Sustainability Schematic Design Report

20 April 2018

Randwick Campus Redevelopment Health Infrastructure

Revision L

Melbourne
L2/616 St Kilda Road
Melbourne, VIC 3181
P (03) 9230 5600

Sydney
Level 4, 73 Walker Street
North Sydney, NSW 2060
P (03) 9230 5600

Brisbane
L10/490 Upper Edward Street
Spring Hill, QLD 4000
P (07) 3831 3300

1. Revision Information

Project	Randwick Campus Redevelopment
Title	Sustainability Schematic Design Report
Client	Health Infrastructure
Revision	L
Revision Date	20 April 2018
Prepared By	Lehr Consultants International (Australia) Pty Ltd
Author	Chris Kornek

2. Revision Schedule

Revision	Date	Issue Name	Author	Authorised
A	12/07/2017	For Issue	CK	CM
B	21/07/2017	For Issue	CK	CM
C	22/09/2017	For Issue	CK	CM
D	29/09/2017	For Issue	CK	CM
E	11/10/2017	For Issue	CK	CM
F	29/11/2017	For Issue	CK	CM
G	05/02/2018	For Issue	CK	CM
H	09/02/2018	For Issue	CK	CM
I	26/03/2018	For Issue	CK	CM
J	10/04/2018	For Issue	CK	CM
K	17/04/2018	For Issue	CK	CM
L	20/04/2018	For Issue	CK	CM

1 Contents

3. Executive Summary

The intent of this report is to identify Ecologically Sustainable Development (ESD) strategies for the proposed Acute Services Building (ASB) for the Randwick Campus Redevelopment. This sustainability report addresses the requirements of the 2016 NCC BCA Section J and the green star target. This report does not address the full ESD requirements of the Secretary's Environmental Assessment Requirements (SEARs), Item 6 ESD, dated 12 March 2018. This will be addressed in the Environmental Impact Statement (EIS); however, the general principals of the SEARs have been considered in formulating the ESD strategies.

The ESD strategies proposed are designed to assist the proposed development to achieve a high level of sustainability performance, whilst also meeting the minimum performance standards of National Construction Code (NCC): Building Code of Australia (BCA) Section J, Randwick Development Control Plan 2013, and the NSW Health Engineering Services Guidelines – June 2016.

The building has been designed to target a theoretical 4 Star Green Star target. The purpose of the Green Star target is to benchmark the building against good practice targets. In scoring the proposed ESD initiatives, the Green Star scorecard in Appendix F indicates that the proposed development will achieve a 4 Star - Best Practice rating.

The ESD strategies proposed for the development includes details of how various initiatives are proposed to be adopted to reduce resources, water and energy consumption and improve indoor environment quality for occupants. As the proposed development is yet to progress through detailed design, the ESD Strategies outlined in this report will be subject to further investigation during the coming stages of the design development.

Key drivers for adopting sustainable practices include:

- Lower energy costs
- Reduced peak electrical demand
- Improved patient outcomes
- Improved staff amenity
- Responsible corporate citizenship towards the environment

ESD initiatives above 4-Star Green Star and beyond best practice, to improve sustainability, or meet NSW Health Infrastructure guidelines such as energy efficiency and water resource management shall be included in the ESD initiatives.

The ASB shall comply with the Deemed-to-Satisfy (DTS) requirements of BCA Section J.

- Building envelope shall comply with the minimum DTS requirements specified in Part J1 as shown below.

Envelope Item	Section J Performance Requirements	Reference
Roof/Ceiling	Total R-value (m^2K/W) – **R4.2 downwards**	Appendix C
Roof Lights	Total System (Glass + Frame) U-value (W/m^2K) - **< 8.5** Total System (Glass + Frame) SHGC - **< 0.8**	Appendix D
External Walls	Total R-value (m^2K/W) – **R2.8**	Appendix B
Internal Walls	Total R-value (m^2K/W) – **R1.8**	Appendix B
Floors	Total R-value (m^2K/W) – **R2.0 downwards**	Appendix C

Table 3.1 – Building Insulation Summary

- Glazing on the building shall comply with BCA Part J2 requirements. If proposed glazing does not meet the Part J2 DTS requirements, an alternative solution with the JV3 verification method shall be used to demonstrate compliance.

Glazing Item	Orientation	In accordance with AFRC Requirements		Reference
		Total System (Glass + Frame) U-value (W/m^2K)	Total System (Glass + Frame) SHGC	
Facade	All	Please see appendix calculations.	Please see appendix calculations.	Appendix E

Table 3.2 – Building Glazing Summary

- BCA Section J Part J3 to Part J8 will comply with the DTS requirements as specified within this report.

4. Introduction

The intent of this report is to identify Ecologically Sustainable Development (ESD) strategies for the proposed Acute Services Building (ASB) for the Randwick Campus Redevelopment. This sustainability report addresses the requirements of the 2016 NCC BCA Section J and the green star target. This report does not address the full ESD requirements of the Secretary's Environmental Assessment Requirements (SEARs), Item 6 ESD, dated 12 March 2018. This will be addressed in the Environmental Impact Statement (EIS); however, the general principals of the SEARs have been considered in formulating the ESD strategies.

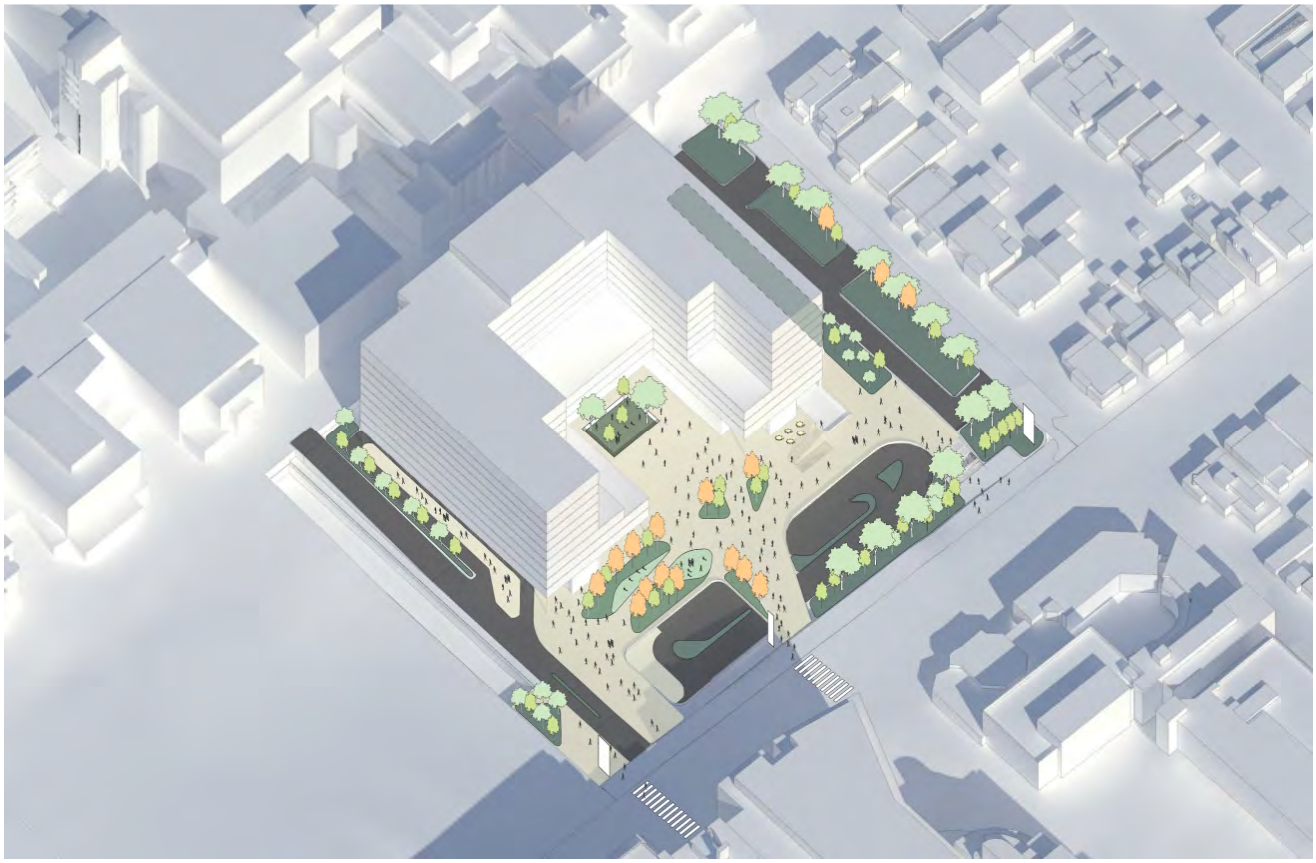


Figure 1 Proposed Acute Services Building (ASB)

The ESD strategies proposed are designed to assist the proposed development to achieve a high level of sustainability performance, whilst also meeting the minimum performance standards of National Construction Code (NCC): Building Code of Australia (BCA) Section J, Randwick Development Control Plan 2013, and the NSW Health Engineering Services Guidelines – August 2016.

The building has been designed to target a theoretical 4 Star Green Star target. The purpose of the Green Star target is to benchmark the building against good practice targets.

The ESD strategies proposed for the development includes details of how various initiatives are proposed to be adopted to reduce resources, water and energy consumption and improve indoor environment quality for occupants. As the proposed development is yet to progress through detailed design, the ESD Strategies outlined in this report will be subject to further investigation during the coming stages of the design development.

Key drivers for adopting sustainable practices include:

- Lower energy costs
- Reduced peak electrical demand
- Improved patient outcomes
- Improved staff amenity
- Responsible corporate citizenship towards the environment

ESD initiatives above 4-Star Green Star and beyond best practice, to improve sustainability, or meet NSW Health Infrastructure guidelines such as energy efficiency and water resource management shall be included in the ESD initiatives.

5. Terms of Reference

5.1. Purpose of this report

This report describes the sustainability initiatives and key design principles associated with the proposed ASB Project that are to be followed through the design development, construction and operational stages.

5.2. Project Stakeholders

Consultation throughout the schematic design stage has been undertaken with the following key project stakeholders:

- Health Infrastructure

5.3. Reference Documents

This report has been prepared with reference to the following documents:

- Schematic Architectural Drawings and Documents (BVN February 2018).
- Schematic Façade Drawings and Documents (BVN February 2018).
- Schematic Services Drawings and Documents (AECOM, ACOR and LCI February 2018).
- Functional Brief (AURECON February 2018).
- NSW Health Infrastructure Engineering Services Guidelines (August 2016)
- Australian Health Facility Guidelines (AusHFG) Part E – Building Services and Environmental Design (March 2016)

The assessment contained within the report has been based on the documents nominated above (e.g. scale measurements). Any changes to the documents listed above, may affect the accuracy of the assessment presented in this report.

5.4. Project Participants

Role	Organisation
Project Manager	Aurecon
Architect	BVN
Mechanical Engineer (including Medical Gases)	LCI
Electrical Engineer	AECOM
Vertical Transport	LCI
Hydraulic & Fire Services	ACOR
ESD Consultants	LCI
Town Planner	Advisian

Table 5.1 – Project Participants

5.5. Standards

The NCC BCA Section J works shall be designed and installed to comply with the National Construction Code (NCC).

All works shall be carried out in accordance with this specification and the current Australian Standards and standards detailed within.

5.6. Design Principles & Criteria

Key Design Criteria

This sustainability report addresses the requirements of the 2016 NCC BCA Section J and the green star target. This report does not address the full ESD requirements of the Secretary's Environmental Assessment Requirements (SEARs), Item 6 ESD, dated 12 March 2018. This will be addressed in the Environmental Impact Statement (EIS); however, the general principals of the SEARs have been considered in formulating the ESD strategies.

- Sustainable Energy Hierarchy
    - Sustainable initiatives and systems will be analysed using the NSW Health Engineering Services Guideline's energy hierarchy as shown below.

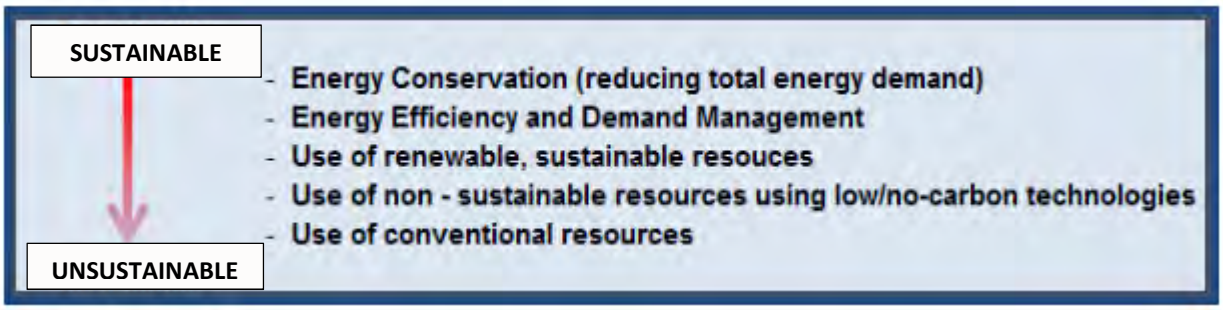


Figure 2 NSW Health Energy Hierarchy

- Sustainability, Lifecycle and Waste Management
    - Proposed designs will include passive sustainable design strategies such as day lighting, demand management, gravity systems, energy and water efficiency and conservation techniques, use of non-toxic and environmentally sound material and finishes, and consider lifecycle sustainability and maintenance implications.
- Materials
    - Consideration to be given to materials of low embodied energy content, high recycled content and / or highly recyclable.

Sustainability Targets

- Green Star:
    - The Acute Services Building will target a Green Star 4 Star equivalency rating. Green Star is a voluntary sustainability rating system for buildings. It was launched in 2004 with an aim to assess the sustainability of a building during the design, construction and operational phases.
- Energy Target
    - ASB will achieve a 5% improvement over the National Construction Node (NCC) Section J Reference Building.

Building Importance Level

The ASB is classified as an Importance level four (IL4) (Buildings or structures that are essential to post-disaster recovery or associated with hazardous facilities) under BCA and AS 1170 (structural design actions).

5.7. Limitations of this report

This report reflects the schematic design for sustainability only.

6. BCA Section J

6.1. General BCA

Version

The assessments in this report have been conducted with reference to the National Construction Code (NCC) / Building Code of Australia (BCA) 2016.

Classification

The building classes are as follows:

Building	BCA Classification
Acute Services Building	Class 5, 6 and 9A

Table 6.1 – Building Classification

Climate zone

The Acute Services Building Project is located in Climate Zone 5 as shown in Figure 3.

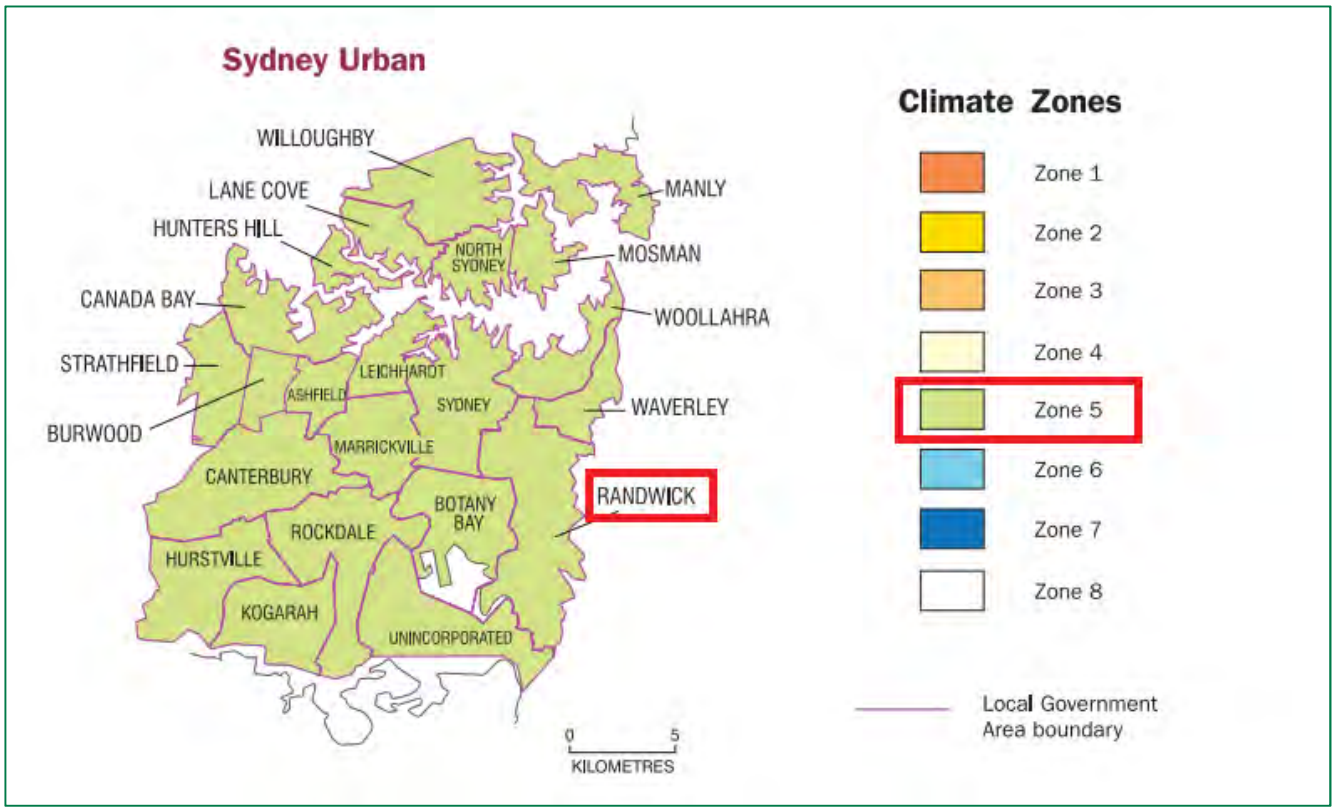


Figure 3 Sydney Urban Climate Zone Map – NCC BCA 2016

6.2. BCA Part J1 Requirements

Deemed-to-Satisfy (DTS) Requirements

The deemed-to-satisfy requirements of Part J1 apply to building elements forming the *envelope* of the building. For all elements forming this envelope, the building fabric must be designed to meet the requirements of BCA Section J1.2 - J1.5.

