Section J Report

40-76 William Street, Leichhardt, NSW 2040
Development Application Submission

Prepared on behalf of
ANPRISA PTY LTD

Prepared by
INTEGRECO CONSULTING

June 2020

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INTEGRECO CONSULTING PTY LTD
Date – 2nd June 2020

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REVISION	PREPARED	DRAWINGS
1 (27/05/20)	MP checked SH	PBD Architects 22/05/20
2 (02/06/20)	MP checked SH	PBD Architects 01/06/20-Job 1939

Project No. 220-N117

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INTRODUCTION AND SUMMARY

This report summarises the Section J initiatives for the proposed, mixed-use development at 40-76 William St, Leichhardt NSW 2040. The enclosed analysis was undertaken by Integreco Consulting on behalf of ANPRISA PTY LTD. The NCC 2019 and Section J DTS components have been used for this analysis. The site is located in Leichardt, Sydney, and is classified under the NCC climate zone 5. Integreco Consulting worked closely with the design team, to ensure that a high degree of energy-efficiency was achieved. In particular, a strong emphasis was placed on the passive efficiency of the building, including passive heating, passive cooling, natural lighting and natural ventilation.

Site Location Plan - 40-76 William St, Leichhardt NSW 2040

SECTION J REQUIREMENTS AND INITIATIVES

NCC Reference	Section J - Energy Efficiency	Specific Project Initiative
JP1 Energy use	A building, including its *services*, must have features that facilitate the efficient use of energy appropriate to— **(a)** the function and use of the building; and **(b)** the level of human comfort required for the building use; and **(c)** solar radiation being— **(i)** utilised for heating; and **(ii)** controlled to minimise energy for cooling; and **(d)** the energy source of the *services*; and **(e)** the sealing of the building *envelope* against air leakage; and **(f)** for a *conditioned space*, achieving an hourly *regulated energy* consumption, averaged over the annual *hours of operation*, of not more than— **(i)** for a Class 6 building, 80 kJ/m^2.hr; and **(ii)** for a Class 5, 7b, 8 or 9a building other than a *ward area*, or a Class 9b *school*, 43kJ/m^2.hr; and **(iii)** for all other building classifications, other than a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building, 15 kJ/m^2.hr.	The development has been designed for this, as discussed in the summary table below. There is no class 5 Commercial or class 6 Retail.
JV1 NABERS Energy for Offices	JV1 NABERS Energy for Offices	NOT USED IN THIS ASSESSMENT - JV1 NABERS Energy for Offices
JV2 Green Star	JV2 Green Star	NOT USED IN THIS ASSESSMENT - JV2 Green Star
JV3 Verification using reference building	JV3 Verification using reference building	NOT USED IN THIS ASSESSMENT - JV3 Verification using reference building
JV4 Building envelope sealing	JV4 Building envelope sealing	NOT USED IN THIS ASSESSMENT - JV4 Building envelope sealing

NCC Reference	Part J0 Energy efficiency	Specific Project Initiative
J0.0 Deemed-to-Satisfy Provisions	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	The development has been designed for this, as discussed in the summary table below.
J0.1 Application of Section J	*Performance Requirement* JP1 is satisfied by complying with— **(a)** for reducing the heating or cooling loads— **(i)** of *sole-occupancy units* of a Class 2 building or a Class 4 part of a building, J0.2 to J0.5; & **(ii)** of a Class 2 to 9 building, other than the *sole-occupancy units* of a Class 2 building or a Class 4 part of a building, Parts J1 and J3; and **(b)** for *air-conditioning* and ventilation, Part J5; and **(c)** for artificial lighting and power, Part J6; and **(d)** for heated water supply and *swimming pool* and spa pool plant, Part J7; and **(e)** for facilities for monitoring, Part J8.	The development has been designed for this, as discussed in the summary table below.
J0.2 Heating and cooling loads of sole-occupancy units of a Class 2 building or a Class 4 part	The *sole-occupancy units* of a Class 2 building or a Class 4 part of a building must— **(a)** for reducing the heating or cooling loads— **(i)** collectively achieve an average energy rating of not less than 6 stars, including the separate heating and cooling load limits; and **(ii)** individually achieve an energy rating of not less than 5 stars, including the separate heating and cooling load limits, using *house energy rating software* and the load limits specified in the ABCB Standard for NatHERS Heating and Cooling Load Limits. **(b)** for general thermal construction, comply with J1.2; and **(c)** for thermal breaks, comply with J0.4 and J0.5; and **(d)** for floor edge insulation, comply with J1.6(b) and J1.6(c); and **(e)** for building sealing, comply with Part J3.	This applies to class 2 (not (a) in NSW, due to BASIX): Class 2 must: **(b)** for general thermal construction, comply with J1.2; and **(c)** for thermal breaks, comply with J0.4 and J0.5; and **(d)** for floor edge insulation, comply with J1.6(b) and J1.6(c); **(e)** for building sealing, comply with Part J3.

