | 0.31 | 812 |
| | 1 | | | | 0.0 | | 0.0 | E2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | E3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | E4 | | | 0.0 |
| South | 1 | 33.0 | | | 33.0 | 1.40 | 7.0 | S1 | 5.8 | 0.31 | 134.8 |
| | 1 | | | | 0.0 | | 0.0 | S2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | S3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | S4 | | | 0.0 |
| West | 1 | 58.2 | | 0.0 | 58.2 | 1.40 | 41.6 | W1 | 5.8 | 0.31 | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | W2 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | W3 | | | 0.0 |
| | 1 | | | | 0.0 | | 0.0 | W4 | | | 0.0 |

| Exposure | Façade Area | | | | Method 1 | | Method 2 | | U-value | | R-value | |
|------------|-------------------------|------------------------|--------------------------|--------------------|------------------|-------------|--------------|--------------|--------------|------------------|--------------|------------------|
| | Total [m ²] | Wall [m ²] | Window [m ²] | Wall Glazing Ratio | Solar Admittance | | | | Total System | | Total System | |
| | | | | | Max SA | Achieved SA | Max Er | Achieved Er | Max U-Value | Achieved U-Value | Min. R-Value | Achieved R-Value |
| N | 44.4 | 44.4 | 0.0 | 100% | 0.13 | 0.00 | 0.00 | 0.00 | 2.0 | 0.71 | 1.4 | 1.40 |
| E | 47.1 | 33.1 | 14.0 | 70% | 0.13 | 0.09 | 10.53 | 7.46 | 2.0 | 2.23 | 1.0 | 1.40 |
| S | 33.0 | 9.8 | 23.2 | 30% | 0.13 | 0.22 | 4.29 | 7.20 | 2.0 | 4.30 | 1.0 | 1.40 |
| W | 58.2 | 58.2 | 0.0 | 100% | 0.13 | 0.00 | 0.00 | 0.00 | 2.0 | 0.71 | 1.4 | 1.40 |
| SUM | | | | | | | 14.82 | 14.67 | 2.0 | 1.75 | | |

| Description | Level | Window Exposure | Reference Wall Type | Window | | | P [m] | H [m] | P/H | G/H | Shading Multiplier | A*U*SHGC |
|-------------|-------|-----------------|---------------------|------------|-----------|------------------------|-------|-------|------|------|--------------------|----------|
| | | | | Height [m] | Width [m] | Area [m ²] | | | | | | |
| 1 | | S1 | 1 | 2.80 | 8.30 | 23.2 | 0.20 | 2.80 | 0.07 | 0.00 | 100 | 7.20 |
| 2 | | E1 | 1 | 2.80 | 5.00 | 14.0 | 0.20 | 2.80 | 0.07 | 0.00 | 100 | 4.34 |

Attachment B – Building Fabric Requirements

DRAWING TO BE READ IN CONJUNCTION WITH A0000 LEGEND, RELEVANT SCHEDULES AND PROJECT SPECIFICATION.



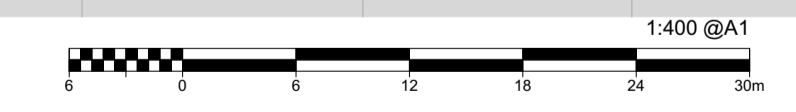
NCC 2019 Section 4.1 DTS
Building Fabric Thermal System R-Values

| | |
|-----------------|------------------|
| Roof & Ceiling | R-3.7 (Downward) |
| Envelope Floors | R-2.0 (Downward) |
| Envelope Walls | R-1.4 |

Note:
 1) All R-values must account for the impact of Thermal Bridges.
 2) The R-value is a total system performance value and NOT insulation.
 3) The above construction are only to be applied to non-glazed portions of the envelope and external cladding glazing must be installed as per the architectural layout with its thermal performance pursuant to the respective glazing specifications stated in the Section 2 report.