General Construction & Installation Requirements

The building must meet the following general requirements:

- Required insulation must comply with AS/NZS 4859.1
- Required insulation must be installed so that it:
    - abuts or overlaps adjoining insulation, other than at supporting members such as studs, noggins, joists, furring channels and the like where the insulation must butt against the member; and
    - forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
    - does not affect the safe or effective operation of a service or fitting.
- Required reflective insulation must be installed with:
    - the necessary airspace to achieve the required R-value between a reflective side of the reflective insulation and a building lining or cladding; and
    - the reflective insulation closely fitted against any penetration, door or window opening; and
    - the reflective insulation adequately supported by framing members; and
    - each adjoining sheet of roll membrane being overlapped not less than 50 mm or taped together.
- Required bulk insulation must be installed so that:
    - it maintains its position and thickness, other than where it crosses roof battens, water pipes, electrical cabling or the like; and
    - 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.

Roof & Ceiling Construction

The following deemed to satisfy provisions for roof and ceiling insulation, including roof lights, are set out in Part J1.3 and J1.4.

Part J1.3 Roof and ceiling

A roof or ceiling that forms part of the building envelope must be insulated to achieve a minimum total R-value of:

- 4.2 m^2K/W (assume a roof upper surface solar absorptance value >0.6); or
- In instances where ceiling insulation cannot be fitted due to the placement of exhaust fans or recessed downlights, the loss of insulation must be compensated for by increasing the R-Value of the remaining areas. These compensating R-Values are set out in Table J1.3b of the BCA.

Note – the roof/ceiling total R-value can be reduced if the roof upper surface solar absorptance value is <0.6.

Part J1.4 Roof lights

The ASB roof lights, including any associated shaft and diffusers that form part of the envelope must achieve:

- A Total System Solar Heat Gain Coefficient (SHGC) not more than 0.8; AND
- A Total System U-value not more than 8.5

Extent of roof insulation and roof light

Roof insulation with a minimum total R-value of 4.2 m^2K/W and roof light with minimum glazing performance of Total System SHGC < 0.8 & U-value < 8.5 must be provided as shown in Appendix B and Appendix C of this report.

Part J1.5 Walls

The following deemed to satisfy provisions for wall insulation are set out in Section J1.5.

External walls

External walls that form part of the building envelope must either:

- achieve a minimum total R-value of 2.8m^2K/W; or
- where the only space for insulation is provided by a furring channel, top hat section, batten or the like:
  - achieve a minimum total R-value of not less than 1.4 m^2K/W; and
  - satisfy a glazing energy index Option B as listed in BCA Table J2.4a.

These requirements do not apply to:

- opaque non-glazed openings in external walls such as doors, vents, penetrations, shutters and the like;
- glazing; and
- an earth retaining wall or earth-berm.

Other walls

Other walls that form part of the building envelope must either:

- satisfy the requirements for an external wall that is part of the envelope (minimum total R-value of 2.8 m^2K/W); or
- for a non-conditioned space, achieve a minimum total R-value of 1.8 m^2K/W.

Thermal break

A wall that:

- is required by section J1.5 to achieve a minimum total R-value; and
- has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame; and
- does not have a wall lining or has a wall lining that is fixed directly to the metal frame,

must have a thermal break, consisting of a material with an R-value of not less than 0.2 m^2K/W, installed between the external cladding and the metal frame.

Extent of wall insulation

Wall insulation with a minimum total R-Value of 2.8 m^2K/W must be provided to the following walls.

- All external walls of the building bordering a conditioned space

Wall insulation with a minimum total R-value of 1.8 m^2K/W must be provided to the following walls:

- All internal walls of conditioned space that adjoin a non-conditioned space.

The extent of recommended wall insulation must be provided as shown in Appendix A of this report.

Part J1.6 Floors

The following deemed to satisfy provisions for floor insulation are set out in Section J1.6.

Required insulation

- A concrete slab on ground without an in-slab heating or cooling system does not have any insulation requirements.
- A suspended floor without an in-slab heating or cooling system must achieve a minimum total R-value of 2.0 m^2K/W.

Extent of floor insulation

Floor insulation with a minimum total R-value of 2.0m^2K/W must be provided as shown in Appendix B of this report.

6.3. BCA Part J2 Requirements

Deemed-to-Satisfy Requirements

The deemed-to-satisfy requirements of Section J2 apply to building elements forming the envelope of the building. For all elements forming this envelope, glazing must be designed to meet the requirements of BCA Section J2.4 – J2.5.

Shading Requirements

Shading elements that are required as part of meeting the requirements of BCA Section J2 must:

- be provided by an external permanent projection, such as a veranda, balcony, fixed canopy, eave or shading hood, which
    - extends horizontally on both sides of the glazing for the same projection distance P in Figure J2.4; or
    - provides equivalent shading to the above with a reveal or the like; or
- be provided by an external shading device, such as a shutter, blind, vertical or horizontal building screen with blades, battens or slats, which:
    - is capable of restricting at least 80% of summer solar radiation; and
    - if adjustable, is readily operated either manually, mechanically or electronically by the building occupants.

Shading that does not meet these requirements cannot be included as part of the deemed to satisfy assessment.

Assessment Methodology
Glazing calculator

The assessment calculations were carried out using the BCA *CalculatorGlazingVolOne2014* provided by the Australian Building Codes Board.

Glazing and frame parameters

Compliance with Section J2 was assessed using various types of glazing, with properties as given in the architectural drawings.

Shading

The shading provided to each of the glazing elements is based on the architectural drawings.

Compliance Assessment
Interpretation

The BCA glazing assessment considers two criteria in order to determine compliance – conductance and solar heat gain coefficient (SHGC).

The conductance criterion considers the thermal conductivity of the window – that is, the heat lost and heat gained through the glazing unit. The performance of the glazing unit under this criterion is driven by the U-value of the glazing unit.

The solar heat gain criterion considers the heat gained through the window from the incident solar radiation only. The performance of the glazing unit under this criterion is driven by the SHGC and the shading provided to the window.

In order for compliance to be achieved, both criteria must be met.

Compliance with BCA Section J2

Compliance result sketches indicating the building requirements under Section J2 of the BCA are provided in Appendix D.

6.4. Section J3 Requirements

Deemed-to-Satisfy Requirements

The deemed-to-satisfy requirements of Section J3 apply to building elements forming the *envelope* of the building. For all elements forming this envelope, the building fabric must be designed to meet the requirements of BCA Sections J3.2 – J3.7.

Part J3.2 Chimneys and Flues

The chimney or flue of an open solid-fuel burning appliance must be provided with a damper of flap that can be closed to seal the chimney or flue.

Part J3.3 Roof Lights

A roof light must be sealed, or capable of being sealed when serving:

- a conditioned space; or
- a habitable room.

A roof light must be constructed with:

- an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or
- a weatherproof seal; or
- a shutter system, readily operated either manually, mechanically or electronically by the occupant.

Part J3.4 Windows and Doors

A seal to restrict air infiltration must be fitted to each edge of a door, openable window or the like forming part of:

- the envelope of a conditioned space; or
- the external fabric of a habitable room or public area.

The seal:

- for the bottom edge of an external swing door, must be a draft protection device; and
- for the other edges of an external 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.

These requirements do not apply to:

- a window complying with AS 2047; or
- a fire door or smoke door; or
- a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security.

An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like, other than:

- where the conditioned space has a floor area of not more than 50m^2; or
- where a café, restaurant, open front shop or the like has
    - a 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned; AND
    - at all other entrances to the café, restaurant, open front shop or the like, self-closing doors

Part J3.5 Exhaust Fans

A miscellaneous exhaust fan, such as a bathroom or domestic kitchen exhaust fan, must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space or a habitable room.

Part J3.6 Roofs, Walls and Floors

Roofs, ceilings, walls and floors and any opening such as a window frame, door frame, roof light frame or the like forming the building envelope or the external fabric of a habitable room or public area must be:

- enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
- sealed by caulking, skirting, architraves, cornices or the like.

These requirements do not apply to openings, grilles and the like required for smoke hazard management.

6.5. BCA Part J5 Requirements

J5.2 Air-Conditioning Systems

(a) Control —

(i) An *air-conditioning* system—

(A) must be capable of being deactivated when the building or part of a building served by that system is not occupied; and

(B) when serving more than one *air-conditioning* zone or area with different heating or cooling needs, must—

(aa) thermostatically control the temperature of each zone or area; and

(bb) not control the temperature by mixing actively heated air and actively cooled air; and

(cc) limit reheating to not more than—

(AA) for a fixed supply air rate, a 7.5 K rise in temperature; and

(BB) for a variable supply air rate, a 7.5 K rise in temperature at the nominal supply air rate but increased or decreased at the same rate that the supply air rate is respectively decreased or increased; and

(C) which provides the required mechanical ventilation, other than in process related applications where humidity control is needed, must have an *outdoor air economy cycle*—

(aa) in *climate zones* 2 or 3, when the *air-conditioning* system capacity is more than 50 kWr; or

(bb) in *climate zones* 4, 5, 6, 7 or 8, when the *air-conditioning* system capacity is more than 35 kWr

(D) which contains more than one water heater, chiller or coil, must be capable of stopping the flow of water to those not operating; and

(E) except for a packaged *air-conditioning* system, must have a variable speed fan when its supply air quantity is capable of being varied; and

(F) when serving a *sole-occupancy unit* in a Class 3 building, must not operate when any external door of the *sole-occupancy unit* that opens to a balcony or the like, is open for more than one minute.

(ii) When an *air-conditioning* system is deactivated, any motorised outside air and return dampers must close.

(iii) Compliance with (i) must not adversely affect—

(A) smoke hazard management measures *required* by Part E2; and

(B) ventilation *required* by Part E3 and Part F4.

(b) Fans — Fans of an *air-conditioning* system must comply with Specification J5.2a.

(c) Pumps —

(i) An *air-conditioning* system, where water is circulated by pumping at more than 2 L/s, must be designed so that the maximum pump power to the pump complies with Table J5.2.

(ii) An *air-conditioning* system pump that is rated at more than 3 kW of pump power and circulates water at more than 2 L/s must be capable of varying its speed in response to varying load.

(iii) A spray water pump of an *air-conditioning* system's closed circuit cooler or evaporative condenser must not use more than 150 W of pump power for each L/s of spray water circulated.

Cooling or heating load	Maximum *pump power* (W/m^2 of the *floor area* of the *conditioned space*)		
(W/m^2 of the *floor area* of the *conditioned space*)	Chilled water	Condenser water	Heating water
Up to 100	1.3	0.9	1.0
101 to 150	1.9	1.2	1.3
151 to 200	2.2	2.2	1.7
201 to 300	4.3	3.0	2.5
301 to 400	5.0	3.6	3.2
More than 400	5.6	5.6	3.6

Table 6.2 – Extract Table J5.2 Maximum Pump Power from BCA Volume One

(d) Insulation —

(i) The ductwork of an *air-conditioning system* must be insulated and sealed in accordance with Specification J5.2b.

(ii) Piping, vessels, heat exchangers and tanks containing heating or cooling fluid that are part of an air-conditioning system, other than those with insulation levels covered by MEPS, must be insulated in accordance with Specification J5.2c.

(e) Space heating — A heater used for *air-conditioning* or as part of an *air-conditioning* system must comply with Specification J5.2d.

(f) Energy efficiency ratios —

(i) refrigerant chillers used as part of an *air-conditioning* system; and

(ii) packaged air-conditioning equipment,

must comply with Specification J5.2e.

(g) Time switches —

(i) A time switch complying with Specification J6 must be provided to control—

(A) an *air-conditioning* system of more than 10 kWr; and

(B) a heater of more than 10 kW heating used for *air-conditioning*.

(ii) The requirements of (i) do not apply to—

(A) an *air-conditioning* system that serves—

(aa) only one *sole-occupancy unit* in a Class 2 or 3 building; or

(bb) a Class 4 part of a building; or

(cc) only one *sole-occupancy unit* in a Class 9c building; or

(B) a building where *air-conditioning* is needed for 24 hour occupancy.

J5.3 Mechanical Ventilation Systems

(a) Control —

(i) A mechanical ventilation system, including one that is part of an *air-conditioning* system, except where the mechanical system serves only one *sole-occupancy unit* in a Class 2 building or serves only a Class 4 part of a building, must—

(A) be capable of being deactivated when the building or part of the building served by that system is not occupied; and

(B) when serving a *conditioned space*—

(aa) not exceed the minimum *outdoor air* quantity *required* by Part F4, where relevant, by more than 20%; and

(bb) in other than *climate zone* 2, where the number of square metres per person is not more than 1 as specified in D1.13 and the air flow rate is more than 1000 L/s, have—

(AA) an energy reclaiming system that preconditions outside air; or

(BB) the ability to automatically modulate the mechanical ventilation *required* by Part F4 in proportion to the number of occupants.

(ii) The requirements of (a)(i)(B)(aa) do not apply where—

(A) additional unconditioned outside air is supplied for free cooling or to balance process exhaust; or

(B) additional exhaust ventilation is needed to balance the required mechanical ventilation; or

(C) an energy reclaiming system preconditions all the outside air.

(iii) Compliance with (a)(i) must not adversely affect—

(A) smoke hazard management measures required by Part E2; and

(B) ventilation required by Part E3 and Part F4.

(b) Fans — Fans of a mechanical ventilation system covered by (a) must comply with Specification J5.2a.

(c) Time switches —

(i) A time switch complying with Specification J6 must be provided to control a mechanical ventilation system with an air flow rate of more than 1000 L/s.

(ii) The requirements of (i) do not apply to—

(A) a mechanical ventilation system that serves—

(aa) only one *sole-occupancy unit* in a Class 2 or 3 building; or

(bb) a Class 4 part of a building; or

(cc) only one *sole-occupancy unit* in a Class 9c building; or

(B) a building where mechanical ventilation is needed for 24 hour occupancy

J5.4 Miscellaneous Exhaust Systems

(a) A miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand, must—

(i) be capable of stopping the motor when the system is not needed; and

(ii) have a variable speed fan or the like.

(b) The requirements of (a) do not apply—

(i) to a miscellaneous exhaust system in—

(A) a *sole-occupancy unit* in a Class 2, 3 or 9c building; or

(B) a Class 4 part of a building; or

(ii) where additional exhaust ventilation is needed to balance the required outside air for ventilation.

6.6. Section J6 Requirements

J6.2 Artificial Lighting

(a) In a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building—

(i) The *lamp power density* or *illumination power density* of artificial lighting must not exceed—

(A) within the building, 5 W/m^2; and

(B) on a veranda or balcony of the building 4 W/m^2; and

(ii) The *illumination power density* in (i) may be increased by dividing it by the *illumination power density* adjustment factor for a control device in Table J6.2b; and

(iii) When designing the *lamp power density* or *illumination power density*, the power of the proposed installation must be used rather than nominal allowances for exposed batten holders or luminaires; and

(iv) Where lamps are used that have a transformer or ballast, the transformer or ballast must be of the electronic type; and

(v) Halogen lamps must be separately switched from fluorescent lamps.

(b) In a building other than a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building—

(i) For artificial lighting, the aggregate design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum *illumination power density* in Table J6.2a; and—

(ii) The aggregate design illumination power load in (i) is the sum of the design illumination power loads in each of the spaces served; and

(iii) In determining the design illumination power load for (ii) the following must be used:

(A) where there are multiple lighting systems serving the same space—

(aa) the total illumination power load of all systems; or

(bb) for a control system that permits only one system to operate at a time, the design illumination power load is—

(AA) based on the highest illumination power load; or

(BB) determined by the formula—

$$[H \times T/2 + P \times (100 - T/2)] / 100$$

Where:

H = the highest illumination power load; and

T = the time for which the maximum illumination power load will occur, expressed as a percentage; and

P = the predominant illumination power load.

(B) where there is adjustable position lighting such as trapeze lighting or track lighting other than trunking systems that accept fluorescent lamps—

(aa) the rating of the circuit breaker protecting the track; or

(bb) of extra low voltage, 80% of the power rating of the transformer; or

(cc) of mains voltage, 100 W per metre of track.