J0.3 **Ceiling fans**	Ceiling fans *required* as part of compliance with J0.2(a), must— **(a)** be permanently installed; and **(b)** have a speed controller; and **(c)** serve the whole room, with the *floor area* that a single fan serves not exceeding— **(i)** 15 m^2 if it has a blade rotation diameter of not less than 900 mm; and **(ii)** 25 m^2 if it has a blade rotation diameter of not less than 1 200 mm.	N/A (since fans must be ignored by the NatHERS assessments, in NSW, due to the mandatory BASIX simulation protocols)
J0.4 **Roof thermal breaks**	For compliance with J0.2(c), a roof that— **(a)** has metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and **(b)** does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens, must have a thermal break, consisting of a material with an *R-Value* of not less than R0.2, installed at all points of contact between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.	Roof construction details will be developed, to adhere to these ''thermal break'' guidelines. This will apply to all part of the building envelope where roof thermal breaks are required.
J0.5 **Wall thermal breaks**	For compliance with J0.2(c), a wall that— **(a)** does not have a wall lining or has a wall lining that is fixed directly to the same metal frame & **(b)** has lightweight external cladding such as weatherboards, fibre-cement or metal sheeting fixed to a metal frame, must have a thermal break, consisting of a material with an *R-Value* of ≥R0.2, installed at all points of contact between the external cladding and the metal frame.	Wall construction details will be developed, to adhere to these ''thermal break'' guidelines. This will apply to all part of the building envelope where roof thermal breaks are required.
NCC Reference	**Part J1 - Building Fabric**	**Specific Project Initiative**
J1.0 **Deemed-to-Satisfy Provisions**	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	The development has been designed for this, as discussed in the summary table below.

J1.1 Application of Part	The *Deemed-to-Satisfy Provisions* of this Part apply to building elements forming the *envelope* of a Class 2 to 9 building other than J1.2(e), J1.3, J1.4, J1.5 and J1.6(a) which do not apply to a Class 2 *sole-occupancy unit* or a Class 4 part of a building.	DTS for J1 will apply to residential areas (for insulation and fabric construction).
J1.2 Thermal construction - general	**(a)** Where *required*, insulation must comply with AS/NZS 4859.1 and be installed so that it— **(i)** abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels & the like where the insulation must be against the member; & **(ii)** forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and **(iii)** does not affect the safe or effective operation of a *service* or fitting. **(b)** Where *required*, *reflective insulation* must be installed with— **(i)** the necessary airspace to achieve the *required R-Value* between a reflective side of the *reflective insulation* and a building lining or cladding; and **(ii)** the *reflective insulation* closely fitted against any penetration, door or *window* opening; & **(iii)** the *reflective insulation* adequately supported by framing members; and **(iv)** each adjoining sheet of roll membrane being— **(A)** overlapped not less than 50 mm; or **(B)** taped together. **(c)** Where *required*, bulk insulation must be installed so that— **(i)** it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and **(ii)** in a ceiling, where there is no bulk insulation or *reflective insulation* in the wall beneath, it overlaps the wall by not less than 50 mm. **(d)** Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2. **(e)** The *required Total R-Value* and *Total System U-Value*, including allowance for thermal bridging, must be— **(i)** calculated in accordance with AS/NZS 4859.2 for a roof or floor; or **(ii)** determined in accordance with Specification J1.5a for *wall-glazing construction*; or **(iii)** determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.	Contractors will be obliged to adhere to these installation guidelines, in the final specifications. These will apply to all part of the envelope where thermal insulation is required.