Glazing Classes & Frame requirements:
 1) (C&H) performance glazing with U-value $U \le 0.8$ SHGC 0.29
 2) (L to L3 level) performance glazing with U-value $U \le 0.8$ SHGC 0.34

PROJECT INFORMATION
 PROJECT TITLE: 27 Tiral Street, Charlestown - Section 2 DTS
 DRAWING NO: 20456
 DATE: 18/08/2023



FOR APPROVAL

| DATE | REVISION | BY | CHK | NO. |
|------------|-----------------|----|-----|-----|
| 10/06/2021 | FOR INFORMATION | AC | GD | C |
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| 12/11/2021 | ISSUE | AC | GD | E |
| 10/12/2021 | FOR INFORMATION | AC | GD | F |
| 27/05/2022 | FOR INFORMATION | AC | GD | K |
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| 17/06/2022 | FOR INFORMATION | AC | GD | N |
| 29/06/2022 | FOR INFORMATION | AC | GD | P |
| 21/07/2022 | FOR INFORMATION | AC | GD | S |
| 26/07/2022 | FOR INFORMATION | AC | GD | T |

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| 18/08/2022 | FOR INFORMATION | AC | GD | X |
| 19/08/2022 | FOR APPROVAL | SH | GD | 01 |
| 26/08/2022 | FOR APPROVAL | SH | GD | 02 |
| 26/08/2022 | FOR APPROVAL | SH | GD | 03 |
| 20/07/2023 | FOR COORDINATION | MA | GD | AA |
| 31/07/2023 | FOR COORDINATION | MA | GD | AB |
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Uniting



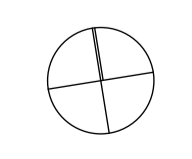
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PROJECT
**27 TIRAL STREET,
 CHARLESTOWN**

DRAWING TITLE
**FLOOR PLAN - LOWER
 GROUND**

SCALE
1:400 @A1
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NCC 2019 Section J1 DTS
 Rating Fabric Thermal system R-Values

- Roof & Ceiling - R1.37 (Downward)
- Envelope Floors - R1.20 (Downward)
- Envelope Walls - R1.4

Note:

- All R-values must account for the impact of Thermal Bridging.
- The R-value is a total system performance value and NOT insulation.
- The above construction are only to be applied to non-glazed portions of the envelope and external canopy glazing must be treated as per the architectural facade with its thermal performance pursuant to the respective glazing specifications stated in the Section 2 report.

Glazing Criteria - Frame requirements:

- (C) (Household) performance glazing with U-value $U \le 0.8$ SHGC 0.29
- (L) to (L3) (Level) performance glazing with U-value $U \le 0.8$ SHGC 0.34

Plus Architecture
 PROJECT TITLE: **Uniting Charlestown - Section 2 2019**
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 CHECKED BY: **MA** DATE: **21/08/2023**



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| 12/11/2021 | ISSUE | AC | GD | D | 18/08/2022 | FOR INFORMATION | AC | GD | X |
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| 7/06/2022 | FOR INFORMATION | AC | GD | L | 26/08/2022 | FOR APPROVAL | SH | GD | 03 |
| 17/06/2022 | FOR INFORMATION | AC | GD | N | 12/10/2022 | FOR APPROVAL - RFI | SH | GD | 04 |
| 29/06/2022 | FOR INFORMATION | AC | GD | P | 20/07/2023 | FOR COORDINATION | MA | GD | AA |
| 21/07/2022 | FOR INFORMATION | AC | GD | S | 31/07/2023 | FOR COORDINATION | MA | GD | AB |
| 26/07/2022 | FOR INFORMATION | AC | GD | T | 15/08/2023 | FOR COORDINATION | MA | GD | AC |
| 2/08/2022 | FOR INFORMATION | AC | GD | U | 18/08/2023 | FOR APPROVAL | MA | GD | 05 |

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PROJECT
**27 TIRAL STREET,
 CHARLESTOWN**

DRAWING TITLE
FLOOR PLAN - LEVEL 01

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