(c) The requirements of (a) and (b) do not apply to the following:

(i) Emergency lighting in accordance with Part E4.

(ii) Signage and display lighting within cabinets and display cases that are fixed in place.

(iii) Lighting for accommodation within the residential part of a *detention centre*.

(iv) A heater where the heater also emits light, such as in bathrooms.

(v) Lighting of a specialist process nature such as in an operating theatre, fume cupboard or clean workstation.

(vi) Lighting of performances such as theatrical or sporting

(vii) Lighting for the permanent display and preservation of works of art or objects in a museum or gallery other than for retail sale, purchase or auction.

Space	**Maximum *illumination power density* (W/m^2)**
Auditorium, church and public hall	10
Board room and conference room	10
Carpark -general	6
Carpark -entry zone (first 20 m of travel)	25
Common rooms, spaces and corridors in a Class 2 building	8
Control room, switch room, and the like	9
Corridors	8
Courtroom	12
Dormitory of a Class 3 building used for sleeping only	6
Dormitory of a Class 3 building used for sleeping and study	9
Entry lobby from outside the building	15
Health-care -children's ward	10
Health-care -examination room	10
Health-care -patient ward	7
Health-care -all patient care areas including corridors where cyanosis lamps are used	13

Space	Maximum *illumination power density* (W/m^2)
Kitchen and food preparation area	8
Laboratory -artificially lit to an ambient level of 400 lux or more	12
Library -stack and shelving area	12
Library -reading room and general areas	10
Lounge area for communal use in a Class 3 building or Class 9c *aged care building*	10
Museum and gallery -circulation, cleaning and service lighting	8
Office -artificially lit to an ambient level of 200 lux or more	9
Office -artificially lit to an ambient level of less than 200 lux	7
Plant room	5
Restaurant, café, bar, hotel lounge and a space for the serving and consumption of food or drinks	18
Retail space including a museum and gallery whose purpose is the sale of objects	22
School -general purpose learning areas and tutorial rooms	8
Sole-occupancy unit of a Class 3 building	5
Sole-occupancy unit of a Class 9c *aged care building*	7
Storage with shelving no higher than 75% of the height of the aisle lighting	8
Storage with shelving higher than 75% of the height of the aisle lighting	10
Service area, cleaner's room and the like	5
Toilet, locker room, staff room, rest room and the like	6
Wholesale storage and display area	10

Notes:

1. In areas not listed above, the maximum *illumination power density* is:
(a) For an illuminance of not more than 80 lux, 7.5 W/m^2
(b) For an illuminance of more than 80 lux and not more than 160 lux, 9 W/m^2
(c) For an illuminance of more than 160 lux and not more than 240 lux, 10 W/m^2
(d) For an illuminance of more than 240 lux and not more than 320 lux, 11 W/m^2
(e) For an illuminance of more than 320 lux and not more than 400 lux, 12 W/m^2
(f) For an illuminance of more than 400 lux and not more than 480 lux, 13 W/m^2
(g) For an illuminance of more than 480 lux and not more than 540 lux, 14 W/m^2
(h) For an illuminance of more than 540 lux and not more than 620 lux, 15 W/m^2

2. For illuminance levels greater than 620 lux, the average *light source efficacy* must not be less than 80 Lumens/W.

3. For enclosed spaces with a Room Aspect Ratio of less than 1.5, the maximum *illumination power density* may be increased by dividing it by an adjustment factor for room aspect which is:
0.5 + (Room Aspect Ratio/3)

The Room Aspect Ratio of the enclosed space is determined by the formula:
A/(H x C)

Space	Maximum *illumination power density* (W/m^2)
Where: A is the area of the enclosed space H is the height of the space measured from the floor to the highest part of the ceiling C is the perimeter of the enclosed space at floor level 4. In addition to 3, the maximum *illumination power density* may be increased by dividing it by the *illumination power density* adjustment factor in Table J6.2b where applicable. 5. Circulation spaces are included in the allowances listed in the Table.	

Table 6.3 – Extract Table J6.2a Maximum Illumination Power Density from BCA Volume One

Item	Description	*Illumination power density* adjustment factor
Lighting timer in accordance with Specification J6	For corridor lighting	0.7
Motion detector in accordance with Specification J6	(a) Where— (i) at least 75% of the area of a space is controlled by one or more motion detectors; or (ii) an area of less than 200 m2 is switched as a block by one or more detectors.	0.9
	(b) Where up to 6 lights are switched as a block by one or more detectors.	0.7
	(c) Where up to 2 lights are switched as a block by one or more detectors.	0.55
Manual dimming system (Note 1)	(a) Where at least 75% of the area of a space, in other than a *sole-occupancy unit* of a Class 2 building or a Class 4 part, is controlled by manually operated dimmers.	0.95
	(b) Where at least 75% of the area of a space, in a *sole-occupancy unit* of a Class 2 building or a Class 4 part, is controlled by manually operated dimmers.	0.85

Item	Description	*Illumination power density* adjustment factor
Programmable dimming system (Note 2)	Where at least 75% of the area of a space is controlled by programmable dimmers.	0.85
Dynamic dimming system (Note 3)	Automatic compensation for lumen depreciation	The design lumen depreciation factor of not less than— (i) for fluorescent lights, 0.9; or (ii) for high pressure discharge lights, 0.8.
Fixed dimming (Note 4)	Where at least 75% of the area is controlled by fixed dimmers that reduce the overall lighting level and the power consumption of the lighting.	% of full power to which the dimmer is set divided by 0.95.
Daylight sensor and dynamic lighting control device in accordance with Specification J6 – dimmed or stepped switching of lights adjacent *windows*	(a) Lights within the space adjacent to *windows* other than *roof lights* for a distance from the *window* equal to the depth of the floor to window head height.	0.5 (Note 5)
	(b) Lights within the space adjacent to *roof lights*.	0.6 (Note 5)

Notes:

1. Manual dimming is where lights are controlled by a knob, slider or other mechanism or where there are pre-selected scenes that are manually selected.

2. Programmed dimming is where pre-selected scenes or levels are automatically selected by the time of day, photoelectric cell or occupancy sensor.

3. Dynamic dimming is where the lighting level is varied automatically by a photoelectric cell to either proportionally compensate for the availability of daylight or the lumen depreciation of the lamps.

4. Fixed dimming is where lights are controlled to a level and that level cannot be adjusted by the user.

5. The *illumination power density* adjustment factor is only applied to lights controlled by that item. This adjustment factor does not apply to tungsten halogen or other incandescent sources.

Item	Description	*Illumination power density* adjustment factor
6. A maximum of two other *illumination power density* adjustment factors for a control device can be applied to an area. Where more than one *illumination power density* adjustment factor (other than for room aspect) apply to an area, they are to be combined using the following formula: A x (B + [(1 -B) / 2]) Where: A is the lowest applicable *illumination power density* adjustment factor; and B is the second lowest applicable *illumination power density* adjustment factor.		

Table 6.4 – Extract Table J6.2b Illumination Power Density Adjustment Factor for a Control Device from BCA Volume One

J6.3 Interior Artificial Lighting and Power Control

(a) Artificial lighting of a room or space must be individually operated by a switch or other control device.

(b) An occupant activated device, such as a room security device, a motion detector in accordance with Specification J6, or the like, must be provided in the *sole-occupancy unit* of a Class 3 building, other than where providing accommodation for people with a disability or the aged, to cut power to the artificial lighting, air-conditioner, local exhaust fans and bathroom heater when the *sole-occupancy unit* is unoccupied.

(c) An artificial lighting switch or other control device in **(a)** must—

(i) If an artificial lighting switch, be located in a visible position—

(A) in the room or space being switched; or

(B) in an adjacent room or space from where the lighting being switched is visible; and

(ii) for other than a single functional space such as an auditorium, theatre, *swimming pool*, sporting stadium or warehouse—

(A) not operate lighting for an area of more than 250 m^2 if in a Class 5 building or a Class 8 laboratory; or

(B) not operate lighting for an area of more than—

(aa) 250 m^2 for a space of not more than 2,000 m^2; or

(bb) 1,000 m^2 for a space of more than 2,000 m^2, if in a Class 3, 6, 7, 8 (other than a laboratory) or 9 building.

(d) 95% of the lighting in a building or *storey* of a building, other than a Class 2 or 3 building or a Class 4 part, of more than 250 m^2 must be controlled by—

(i) A time switch in accordance with Specification J6; or

(ii) an occupant sensing device such as—

(A) a security key card reader; or

(B) a motion detector in accordance with Specification J6.

(e) Artificial lighting in a natural lighting zone adjacent to windows in a *storey* of a Class 5, 6 or 8 building, of more than 250 m^2 must be separately controlled from artificial lighting not in a natural lighting zone except where—

(i) The room containing the natural lighting zone is less than 20 m^2; or

(ii) The room's natural lighting zone contains less than 4 luminaires; or

(iii) The luminaires in the natural lighting zone are not more than 70% of the luminaires in the room.

(f) The requirements of (a), (b), (c), (d) and (e) do not apply to the following:

(i) Emergency lighting in accordance with Part E4.

(ii) Where artificial lighting is needed for 24-hour occupancy such as for a manufacturing process, parts of a hospital, an airport control tower or within a *detention centre*.

(g) The requirements of (d) do not apply to the following:

(i) Artificial lighting in a space where the sudden loss of artificial lighting would cause an unsafe situation such as in a *patient care area* in a Class 9a building or in a Class 9c *aged care building*.

(ii) A heater where the heater also emits light, such as in a bathroom.

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.

J6.5 Artificial Lighting Around the Perimeter of a Building

(a) Artificial lighting around the perimeter 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 perimeter lighting load exceeds 100 W—

(A) have an average *light source efficacy* of not less than 60 Lumens/W; or

(B) be controlled by a motion detector in accordance with Specification J6; and

(iii) When used for decorative purposes, such as facade 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*.

J6.6 Boiling Water and Chilled Water Storage Units

Power supply to a boiling water or chilled water storage unit must be controlled by a time switch in accordance with Specification J6.

6.7. BCA Part J7 Requirements

J7.2 Hot 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.

6.8. Section J8 Requirements

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 the facility to record the consumption of gas and electricity.

(b) A building with a *floor area* of more than 2,500 m^2 must have the facility to record individually the energy consumption of—

(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 where there is more than one serving the building; and

(vi) Other ancillary plant.

(c) 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.

6.9. Definitions

The following definitions are used in this report. Where terms are defined in the BCA, the same definition is used in this report.

Common Wall

Common wall means a wall that is common to adjacent buildings.

Conditioned Space

Conditioned Space means as space within a building where the environment is likely, by the intended use of the space, to be controlled by air conditioning, but does not include:

a) a non-habitable room of a Class 2 building or Class 4 part of a building in which a heater with the capacity of not more than 1.2 kW provides the air conditioning; or

b) a space in a Class 6, 7, 8 or 9b building where the input power to an air conditioning system is not more than 15 W/m^2.

Envelope

Envelope, for the purposes of Section J, means the parts of a building's fabric that separates a conditioned space or habitable room from –

a) the exterior of the building; or

b) a non-conditioned space including –

i) the floor of a rooftop plantroom, lift-machine room or the like; and

ii) the floor above a carpark or warehouse; and

iii) the common wall with a carpark, warehouse or the like,

other than a non-conditioned space through which conditioned air is being exhausted or relieved such as an internal corridor, cleaner's room, chemical storage room or exhaust riser

External Wall

External wall means an outer wall of a building that is not a common wall.

Fabric

Fabric means the basic building structural elements and components of a building including the roof, ceilings, walls and floors.

Glazing

Glazing, for the purposes of Section J, means a transparent or translucent element and its supporting frame located in the envelope, and includes a window other than a roof light.

Habitable room

Habitable room means a room used for normal domestic activities, and –

a) includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom; but

b) excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

R-Value

R-value means the thermal resistance (m^2K/W) of a component calculated by dividing its thickness by its thermal conductivity.

All R-values reported herein are in units of m^2K/W.

Required

Required means required to satisfy a Performance Requirement or a Deemed to Satisfy Provision of the BCA as appropriate.

Roof Light Shaft Index

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. (from Table J1.4).

Section J

Section J 'Energy Efficiency' of the Building Code of Australia, version as stated in the report.

Sole Occupancy Unit

Sole occupancy unit means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes –

a) a dwelling; or

b) a room or suite of rooms in a class 3 building which includes sleeping facilities; or

c) a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or

d) a room or suite of associated rooms in a Class 9c aged are building, which includes sleeping facilities and any area for the exclusive use of a resident.

Total R-Value

Total R-Value means the sum of the R-values of the individual component layers in a composite element including any building material, insulating material, airspace and associated surface resistances.

Total U-Value

Total U-Value means the thermal transmittance ($W/(m^2.K)$) of the composite element allowing for the effect of any airspaces and associated surface resistances.

7. Sustainability Initiatives

7.1. Electrical Services

Initiative	Proposed ESD Strategy
External lighting	External lighting will be provided around the perimeter of the ASB and external areas in accordance with AS/NZS1158 and Crime Prevention Through Environmental Design (CPTED). External lighting will be controlled via light sensors. Light Emitting Diode (LED) lighting options will be assessed based on life cycle analysis to develop the most appropriate external lighting solution.
Efficient internal lighting systems	Generally LED luminaries are proposed throughout. Lighting levels will be provided according to AS/NZS 1680.
Switching systems	It is proposed to provide a centralised DALI or equivalent lighting control system or equivalent with graphical user interface to enable remote control. Implementation of area dimming, time clocks, scene lighting and daylight sensing will be discussed with the user groups.
Emergency exits	Emergency and exit lighting will be in accordance with AS/NZS 2293.1, and will be designed to minimise ongoing maintenance and cost. This is proposed to be achieved through the following: - Centrally monitored system with automated self-testing; - Long life LED luminaries; - Individual long-life batteries; and - Wide area coverage luminaries.
Photovoltaics	Roof mounted photovoltaic systems are not part of the design as the payback period is beyond five years. However, roof space is available for a future installation if the payback period reduces.
High quality materials	Minimising the amount of PVC cabling where possible.
Energy monitoring	All sub meters will be linked to the Building Management System (BMS) to monitor energy consumption. There will be a continual monitoring of monthly energy consumption and building turning to optimise energy performance.
NCC section J performance	The project will target a 5% improvement on NCC Part J minimum performance requirements for the lighting power density.

7.2. Mechanical Services

Initiative	Proposed ESD Strategy
Central Systems	The building air conditioning chilled water requirements shall be met by way of a combination of high efficiency variable speed chillers to match the building demand profile in a stable and economical manner. Water cooled chillers will be selected to maximise efficiency. Series counter-flow chillers and heat recovery chillers were assessed. However, they are not part of the design as the payback period is beyond five years.
Secondary systems	Energy efficient FCU's with EC/DC motors to provide air-conditioning. Modular variable speed pumps to minimise and reduce energy output for peak and non-peak demands. Preference to be given to energy efficient equipment, with consideration of cost, suitability and maintenance.
Type of Refrigerants	Zero Ozone Depleting Potential (ODP) and Low Greenhouse Warming Potential (GWP) refrigerants shall be specified in the design.
Passive heating and cooling techniques	Passive conditioning techniques where applicable, to reduce the overall air-conditioning loads. Shading of windows to prevent solar penetration in summer but allow passive heating in winter. Efficient insulation of hot and warm water distribution pipe-work to minimise heat losses. Use of high performance glazing and high levels of insulation. Building thermal mass and insulation combinations, avoiding thermal bridging.
BMCS system	Building Management System (BMS) to schedule and optimise plant efficiency. The air-conditioning system to be designed to either shut down or to be set to a wider temperature control band, when a space is unoccupied.
Heating and cooling systems	Air side systems selected to match thermal zones and individual departments, served from zoned secondary heating and cooling circuits to apportion energy use.
Air handling	Units shall be selected with economy cycle where appropriate even when

Initiative	Proposed ESD Strategy
systems	below the BCA threshold.
Heat rejection	Chillers and cooling towers shall be selected to accept low entering condenser water to maximise efficiency, based on favourable wet bulb conditions.
Heating hot water	Heating coils to be selected with a high temperature difference and low return water temperature to maximise condensing water efficiency.
Heat recovery	Heat shall be recovered from ventilation systems either through direct return air or indirect heat exchange where there is a benefit in doing so.
NCC section J performance	The project will target a 5% improvement on NCC Part J minimum performance requirements.

7.3. Hydraulic Services

Initiative	Proposed ESD Strategy
Efficient water fixtures and fittings	Low flow taps will be used throughout. Flow rates for water outlets shall be controlled by flow restrictors and will deliver water at the flows listed below: - Shower 7.7L/m - Basin 7.7L/m - Sink 7.7L/m - Scrub trough 7.7L/m
Hot water system	The building's heating water requirements shall be met by way of a series high efficiency gas fired boilers.
Hot water Pipework	Additional insulation is provided for the domestic hot water pipework insulation in excess of section J 7.2 minimum requirements. The thicker insulation (38mm) will achieve a 26% reduction in energy losses when compared with the industry standard 25mm thickness.
Water metering	All water sub-meters are connected to the BMS.
Other initiatives	The option of pre-heated domestic hot water by a high-grade heat source

Initiative	Proposed ESD Strategy
	where feasible. Use of gravity systems where feasible. Fire test water re-use in non-potable water systems. Water sensitive urban design.
NCC section J performance	The project will target a 5% improvement on NCC Part J minimum performance requirements.