<table>
<tr>
<td>J1.3
Roof and ceiling construction</td>
<td>(a) A roof or ceiling must achieve a Total R-Value greater than or equal to—
(i) in climate zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and
(ii) in climate zone 6, R3.2 for a downward direction of heat flow; and
(iii) in climate zone 7, R3.7 for an upward direction of heat flow; and
(iv) in climate zone 8, R4.8 for an upward direction of heat flow.

(b) In climate zones 1, 2, 3, 4, 5, 6 and 7, the solar absorptance of the upper surface of a roof must be not more than 0.45.</td>
<td>N/A since all conditioned spaces are Class 2 and thus assessed under NatHERS and BASIX.</td>
</tr>
<tr>
<td>J1.4
Roof lights</td>
<td>Roof lights must have—
(a) a total area of not more than 5% of the floor area of the room or space served; and
(b) transparent and translucent elements, including any imperforate ceiling diffuser, with a combined performance of—
(i) for Total system SHGC, in accordance with Table J1.4; and
(ii) for Total system U-Value, not more than U3.9.

Table J1.4 Roof lights - Total system SHGC
<table>
<tr><th>Roof light shaft index Note 1</th><th>Total area of roof lights up to 3.5% of the floor area of the room or space</th><th>Total area of roof lights more than 3.5% and up to 5% of the floor area of the room or space</th></tr>
<tr><td>< 1.0</td><td>≤ 0.45</td><td>≤ 0.29</td></tr>
<tr><td>≥ 1.0 to < 2.5</td><td>≤ 0.51</td><td>≤ 0.33</td></tr>
<tr><td>≥ 2.5</td><td>≤ 0.76</td><td>≤ 0.49</td></tr>
</table>
Notes to Table J1.4 :
- The roof light shaft index is determined by measuring the distance from the centre of the shaft at the roof to the centre of the shaft at the ceiling level and dividing it by the average internal dimension of the shaft opening at the ceiling level (or the diameter for a circular shaft) in the same units of measurement.
- The area of a roof light is the area of the roof opening that allows light to enter the building. The total area of roof lights is the combined area for all roof lights serving the room or space.</td>
<td>N/A since all conditioned spaces are Class 2 and thus assessed under NatHERS and BASIX.</td>
</tr>
</table>

J1.5 Walls and glazing	**(a)** The *Total System U-Value* of *wall-glazing construction* must not be greater than— **(i)** for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a *ward area*, U2.0; and **(ii)** for a Class 3 or 9c building or a Class 9a *ward area*— **(A)** in *climate zones* 1, 3, 4, 6 or 7, U1.1; or **(B)** in *climate zones* 2 or 5, U2.0; or **(C)** in *climate zone* 8, U0.9. **(b)** The *Total System U-Value* of *display glazing* must not be greater than U5.8. **(c)** The *Total System U-Value* of *wall-glazing construction* must be calculated in accordance with Specification J1.5a. **(d)** Wall components of a *wall-glazing construction* must achieve a minimum *Total R-Value* of— **(i)** where the wall is less than 80% of the area of the *wall-glazing construction*, R1.0; or **(ii)** where the wall is 80% or more of the area of the *wall-glazing construction*, the value specified in Table J1.5a. **Table J1.5a Minimum wall Total R-Value - Wall area 80% or more of wall-glazing construction area – not included since N/A**	N/A since all conditioned spaces are Class 2 and thus assessed under NatHERS and BASIX.
J1.6 Floors	**(a)** A floor must achieve the *Total R-Value* specified in Table J1.6. **(b)** A floor must be insulated around the vertical edge of its perimeter with insulation having an *R-Value* greater than or equal to 1.0 when the floor— **(i)** is a concrete slab-on-ground in *climate zone* 8; or **(ii)** has an in-slab or in-screed heating or cooling system, except where used solely in a bathroom, amenity area or the like. **(c)** Insulation *required* by (b) for a concrete slab-on-ground must— **(i)** be water resistant; and **(ii)** be continuous from the adjacent finished ground level— **(A)** to a depth not less than 300 mm; or **(B)** for the full depth of the vertical edge of the concrete slab-on-ground.	N/A since all conditioned spaces are Class 2 and thus assessed under NatHERS and BASIX.