7.4. Architectural

Initiative	Proposed ESD Strategy
Daylight	Courtyards and light wells are used to improve daylight on to the floor plates at lower levels. IPU wings in tower have narrow floor plate to allow daylight into patient rooms. Floor to ceiling glazing where possible to allow daylight deep into floor plate.
Daylight glare	High performance building envelope- glass will be selected with a high visual light transmission whilst still providing a 5% improvement in section J compliance. Public areas at lower level shaded by concourse. Deep reveals to windows at podium level.
Façade performance to meet section J	The project will target a 5% improvement on NCC Part J minimum performance requirements.
External views	IPU's will have far reaching views towards Sydney, CBD to the north and Botany Bay to the south.
Landscaping	The new landscape plaza will provide a new entry point for the ASB. It will act as a drop off area and a place that users/ visitors and staff can access an appealing external environment close to the hospital facilities. It will incorporate shaded seating areas, access to local public transport and access to parking.
Waste	Materials selected for the façade will be part of a modular system based

Initiative	Proposed ESD Strategy
	on panel efficiencies thus minimising waste, construction time and costs. Modular systems are largely factory assembled and tested.

7.5. Structural

Initiative	Proposed ESD Strategy
Description of sustainable concrete and construction techniques-concrete	PT construction technique will reduce the amount of construction materials – concrete and reinforcement. Provision for future core holes can be made without the need for strengthening. Recycled material can be used in the form of fly ash or ground-granulated blast furnace slag as a replacement for part of the Portland cement concrete mix. Use of recycled aggregates.
Description of sustainable concrete and construction techniques-Steel	Use Bondek as permanent slab formwork.
Other initiatives	Design for adaptability – adopting a higher loading allowance to avoid the need to strengthen or demolish later; adopting a sacrificial topping zone for provision of future set-downs for wet zones; adopt non-loadbearing walls as partitions; which allows them to be removed in the future. Minimise materials by maximising efficiency. Source materials responsibly and locally if possible. Minimise off-site transportation of contaminants by the use of on-site borrow pit for storage of excavated materials.

8. Green Star

The ASB is targeting a 4 Star equivalent Green Star rating. The major sustainability initiatives considered for this project include:

Management & Operations:

- Recognised building commissioning and tuning process
- Provision of building information to facilitate understanding of the building's systems, operation and maintenance requirements
- Use of best practice environmental management procedures during demolition and construction
- Provision of recycling facilities for operational waste

Energy:

- Optimised building orientation
- High performance building envelope
- High efficiency heating, ventilation and air conditioning (HVAC) components
- Use of efficient lighting fixtures

Indoor Environment Quality:

- Use of materials with low or no volatile organic content (VOC) and formaldehyde
- Mitigation of outdoor and indoor pollutants
- Provision of appropriate and comfortable acoustic conditions for staff and patients
- Use of refrigerants with low environmental impact

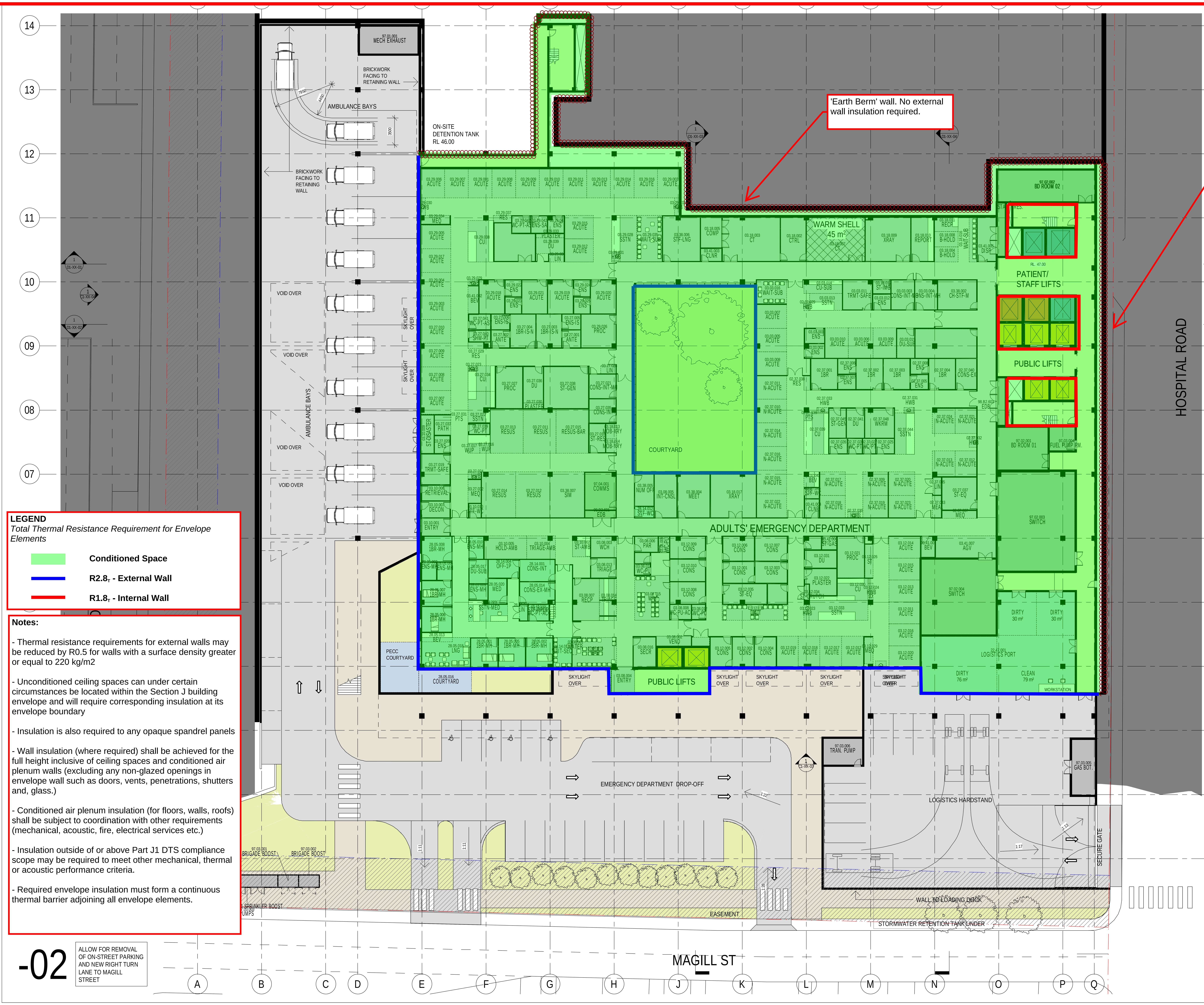
Water:

- Use of water efficient fixtures and fittings with Water Efficiency Labelling and Standards (WELS) rating
- Use of rainwater harvesting system for irrigation and potential toilet flushing
- Closed loop fire system test water system

The credits that are pursued for the 4 Star Green Star equivalent rating are attached to this report in appendix F.

9. Appendix A – Section J Part J1 Conditioned Space and Walls Insulation Mark-up

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- Conditioned Space
- R2.8$_T$ - External Wall
- R1.8$_T$ - Internal Wall

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

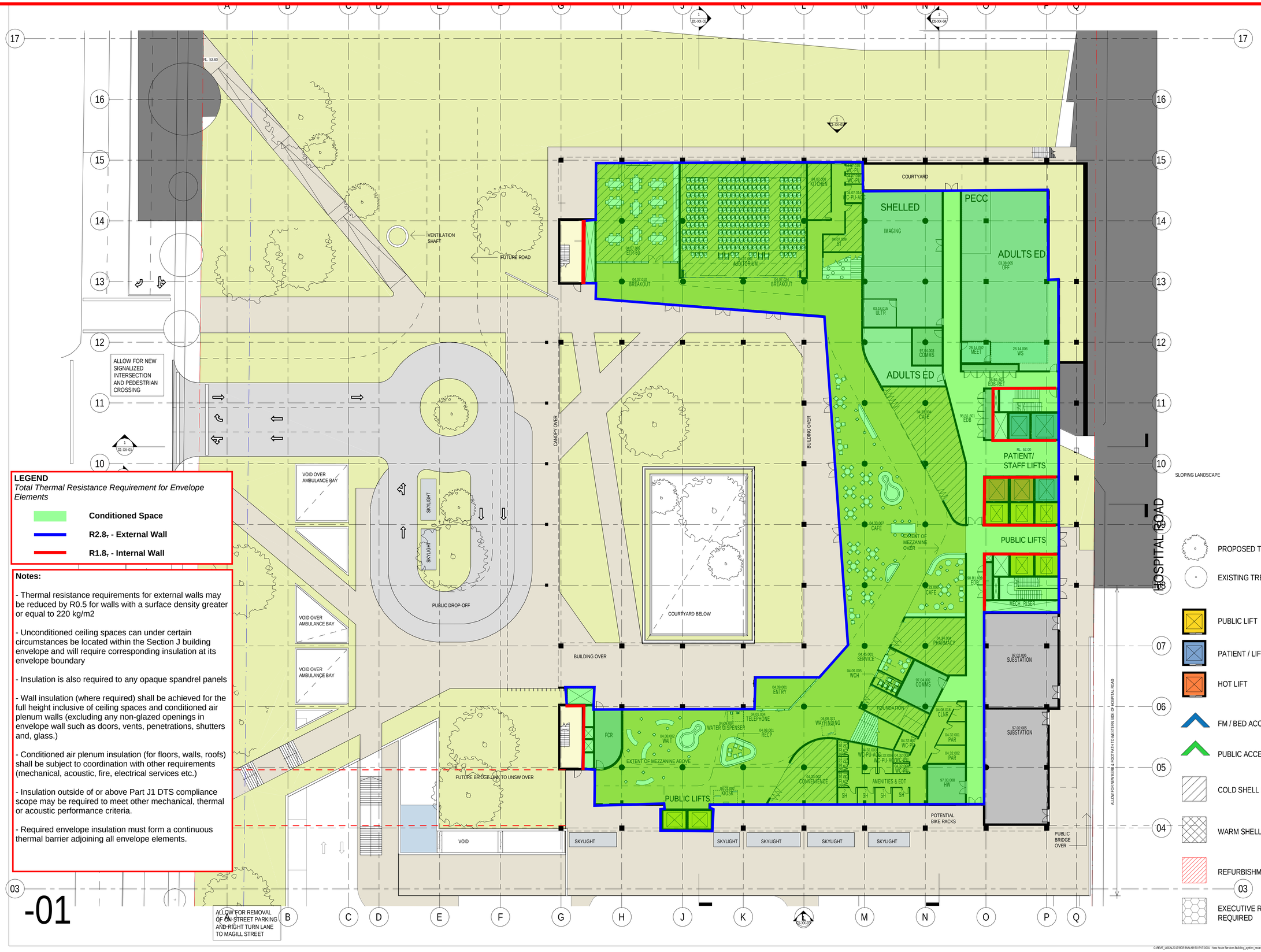
- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

Health Infrastructure
HEALTH INFRASTRUCTURE
130487
POW REDEVELOPMENT BAKER ST RANDWICK NSW AUSTRALIA
s1606008
FOR SIGN-OFF
GENERAL ARRANGEMENT - LEVEL -02
RCR-BVN-AR-50-DWG-B2-B2-01
X

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **R2.8$_T$ - External Wall**
- **R1.8$_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

-01

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	30.01.2018	FOR INFORMATION
U	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER
130487
PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER
s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

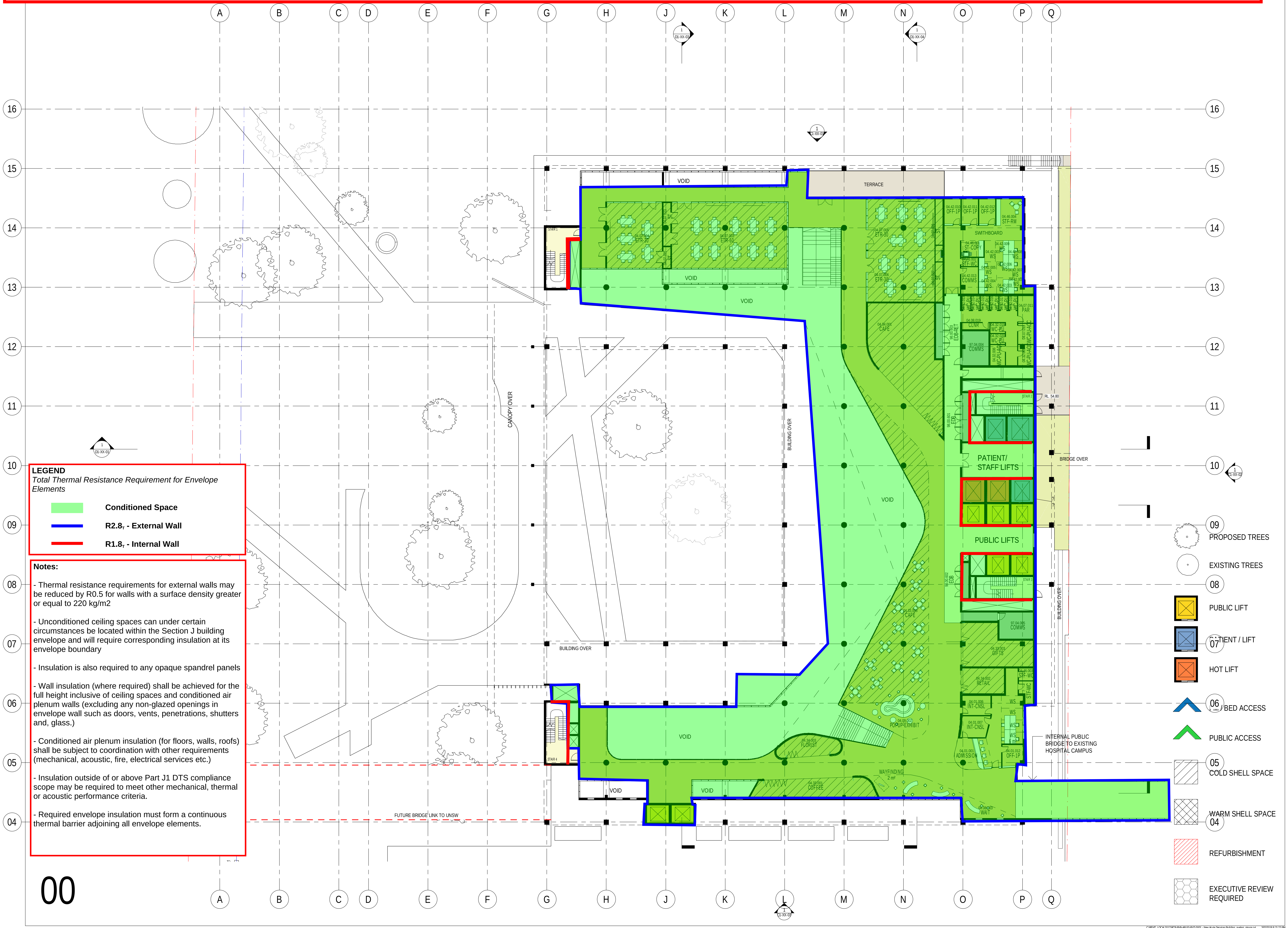
GRAPHIC SCALE
0 2000 5000
SCALE
1 : 200@81 DO NOT SCALE
STATUS
FOR SIGN-OFF
DRAWING

GENERAL ARRANGEMENT - LEVEL -01

RCR-BVN-AR-50-DWG-B2-B1-01 ISSUE U

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-5001 - New Acute Services Building_ayelen_mouro.rvt 2/02/2018 8:35:04 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **$R2.8_T$ - External Wall**
- **$R1.8_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

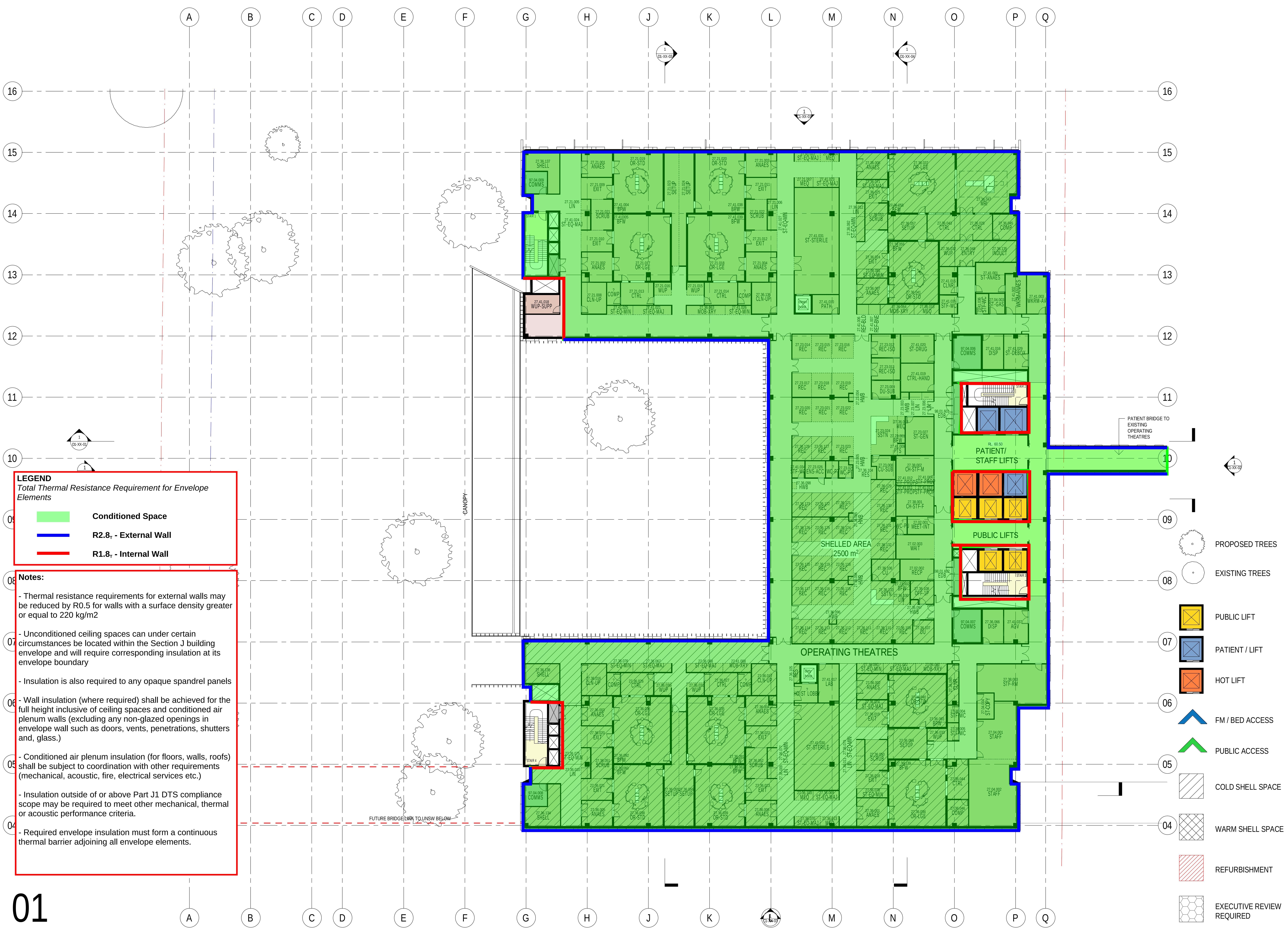
DRAWING
GENERAL ARRANGEMENT - LEVEL 00

RCR-BVN-AR-50-DWG-B2-00-01

ISSUE
T

C:\REVIT_LOCAL2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_moure.rvt 2/02/2018 8:21:23 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **R2.8ₜ - External Wall**
- **R1.8ₜ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

PROPOSED TREES
EXISTING TREES
PUBLIC LIFT
PATIENT / LIFT
HOT LIFT
FM / BED ACCESS
PUBLIC ACCESS
COLD SHELL SPACE
WARM SHELL SPACE
REFURBISHMENT
EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

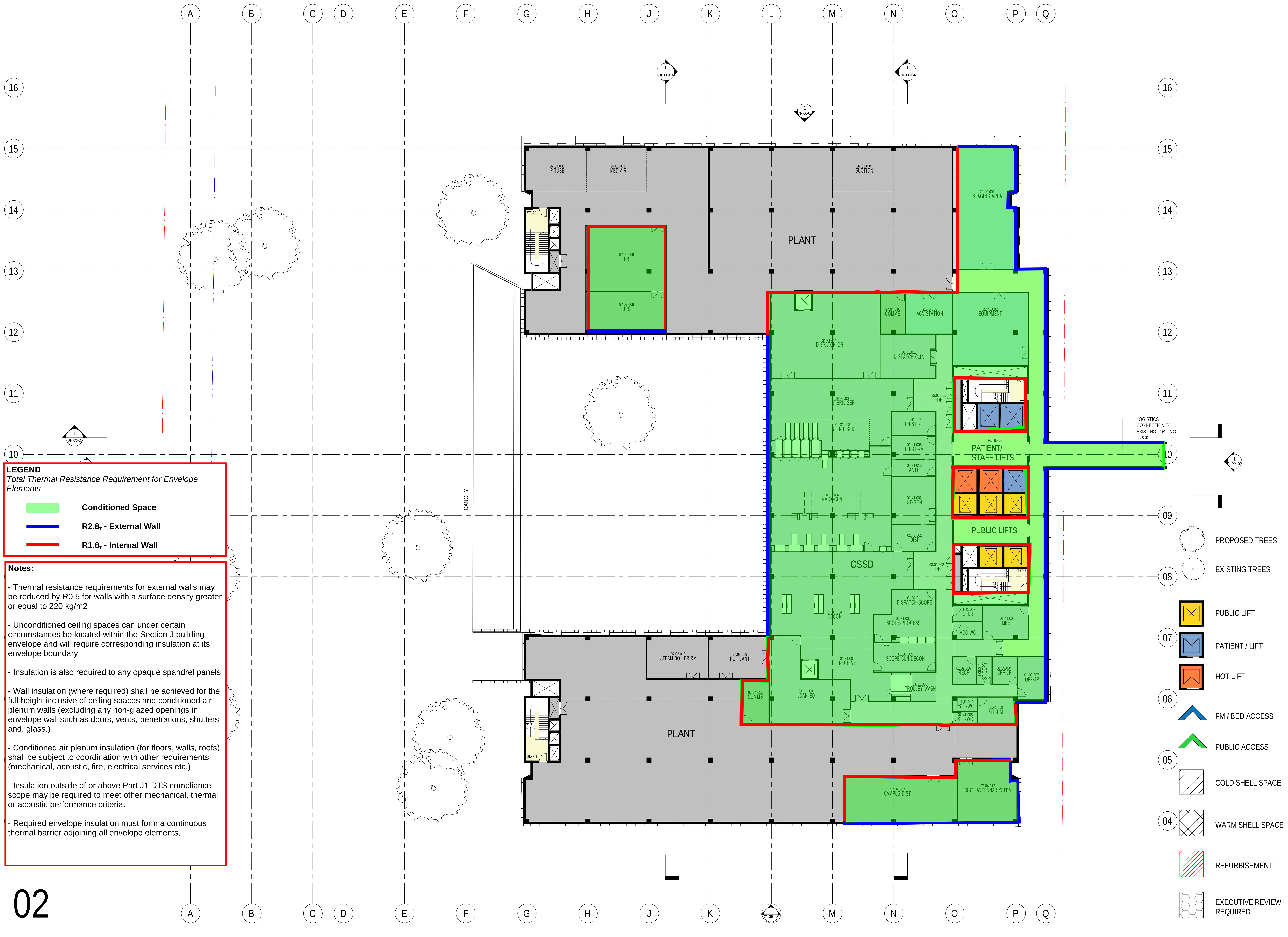
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 01

RCR-BVN-AR-50-DWG-B2-01-01

ISSUE T

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space** (green)
- **R2.8$_T$ - External Wall** (blue)
- **R1.8$_T$ - Internal Wall** (red)

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

02

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	22.11.2017	FOR INFORMATION
P	27.11.2017	FOR INFORMATION
Q	01.12.2017	FOR INFORMATION
R	11.12.2017	FOR INFORMATION
S	21.12.2017	FOR INFORMATION
T	19.01.2018	FOR INFORMATION
U	25.01.2018	FOR INFORMATION
V	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

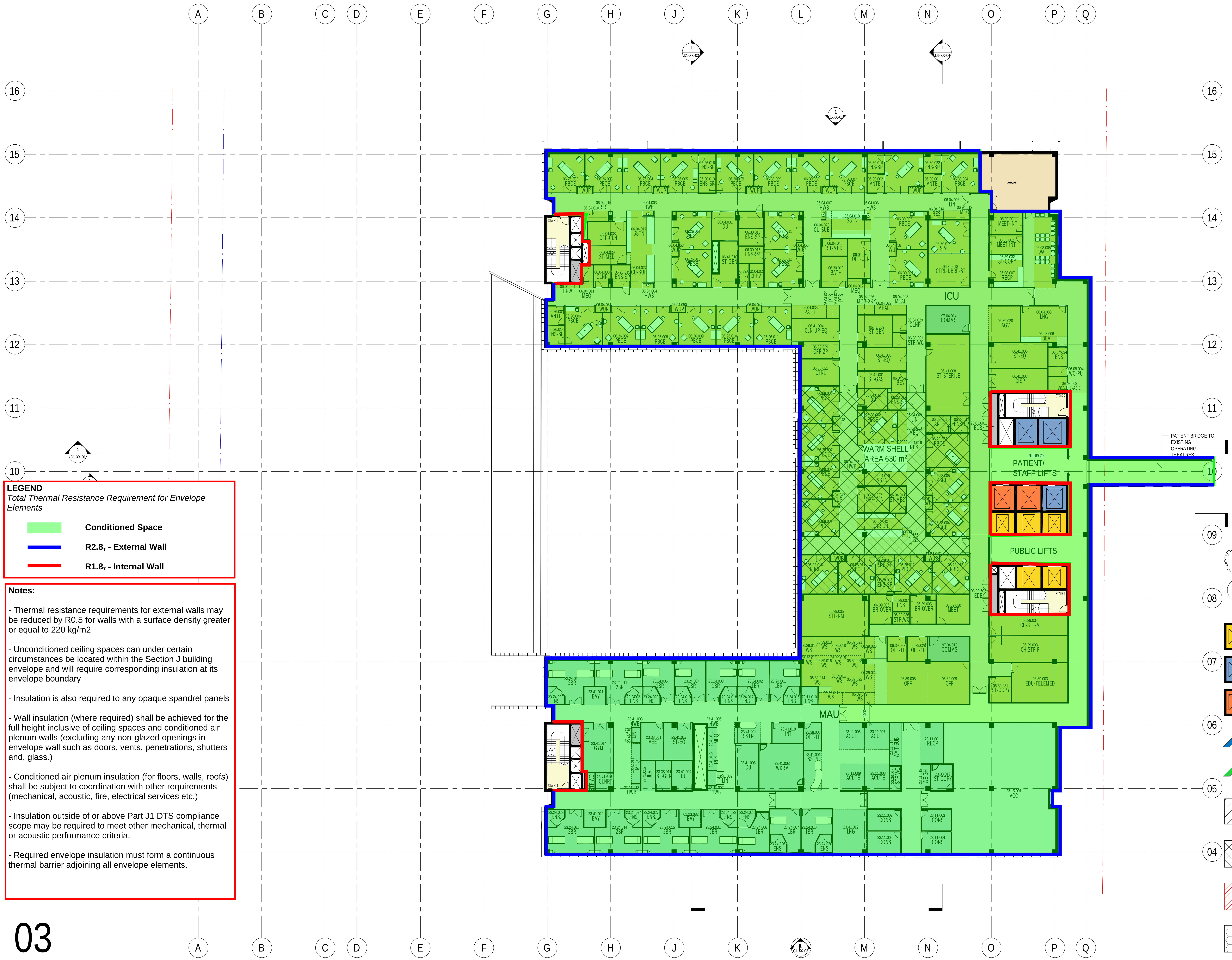
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 02

RCR-BVN-AR-50-DWG-B2-02-01 ISSUE V

2/02/2018 8:21:44 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space** (green fill)
- **$R2.8_T$ - External Wall** (blue line)
- **$R1.8_T$ - Internal Wall** (red line)

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

03

PROPOSED TREES
EXISTING TREES
PUBLIC LIFT
PATIENT / LIFT
HOT LIFT
FM / BED ACCESS
PUBLIC ACCESS
COLD SHELL SPACE
WARM SHELL SPACE
REFURBISHMENT
EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE
CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

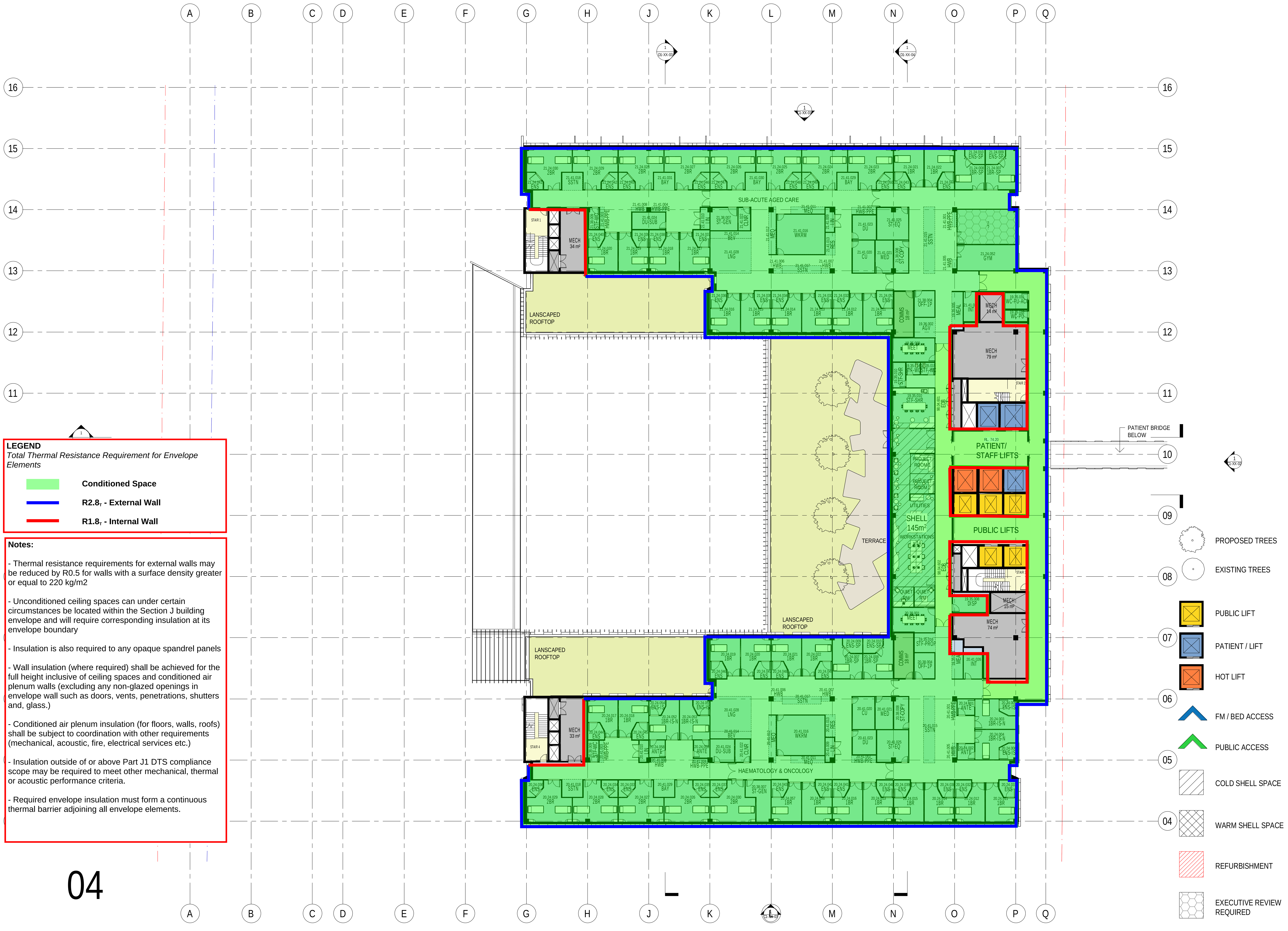
DRAWING
GENERAL ARRANGEMENT - LEVEL 03

RCR-BVN-AR-50-DWG-B2-03-01

ISSUE
T

C:\REVIT_LOCAL2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_moure.rvt 2/02/2018 8:30:22 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space** (green)
- **$R2.8_T$ - External Wall** (blue)
- **$R1.8_T$ - Internal Wall** (red)

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	27.11.2017	FOR INFORMATION
P	01.12.2017	FOR INFORMATION
Q	11.12.2017	FOR INFORMATION
R	21.12.2017	FOR INFORMATION
S	19.01.2018	FOR INFORMATION
T	25.01.2018	FOR INFORMATION
U	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