<table>
<tr><td></td><td>Table J1.6 Floors - Minimum Total R-Value

<table>
<tr><th>Location</th><th>Climate zone 1 — upwards heat flow</th><th>Climate zones 2 and 3 — upwards and downwards heat flow</th><th>Climate zone s 4, 5, 6 and 7 — downwards heat flow</th><th>Climate zone 8 — downwards heat flow</th></tr>
<tr><td>A floor without an in-slab heating or cooling system</td><td>2.0</td><td>2.0</td><td>2.0</td><td>3.5</td></tr>
<tr><td>A floor with an in-slab heating or cooling system</td><td>3.25</td><td>3.25</td><td>3.25</td><td>4.75</td></tr>
</table></td><td></td></tr>
<tr><td>NCC Reference</td><td>Part J2 * * * * *</td><td>Part J2 * * * * *</td></tr>
<tr><td></td><td>Note to Table J1.6 : For the purpose of calculating the Total R-Value of a floor, the sub-floor and soil R-Value must be calculated in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A.</td><td></td></tr>
<tr><td>NCC Reference</td><td>Part J3 - Building Sealing</td><td>Specific Project Initiative</td></tr>
<tr><td>J3.0 Deemed-to-Satisfy Provisions</td><td>(a) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement JP1 is satisfied by complying with—
(i) J0.1 to J0.5; and
(ii) J1.1 to J1.6; and
(iii) J3.1 to J3.7; and
(iv) J5.1 to J5.12; and
(v) J6.1 to J6.8; and
(vi) J7.1 to J7.4; and
(vii) J8.1 to J8.3.

(b) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2.2(3) and A2.4(3) as applicable.</td><td>This will apply to conditioned areas. The ‘envelope’ is the boundary between a conditioned space and unconditioned spaces (such as the outside air or plant rooms).</td></tr>
</table>

J3.1 Application of Part	The *Deemed-to-Satisfy Provisions* of this Part apply to elements forming the *envelope* of a Class 2 to 9 building, other than— **(a)** a building in *climate zones* 1, 2, 3 and 5 where the only means of *air-conditioning* is by using an evaporative cooler; or **(b)** a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or **(c)** a building or space where the mechanical ventilation *required* by Part F4 provides sufficient pressurisation to prevent infiltration.	This will apply to conditioned areas. The 'envelope' is the boundary between a conditioned space and unconditioned spaces (e.g. between apartments and plant rooms).
J3.2 Chimneys and flues	The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.	NA - No solid-fuel burning appliances.
J3.3 Roof lights	**(a)** A *roof light* must be sealed, or capable of being sealed, when serving— **(i)** a *conditioned space*; or **(ii)** a *habitable room* in *climate zones* 4, 5, 6, 7 or 8. **(b)** A *roof light required* by (a) to be sealed, or capable of being sealed, must be constructed with— **(i)** an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or **(ii)** a weatherproof seal; or **(iii)** a shutter system readily operated either manually, mechanically or electronically by the occupant.	Roof lights must be sealed (weatherproof seals) if used.
J3.4 Windows and doors	**(a)** A door, openable *window* or the like must be sealed— **(i)** when forming part of the *envelope*; or **(ii)** in *climate zones* 4, 5, 6, 7 or 8. **(b)** The requirements of (a) do not apply to— **(i)** a *window* complying with AS 2047; or **(ii)** a fire door or smoke door; or **(iii)** a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. **(c)** A seal to restrict air infiltration— **(i)** for the bottom edge of a door, must be a draft protection device; and **(ii)** for the other edges of a door or the edges of an openable *window* or other such opening, may be a foam or rubber compression strip, fibrous seal or the like.	Seals must be fitted to the edges of doors and windows (for residential). This does not apply to: (i) a window complying with AS 2047; or (ii) a fire door or smoke door; or (iii) a roller shutter/ security door