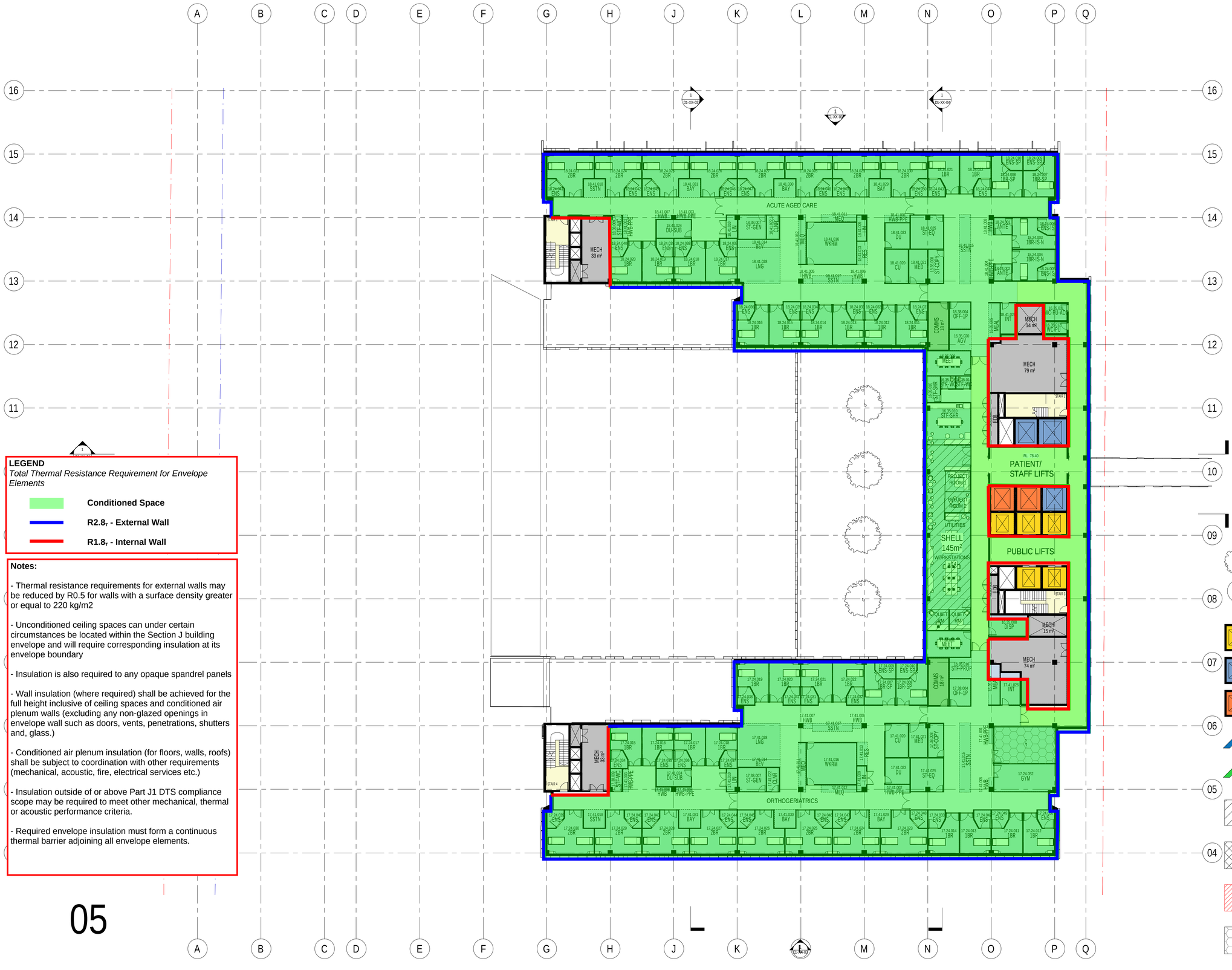
DRAWING
GENERAL ARRANGEMENT - LEVEL 04

RCR-BVN-AR-50-DWG-B2-04-01

ISSUE
U

C:\REVIT_LOCAL2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_moure.rvt 2/02/2018 8:22:34 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **R2.8$_T$ - External Wall**
- **R1.8$_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

05

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@A1 DO NOT SCALE

STATUS
FOR SIGN-OFF

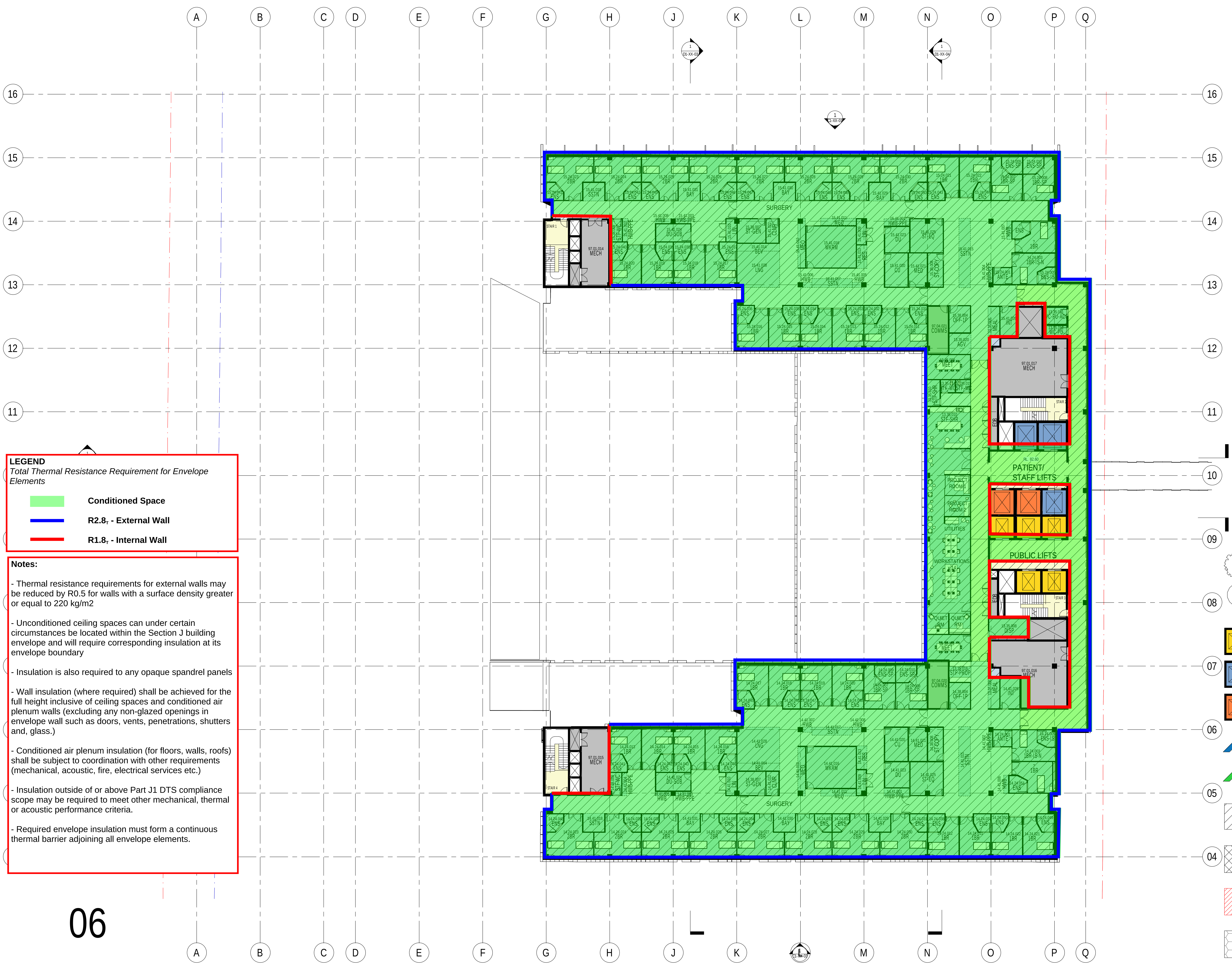
DRAWING
GENERAL ARRANGEMENT - LEVEL 05

RCR-BVN-AR-50-DWG-
B2-05-01

ISSUE
T

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_eyelen_mpure.rvt 2/02/2018 8:22:54 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space** (green)
- **R2.8$_T$ - External Wall** (blue)
- **R1.8$_T$ - Internal Wall** (red)

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

PROPOSED TREES
EXISTING TREES
PUBLIC LIFT
PATIENT / LIFT
HOT LIFT
FM / BED ACCESS
PUBLIC ACCESS
COLD SHELL SPACE
WARM SHELL SPACE
REFURBISHMENT
EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE
CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

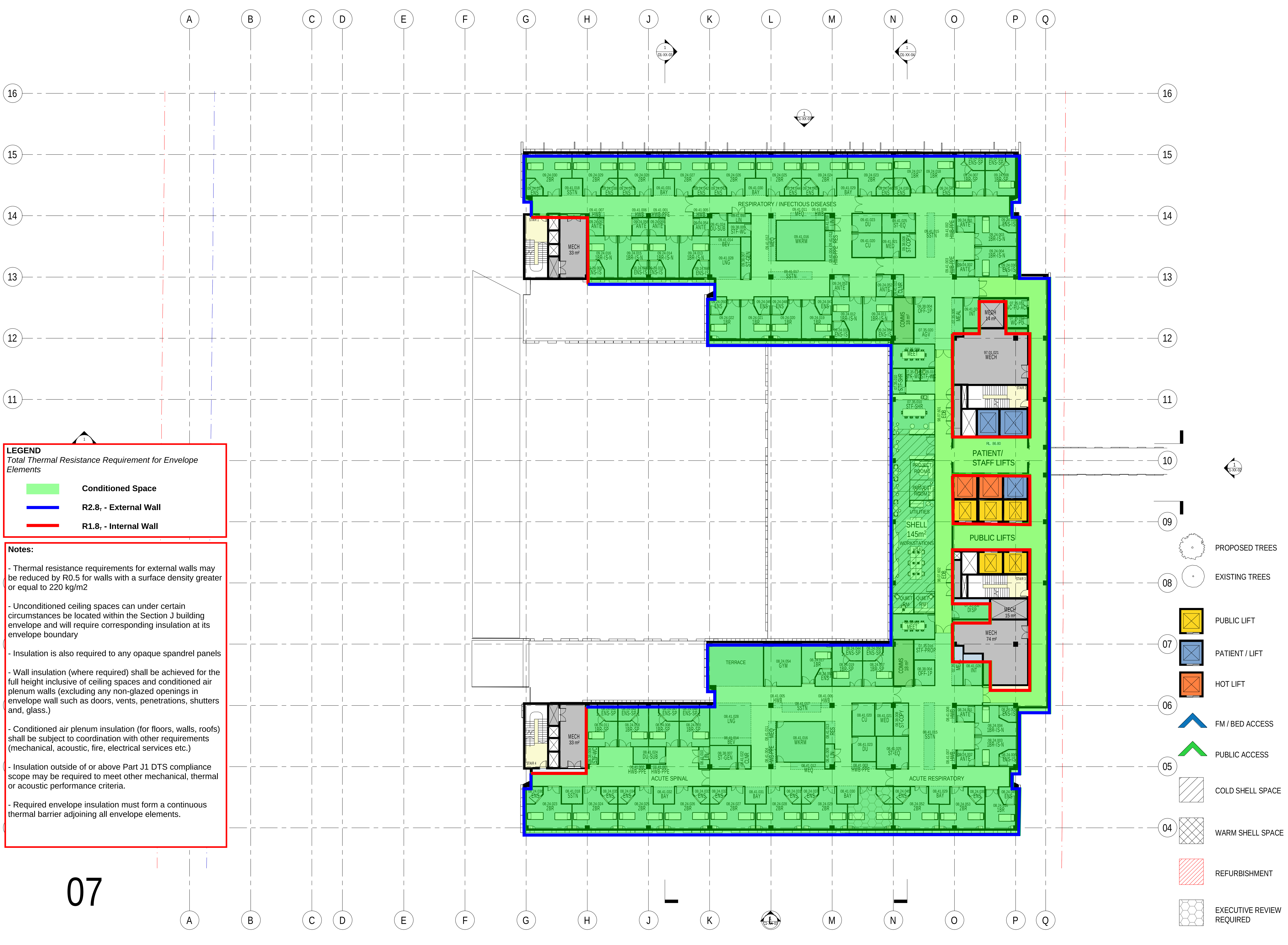
DRAWING
GENERAL ARRANGEMENT - LEVEL 06

RCR-BVN-AR-50-DWG-B2-06-01

ISSUE
T

2/02/2018 8:23:15 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- Conditioned Space
- $R2.8_T$ - External Wall
- $R1.8_T$ - Internal Wall

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH | PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 07

RCR-BVN-AR-50-DWG-B2-07-01 | ISSUE T

2/02/2018 8:23:41 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up

LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **$R2.8_T$ - External Wall**
- **$R1.8_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

08

PROPOSED TREES
EXISTING TREES
PUBLIC LIFT
PATIENT / LIFT
HOT LIFT
FM / BED ACCESS
PUBLIC ACCESS
COLD SHELL SPACE
WARM SHELL SPACE
REFURBISHMENT
EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE
CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH | PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

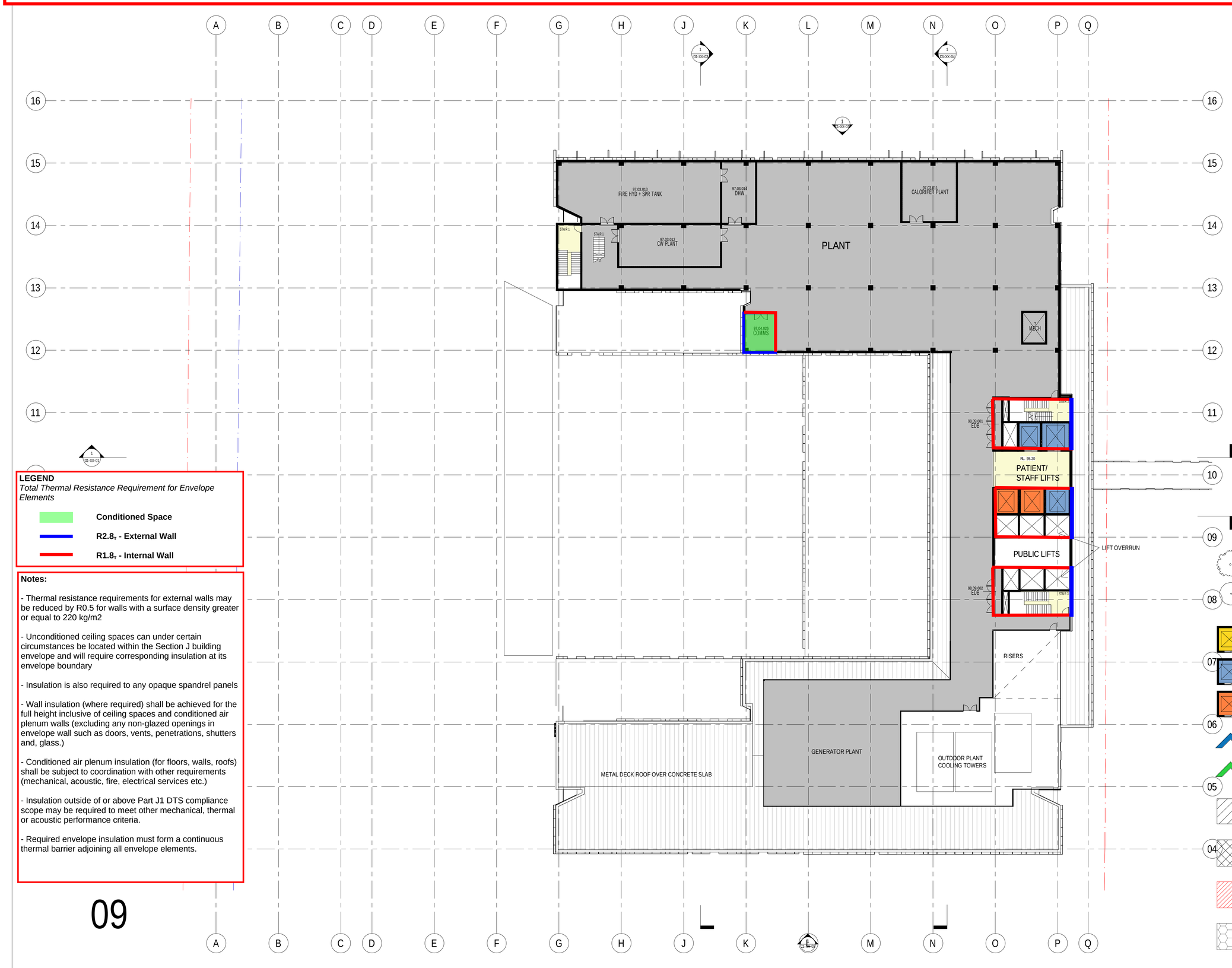
DRAWING
GENERAL ARRANGEMENT - LEVEL 08

RCR-BVN-AR-50-DWG-B2-08-01

ISSUE
T

C:\REVIT_LOCAL2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_moure.rvt 2/02/2018 8:24:03 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **R2.8$_T$ - External Wall**
- **R1.8$_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

09

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	22.11.2017	FOR INFORMATION
P	27.11.2017	FOR INFORMATION
Q	01.12.2017	FOR INFORMATION
R	11.12.2017	FOR INFORMATION
S	21.12.2017	FOR INFORMATION
T	19.01.2018	FOR INFORMATION
U	25.01.2018	FOR INFORMATION
V	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@81 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 09

RCR-BVN-AR-50-DWG-
B2-09-01

ISSUE
V

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up

BVN TERROIR

LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **$R2.8_T$ - External Wall**
- **$R1.8_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