	(d) An entrance to a building, if leading to a *conditioned space* must have an airlock, *self-closing* door, *rapid roller door*, revolving door or the like, other than— **(i)** where the *conditioned space* has a *floor area* of not more than 50 m^2; or **(ii)** where a café, restaurant, open front shop or the like has— **(A)** a 3 m deep un-conditioned zone between the main entrance, including an open front, and the *conditioned space*; and **(B)** at all other entrances to the café, restaurant, open front shop or the like, *self-closing* doors. **(e)** A loading dock entrance, if leading to a *conditioned space*, must be fitted with a *rapid roller door* or the like.	
J3.5 Exhaust fans	**(a)** An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving— **(i)** a *conditioned space*; or **(ii)** a *habitable room* in *climate zones* 4, 5, 6, 7 or 8.	Exhaust fans in all habitable spaces will be fitted with sealing devices, such as self-closing dampers.
J3.6 Construction of ceilings, walls and floors	**(a)** Ceilings, walls, floors and any opening such as a *window* frame, door frame, *roof light* frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of— **(i)** the *envelope*; or **(ii)** in *climate zones* 4, 5, 6, 7 or 8. **(b)** Construction *required* by (a) must be— **(i)** enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or **(ii)** sealed at junctions and penetrations with— **(A)** close fitting architrave, skirting or cornice; or **(B)** expanding foam, rubber compressible strip, caulking or the like. **(c)** The requirements of (a) do not apply to openings, grilles or the like *required* for smoke hazard management.	Construction details will be developed later, to ensure walls, ceilings, floors and windows/doors minimise air leakage (using linings, caulking, skirting, architraves, cornices, etc).
J3.7 Evaporative coolers	An evaporative cooler must be fitted with a self-closing damper or the like— **(a)** when serving a heated space; or **(b)** in *climate zones* 4, 5, 6, 7 or 8.	NA – no evaporative coolers.
NCC Reference	**Part J4 * * * * * Blank clause**	**Part J4 * * * * * Blank clause**

NCC Reference	Part J5 - Air-conditioning and Ventilation Systems	Specific Project Initiative
J5.0 Deemed-to-Satisfy Provisions	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.1 Application of Part	The *Deemed-to-Satisfy Provisions* of this Part do not apply to a Class 8 *electricity network substation*.	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.2 Air-conditioning system control	**Refer to NCC 2019 for details of J5.2 Air-conditioning system control**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.3 Mechanical ventilation system control	**Refer to NCC 2019 for details of J5.3 Mechanical ventilation system control**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.4 Fan systems	**Refer to NCC 2019 for details of J5.4 Fan systems**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.5 Ductwork insulation	**Refer to NCC 2019 for details of J5.5 Ductwork insulation**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.6 Ductwork sealing	**Refer to NCC 2019 for details of J5.6 Ductwork sealing**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.

J5.7 Pump systems	**Refer to NCC 2019 for details of J5.7 Pump systems**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.8 Pipework insulation	**Refer to NCC 2019 for details of J5.8 Pipework insulation**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.9 Space heating	**Refer to NCC 2019 for details of J5.9 Space heating**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.10 Refrigerant chillers	**Refer to NCC 2019 for details of J5.10 Refrigerant chillers**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.11 Unitary air-conditioning equipment	**Refer to NCC 2019 for details of J5.11 Unitary air-conditioning equipment**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
J5.12 Heat rejection equipment	**Refer to NCC 2019 for details of J5.12 Heat rejection equipment**	N/A since all conditioned spaces are Class 2 and thus HVAC is assessed under BASIX.
NCC Reference	**Part J6 - Artificial Lighting and Power**	**Specific Project Initiative**
J6.0 Deemed-to-Satisfy Provisions	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	DTS for J6 will apply to external areas.