10

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

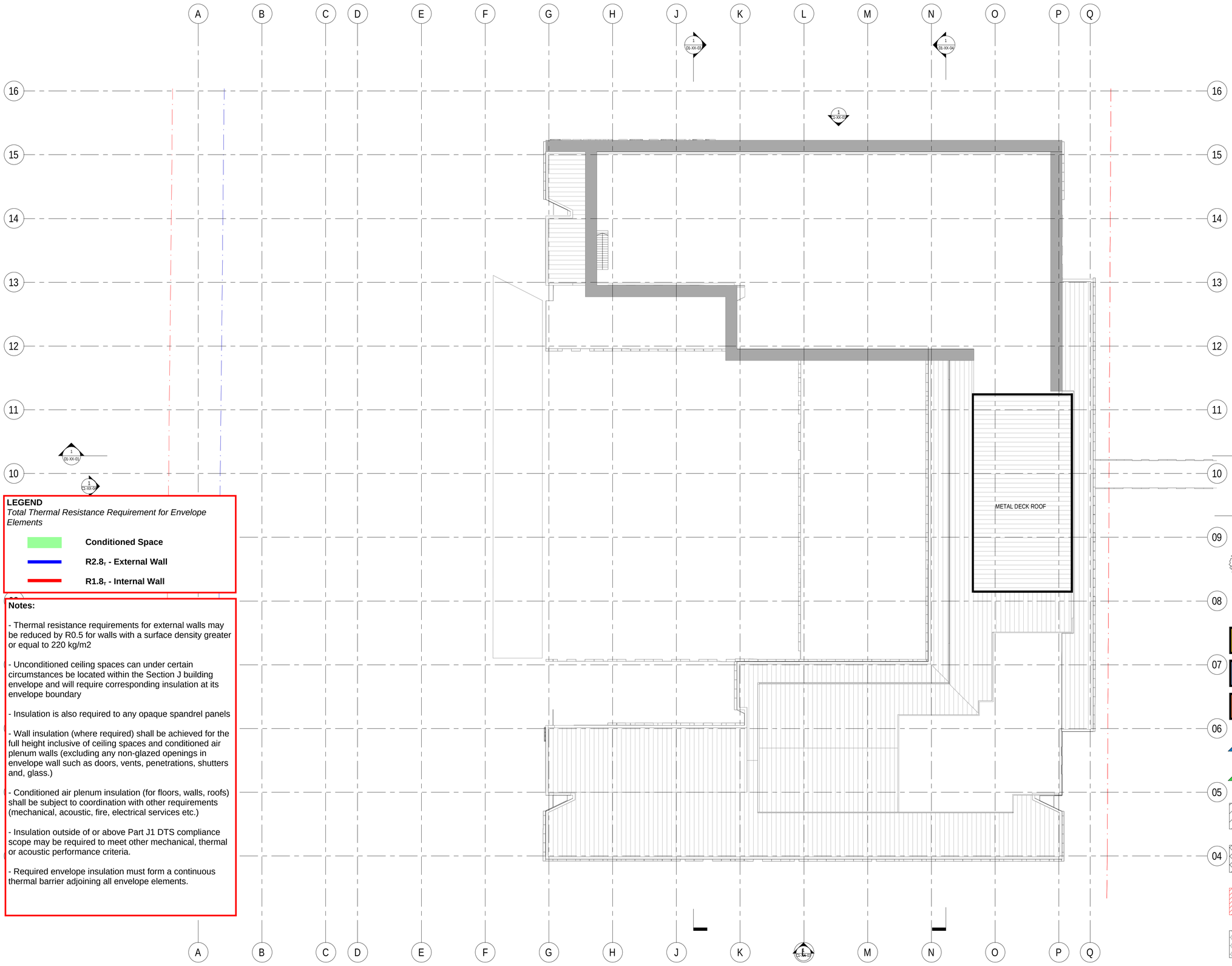
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 10

RCR-BVN-AR-50-DWG-B2-10-01

ISSUE
T

Prince of Wales - Acute Services Building - BCA Section J Part J1 Walls Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **Conditioned Space**
- **R2.8$_T$ - External Wall**
- **R1.8$_T$ - Internal Wall**

Notes:

- Thermal resistance requirements for external walls may be reduced by R0.5 for walls with a surface density greater or equal to 220 kg/m2

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Insulation is also required to any opaque spandrel panels

- Wall insulation (where required) shall be achieved for the full height inclusive of ceiling spaces and conditioned air plenum walls (excluding any non-glazed openings in envelope wall such as doors, vents, penetrations, shutters and, glass.)

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

C:\REVIT_LOCAL\2017\RCR-BVN-AR-SO-RVT-0001 - New Acute Services Building_ayelen_mouro.rvt 2/02/2018 8:24:26 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

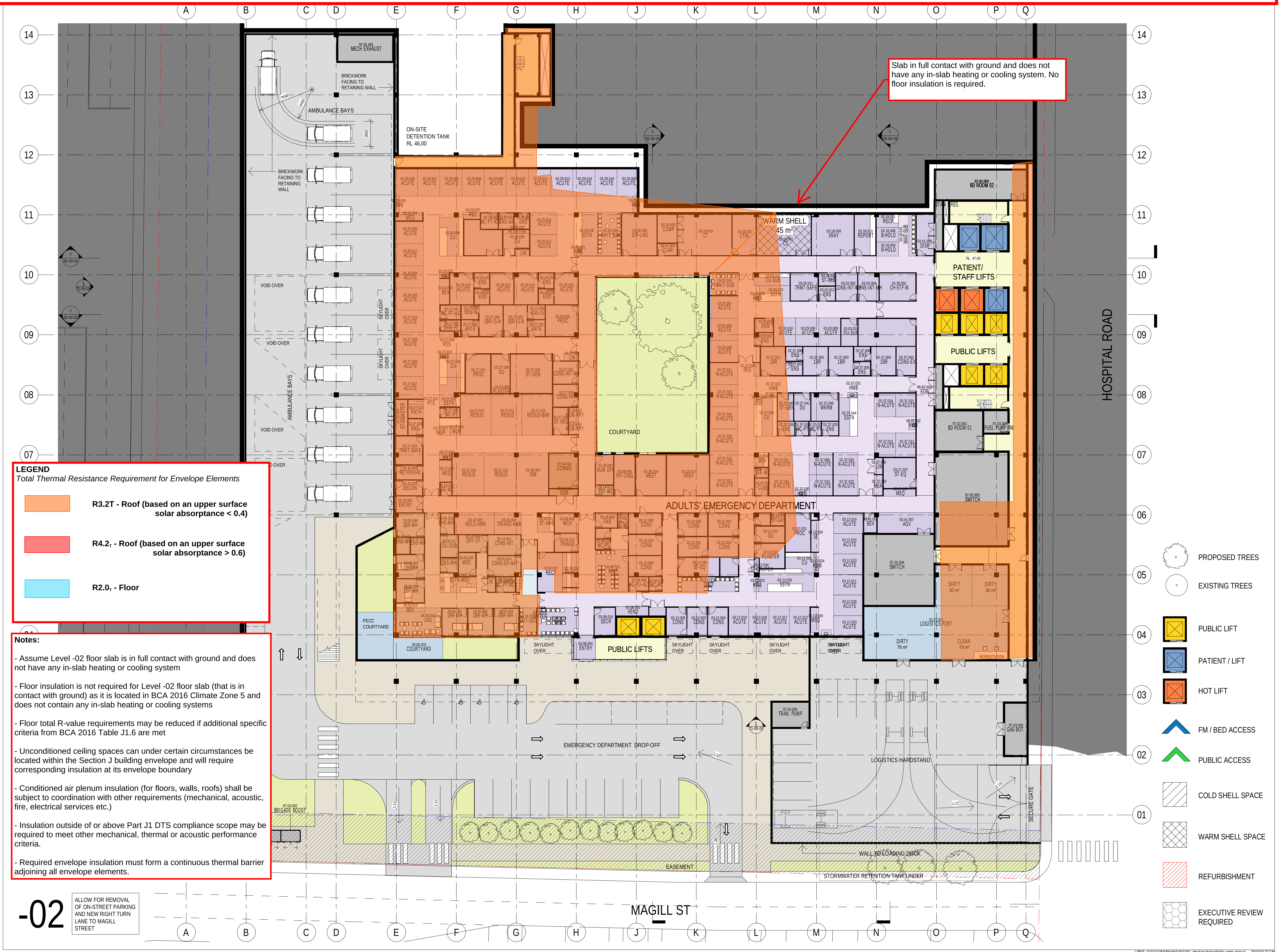
DRAWING
GENERAL ARRANGEMENT - ROOF

RCR-BVN-AR-50-DWG-
B2-11-01

ISSUE
T

10. Appendix B – Section J Part J1 Roof and Floor Insulation Mark-up

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **$R4.2_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **$R2.0_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	22.11.2017	FOR INFORMATION
P	27.11.2017	FOR INFORMATION
Q	01.12.2017	FOR INFORMATION
R	11.12.2017	FOR INFORMATION
S	21.12.2017	FOR INFORMATION
T	19.01.2018	FOR INFORMATION
U	25.01.2018	FOR INFORMATION
V	29.01.2018	FOR INFORMATION
W	30.01.2018	FOR INFORMATION
X	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH / PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL -02

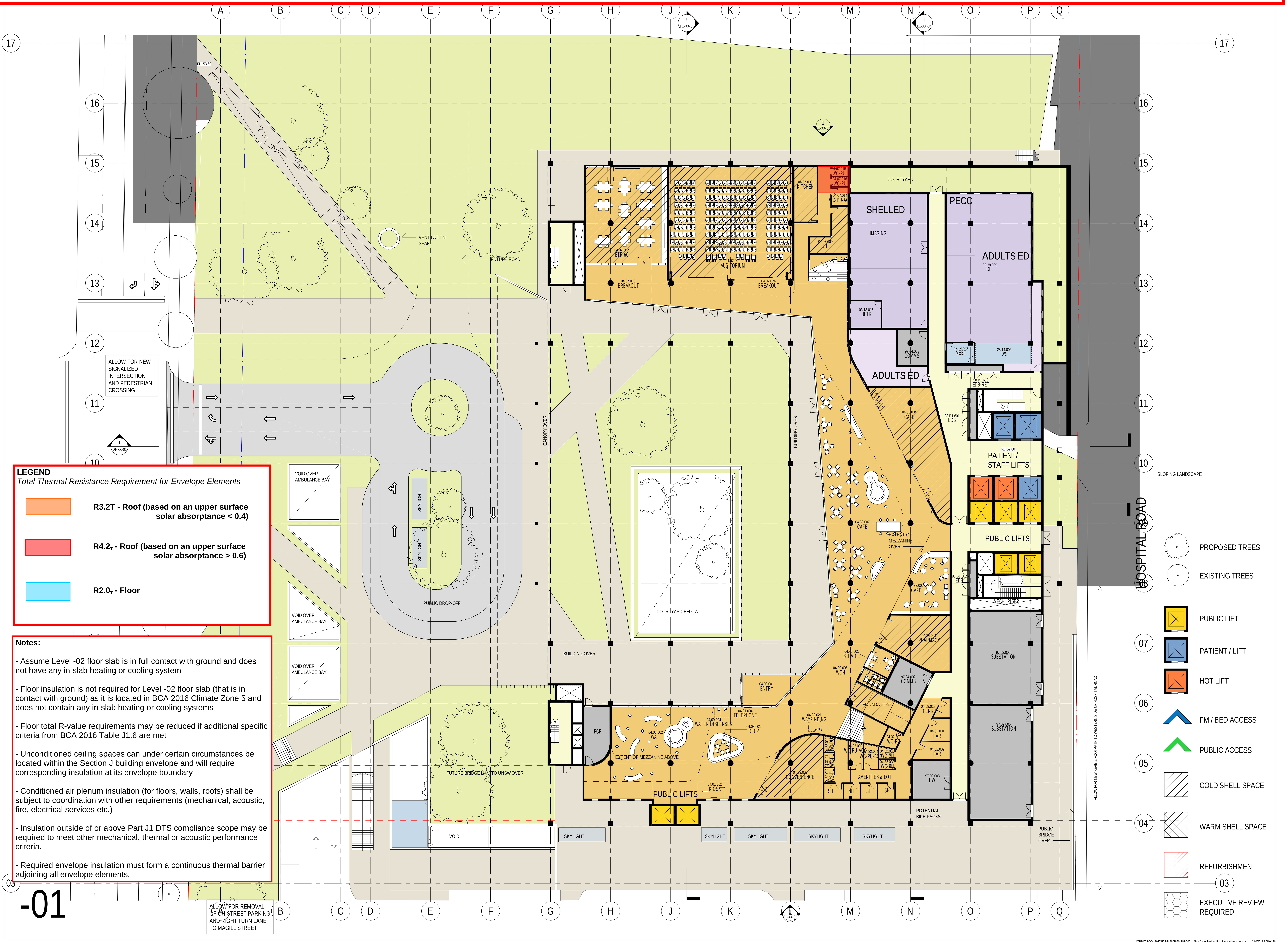
RCR-BVN-AR-50-DWG-B2-B2-01

ISSUE
X

2/02/2018 8:25:27 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up

BVN TERROIR



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

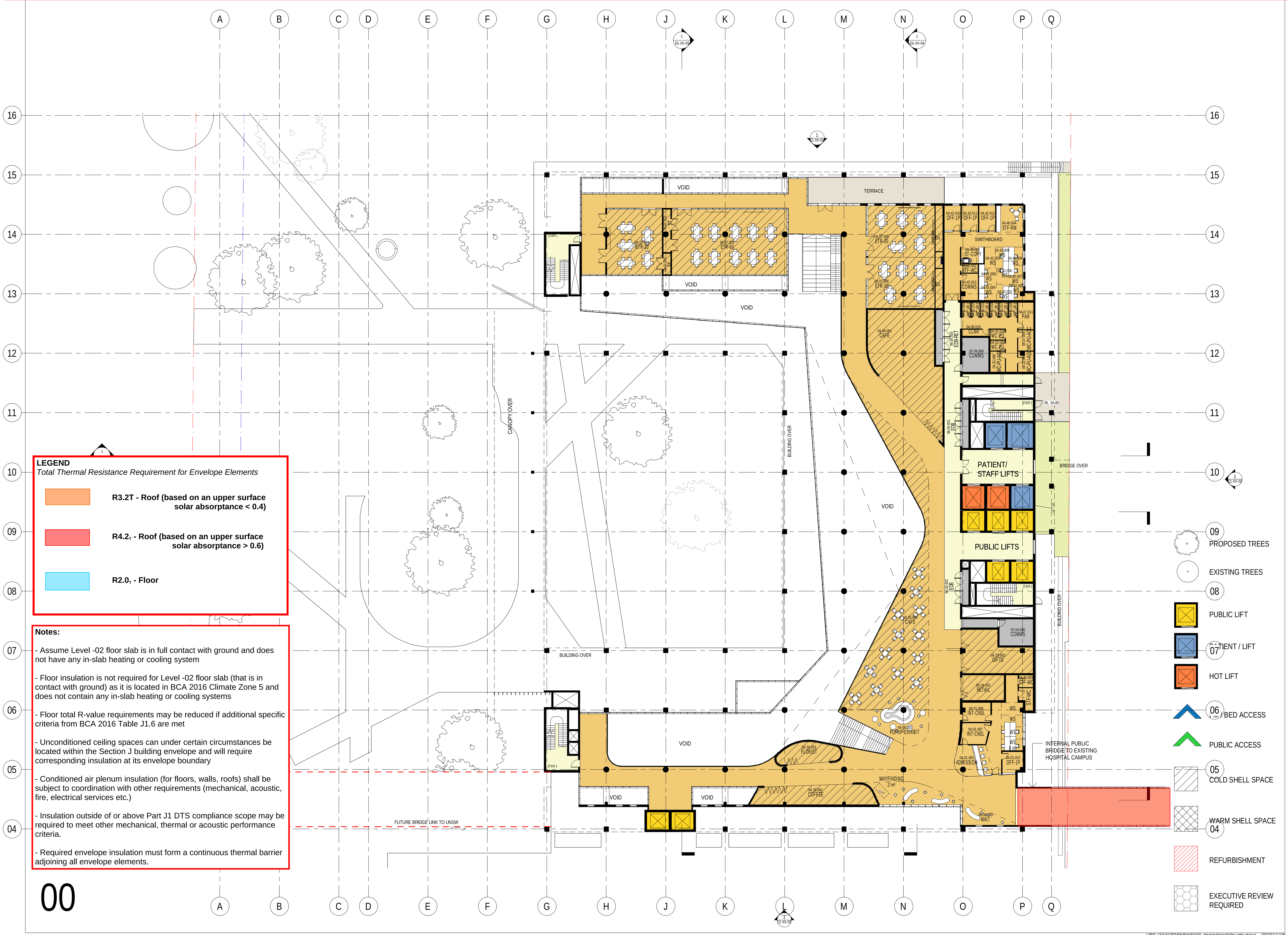
DRAWING
GENERAL ARRANGEMENT - LEVEL -01

RCR-BVN-AR-50-DWG-B2-B1-01

ISSUE U

2/02/2018 8:25:04 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

00

BVN TERROIR

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 00

RCR-BVN-AR-50-DWG-B2-00-01

ISSUE
T

2/02/2018 8:21:23 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up

LEGEND

Total Thermal Resistance Requirement for Envelope Elements

R3.2T - Roof (based on an upper surface solar absorptance < 0.4)

R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)