J6.1 Application of Part	J6.2, J6.3 and J6.5(a)(ii) do not apply to a Class 8 *electricity network substation*.	DTS for J6 will apply to external areas.
J6.2 Artificial lighting	N/A since internal lighting is assessed under BASIX.	N/A since internal lighting is assessed under BASIX.
J6.3 Interior artificial lighting and power control	N/A since internal lighting is assessed under BASIX.	N/A since internal lighting is assessed under BASIX.
J6.4 Interior decorative and display lighting	**(a)** Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled— **(i)** separately from other artificial lighting; and **(ii)** by a manual switch for each area other than when the operating times of the displays are the same in a number of areas such as in a museum, art gallery or the like, in which case they may be combined; and **(iii)** by a time switch in accordance with Specification J6 where the display lighting exceeds 1 kW. **(b)** Window display lighting must be controlled separately from other display lighting.	Interior decorative and display lighting will be controlled— - separately from other artificial lighting; and - by a manual switch for each area; and - by a time-switch in accordance with Specification J6 if display lighting exceeds 1 kW.
J6.5 Exterior artificial lighting	**(a)** Exterior artificial lighting attached to or directed at the facade of a building, must— **(i)** be controlled by— **(A)** a daylight sensor; or **(B)** a time switch that is capable of switching on and off electric power to the system at variable pre-programmed times and on variable pre-programmed days; and **(ii)** when the total lighting load exceeds 100 W— **(A)** use LED luminaires for 90% of the total lighting load; or **(B)** be controlled by a motion detector in accordance with Specification J6; or **(C)** when used for decorative purposes, such as façade lighting or signage lighting, have a separate time switch in accordance with Specification J6. **(b)** The requirements of (a)(ii) do not apply to the following: **(i)** Emergency lighting in accordance with Part E4. **(ii)** Lighting around a *detention centre*.	Perimeter lighting will be deigned to have: - (A) a daylight sensor; or - (B) a time switch with pre-programmed times/days AND - LEDs for >90% fittings or - Motion sensors or - Time switches (if façade/sign decoration lights)

<table>
<tr>
<td>J6.6 Boiling water and chilled water storage units</td>
<td>Power supply to a boiling water or chilled water storage unit must be controlled by a time switch in accordance with Specification J6.</td>
<td>N/A – No power supply to a boiling water or chilled water storage units</td>
</tr>
<tr>
<td>J6.7 Lifts</td>
<td>Lifts must—
(a) be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes; and
(b) achieve the idle and standby energy performance level in Table 6.7a; and
(c) achieve—
(i) the energy efficiency class in Table 6.7b; or
(ii) if a dedicated goods lift, energy efficiency class D in accordance with ISO 25745-2.

Table 6.7a Lift idle and standby energy performance level
<table><tr><th>Rated load</th><th>Idle and standby Note energy performance level in accordance with ISO 25745-2</th></tr><tr><td>Less than or equal to 800 kg</td><td>2</td></tr><tr><td>801 kg to less than or equal to 2000 kg</td><td>3</td></tr><tr><td>2001 kg to less than or equal to 4000 kg</td><td>4</td></tr><tr><td>Greater than 4000 kg</td><td>5</td></tr></table>Note to Table 6.7a : Applies to the standby power used after 30 minutes.

Table 6.7b Lift energy efficiency class
<table><tr><th>Usage category in accordance with ISO 25745-2</th><th>Energy efficiency class in accordance with ISO 25745-2</th></tr><tr><td>1 - 4</td><td>C</td></tr><tr><td>> 5</td><td>D</td></tr></table></td>
<td>Lifts will be selected to meet the following targets:
(a) lighting & ventilation turned off, if lift unused>15 mins &
(b) achieve the idle/standby performance in Table 6.7a; and
(c) achieve the energy efficiency class in Table 6.7b</td>
</tr>
</table>

J6.8 Escalators and moving walkways	Escalators and moving walkways must have the ability to slow to between 0.2 m/s and 0.05 m/s when unused for more than 15 minutes.	N/A
NCC Reference	**Part J7 - Heated water supply and swimming pool and spa pool plant**	**Specific Project Initiative**
J7.0 Deemed-to-Satisfy Provisions	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, Performance Requirement JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirement* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	DTS for J7 will apply to hot water only.
J7.1 * * * * *	Blank	N/A
J7.2 Heated water supply	A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	The system will be designed & installed in accordance with Part B2 of NCC Vol. Three — Plumbing Code of Australia.
J7.3 Swimming pool heating and pumping	**(a)** Heating for a *swimming pool* must be by— **(i)** a solar heater; or **(ii)** a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or **(iii)** a geothermal heater; or **(iv)** a gas heater that— **(A)** if rated to consume 500 MJ/hour or less, achieves a minimum gross thermal efficiency of 86%; or **(B)** if rated to consume more than 500 MJ/hour, achieves a minimum gross thermal efficiency of 90%; or **(v)** a heat pump; or **(vi)** a combination of (i) to (v).	N/A since no pool

	(b) Where some or all of the heating *required* by (a) is by a gas heater or a heat pump, the *swimming pool* must have— **(i)** a cover with a minimum *R-Value* of 0.05; and **(ii)** a time switch to control the operation of the heater. **(c)** A time switch must be provided to control the operation of a circulation pump for a *swimming pool*. **(d)** Where *required*, a time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days. **(e)** Pipework carrying heated or chilled water for a *swimming pool* must comply with the insulation requirements of J5.8. **(f)** For the purpose of J7.3, a *swimming pool* does not include a spa pool.	
J7.4 Spa pool heating and pumping	**(a)** Heating for a spa pool that shares a water recirculation system with a *swimming pool* must be by— **(i)** a solar heater; or **(ii)** a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or **(iii)** a geothermal heater; or **(iv)** a gas heater that— **(A)** if rated to consume 500 MJ/hour or less, achieves a minimum gross thermal efficiency of 86%; or **(B)** if rated to consume more than 500 MJ/hour, achieves a minimum gross thermal efficiency of 90%; or **(v)** a heat pump; or **(vi)** a combination of (i) to (v). **(b)** Where some or all of the heating *required* by (a) is by a gas heater or a heat pump, the spa pool must have— **(i)** a cover with a minimum *R-Value* of 0.05; and **(ii)** a push button and a time switch to control the operation of the heater. **(c)** A time switch must be provided to control the operation of a circulation pump for a spa pool having a capacity of 680 L or more. **(d)** Where *required*, a time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days. **(e)** Pipework carrying heated or chilled water for a spa pool must comply with the insulation requirements of J5.8.	The spa must have: - A time switch to control the operation of a circulation pump for a spa pool (if >680 L volume). - The time switch must be capable of switching electric power on and off at pre-programmed times and days. - Pipework carrying heated or chilled water for a spa pool must comply with the insulation requirements of J5.8.

NCC Reference	Part J8 - Facilities for energy monitoring	Specific Project Initiative
J8.0 Deemed-to-Satisfy Provisions	**(a)** Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* JP1 is satisfied by complying with— **(i)** J0.1 to J0.5; and **(ii)** J1.1 to J1.6; and **(iii)** J3.1 to J3.7; and **(iv)** J5.1 to J5.12; and **(v)** J6.1 to J6.8; and **(vi)** J7.1 to J7.4; and **(vii)** J8.1 to J8.3. **(b)** Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2.2(3) and A2.4(3) as applicable.	DTS for J8 will apply to this building.
J8.1 Application of Part	The *Deemed-to-Satisfy Provisions* of this Part do not apply— **(a)** within a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building; or **(b)** to a Class 8 *electricity network substation*.	DTS for J8 will apply to this building.
J8.2 * * * * *	This clause has deliberately been left blank in the NCC.	NA
J8.3 Facilities for energy monitoring	**(a)** A building or *sole-occupancy unit* with a *floor area* of more than 500 m^2 must have an energy meter configured to record the time-of-use consumption of gas and electricity. **(b)** A building with a *floor area* of more than 2 500 m^2 must have energy meters configured to enable individual time-of-use energy consumption data recording, in accordance with (c), of the energy consumption of— **(i)** *air-conditioning* plant incl where appropriate, heating/cooling plant, air handling fans;& **(ii)** artificial lighting; and **(iii)** appliance power; and **(iv)** central hot water supply; and **(v)** internal transport devices including lifts, escalators and moving walkways where there is more than one serving the building; and **(vi)** other ancillary plant. **(c)** Energy meters *required* by (b) must be interlinked by a communication system that collates the time-of-use energy consumption data to a single interface monitoring system where it can be stored, analysed and reviewed. **(d)** The provisions of (b) do not apply to a Class 2 building with a *floor area* of more than 2 500 m^2 where the total area of the common areas is less than 500 m^2.	Since the building has a floor area more than 500 m2, it will need the facility to record the consumption of gas and electricity. This will be done for residents, in any case. Since the floor area is more than 2,500 m2 the building will need to have the facility to record individually the energy consumption of— (common systems): (i) air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and (ii) artificial lighting; and (iii) appliance power; and (iv) central hot water supply; and (v) internal transport devices including lifts, escalators and travelators if more than one serves the building; and (vi) other ancillary plant.