R2.0$_T$ - Floor

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

01

PATIENT BRIDGE TO EXISTING OPERATING THEATRES

FUTURE BRIDGE LINK TO UNSW BELOW

CANOPY

SHELLED AREA 2500 m²

OPERATING THEATRES

PATIENT/ STAFF LIFTS

PUBLIC LIFTS

PROPOSED TREES

EXISTING TREES

PUBLIC LIFT

PATIENT / LIFT

HOT LIFT

FM / BED ACCESS

PUBLIC ACCESS

COLD SHELL SPACE

WARM SHELL SPACE

REFURBISHMENT

EXECUTIVE REVIEW REQUIRED

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_mouro.rvt 2/02/2018 8:21:36 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@81 DO NOT SCALE

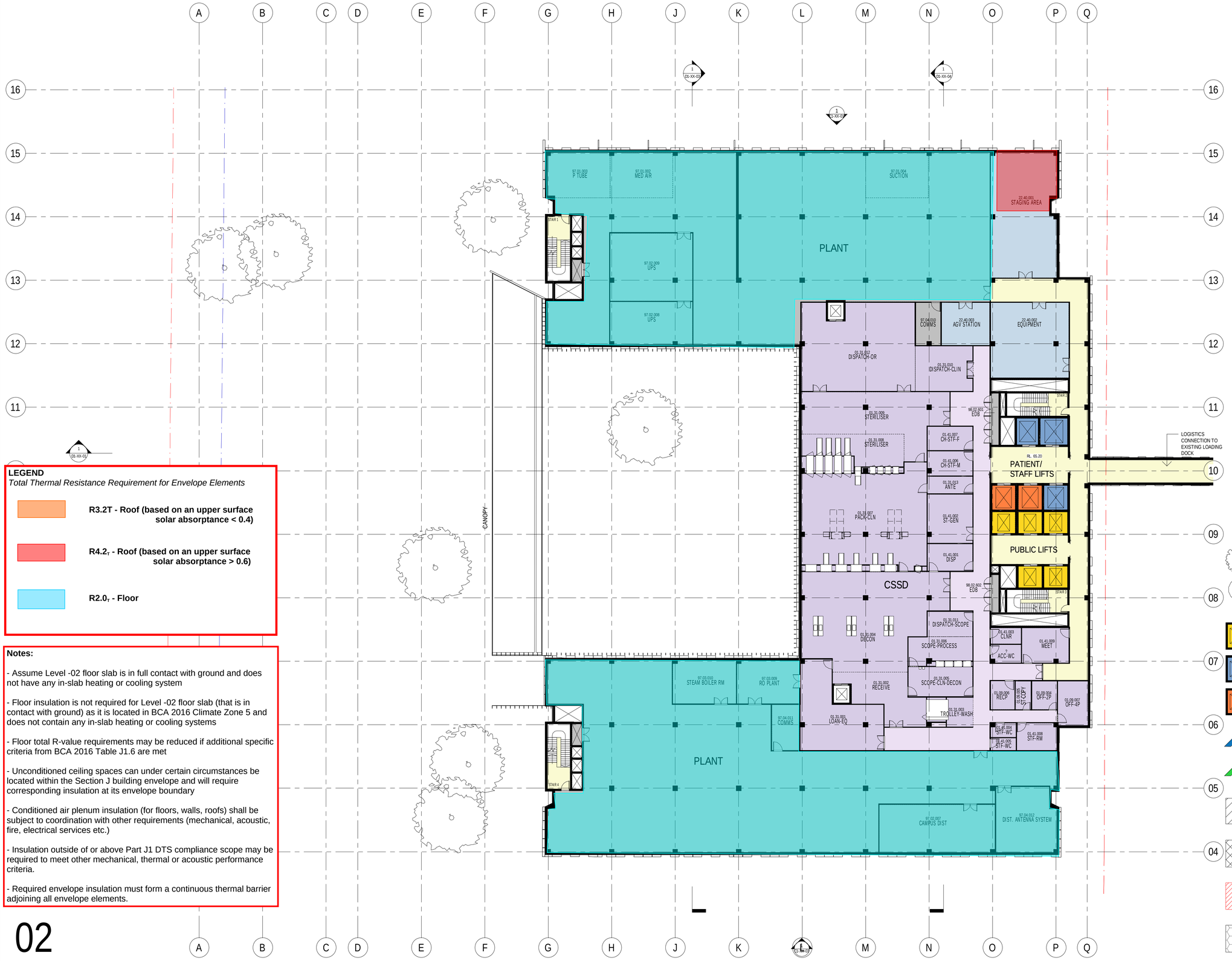
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 01

RCR-BVN-AR-50-DWG-B2-01-01

ISSUE T

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

R3.2T - Roof (based on an upper surface solar absorptance < 0.4)

R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)

R2.0$_T$ - Floor

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

02

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	22.11.2017	FOR INFORMATION
P	27.11.2017	FOR INFORMATION
Q	01.12.2017	FOR INFORMATION
R	11.12.2017	FOR INFORMATION
S	21.12.2017	FOR INFORMATION
T	19.01.2018	FOR INFORMATION
U	25.01.2018	FOR INFORMATION
V	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

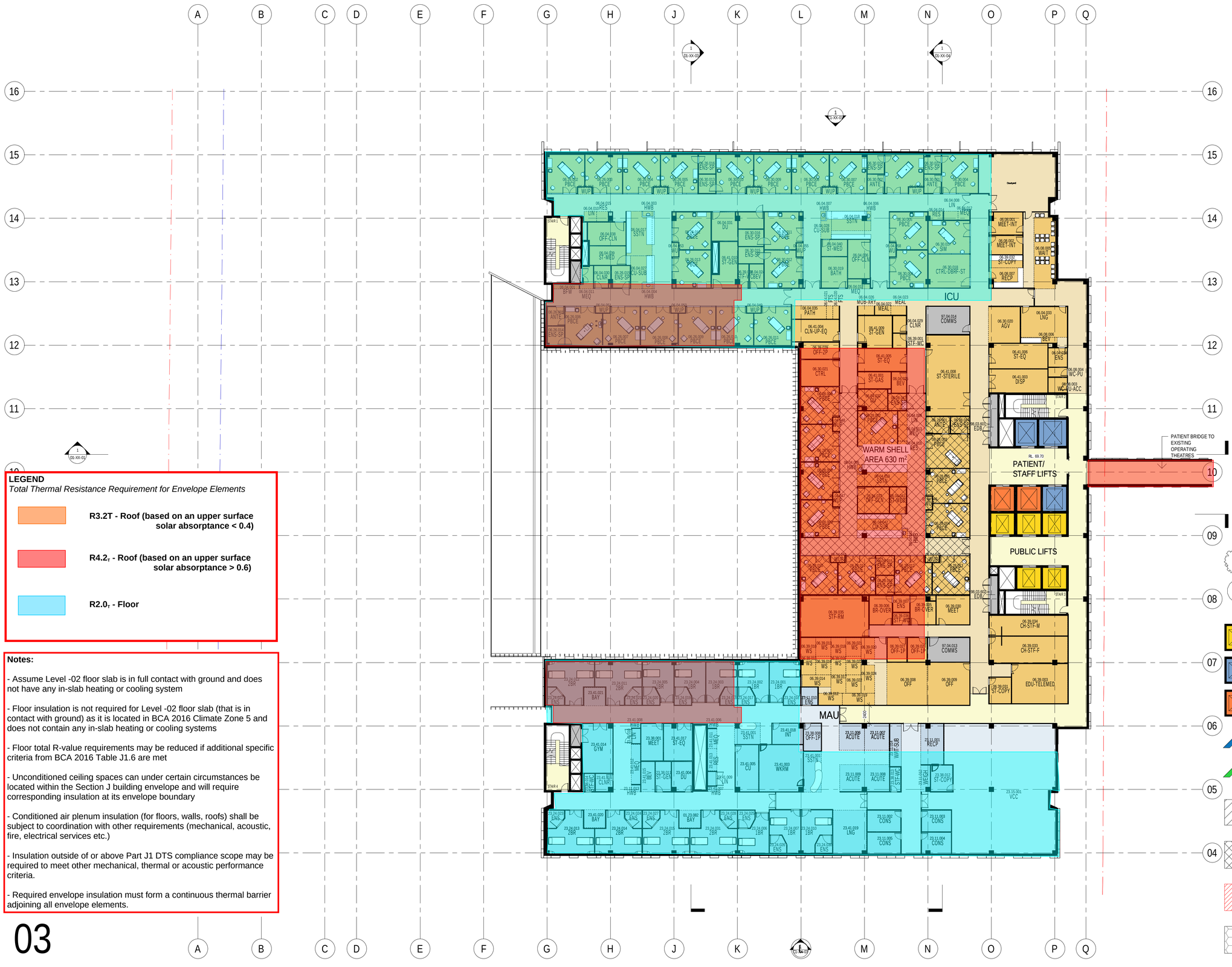
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 02

RCR-BVN-AR-50-DWG-B2-02-01 ISSUE V

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_mouro.rvt 2/02/2018 8:21:44 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system
- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems
- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met
- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary
- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)
- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.
- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

03

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@81 DO NOT SCALE

STATUS
FOR SIGN-OFF

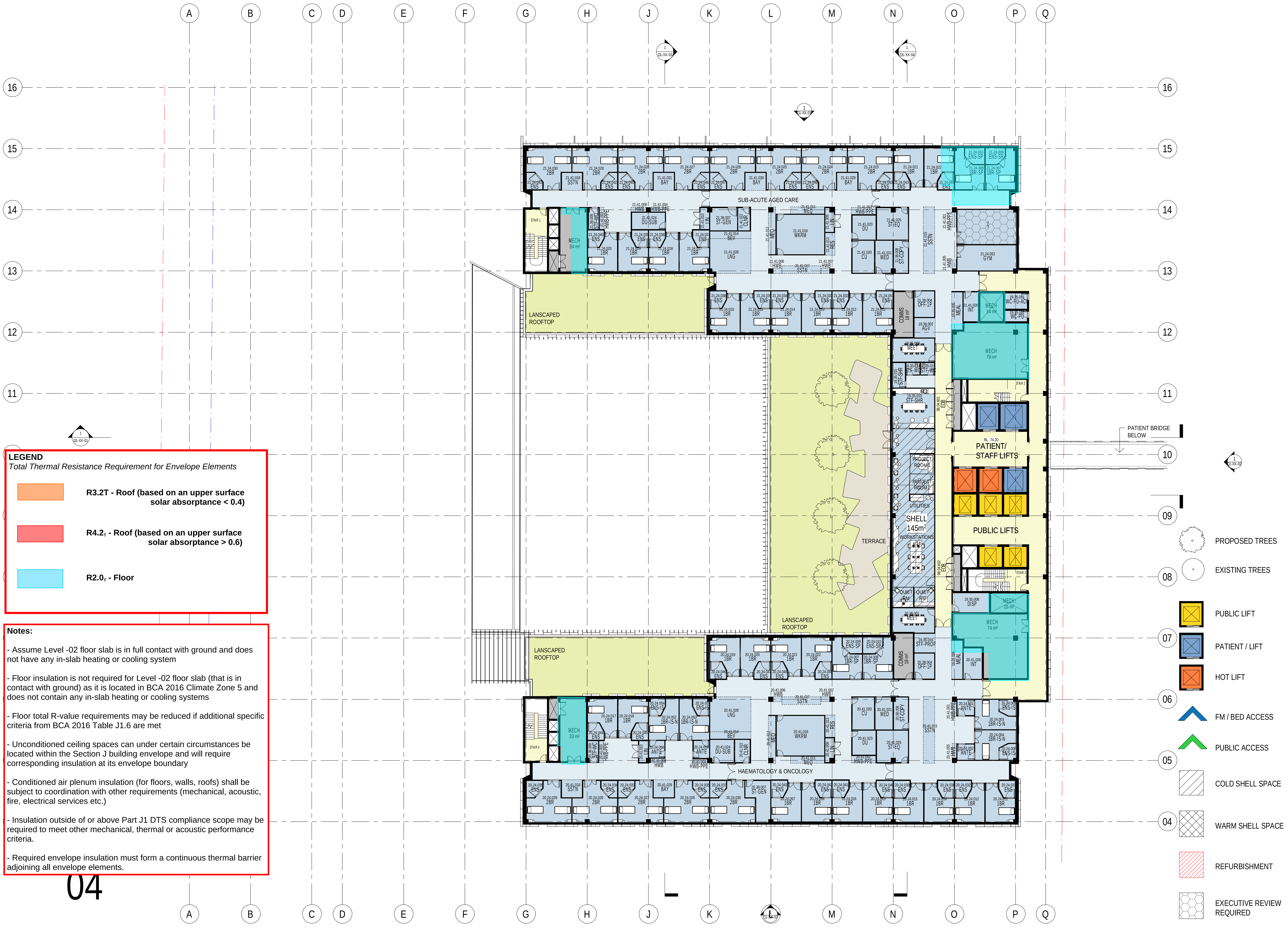
DRAWING
GENERAL ARRANGEMENT - LEVEL 03

RCR-BVN-AR-50-DWG-
B2-03-01

ISSUE
T

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_eyalen_mpunn.rvt 2/02/2018 8:30:22 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- R3.2T - Roof (based on an upper surface solar absorptance < 0.4)
- R4.2ₜ - Roof (based on an upper surface solar absorptance > 0.6)
- R2.0ₜ - Floor

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

130487

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

s1606008

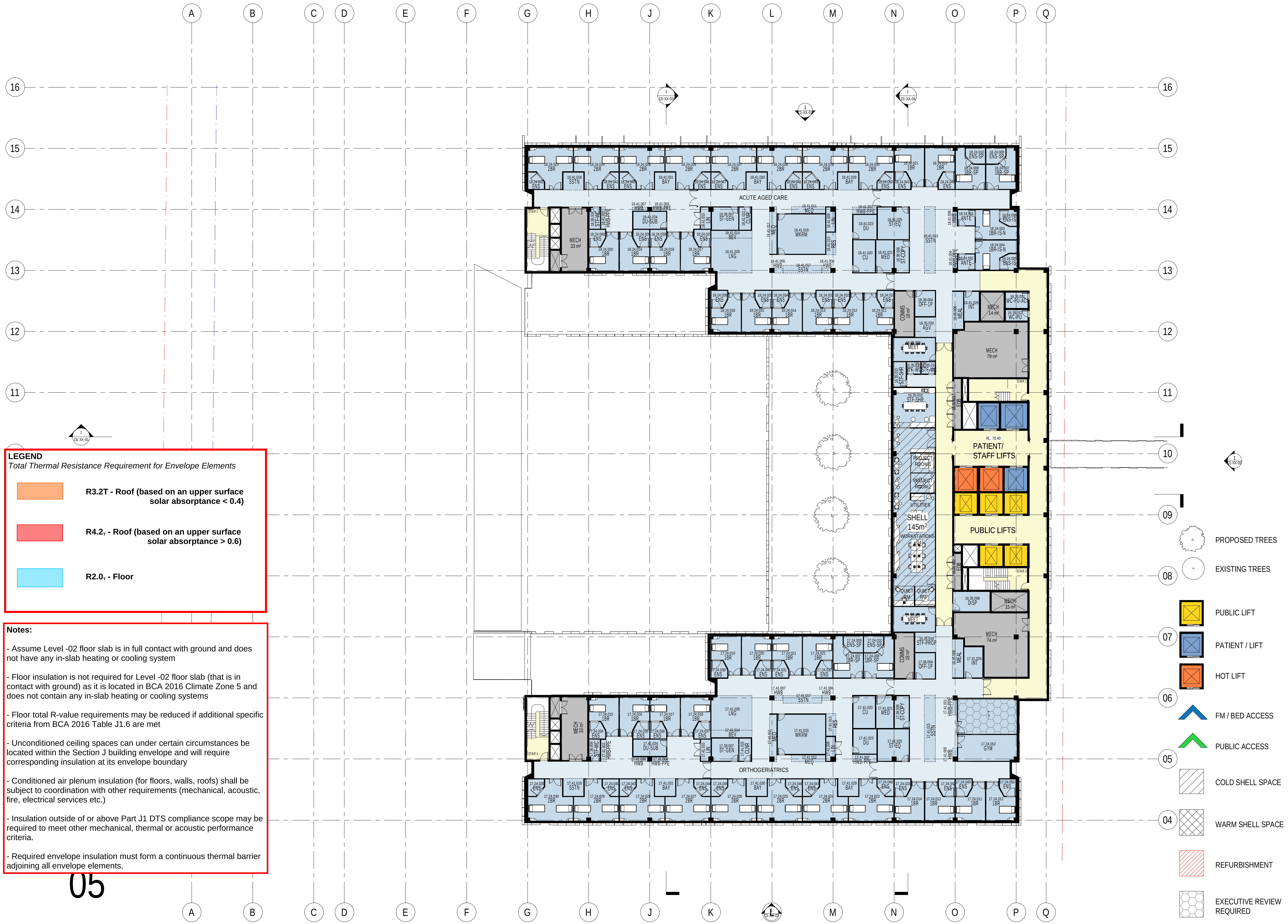
FOR SIGN-OFF

GENERAL ARRANGEMENT - LEVEL 04

RCR-BVN-AR-50-DWG-B2-04-01

ISSUE U

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND
Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

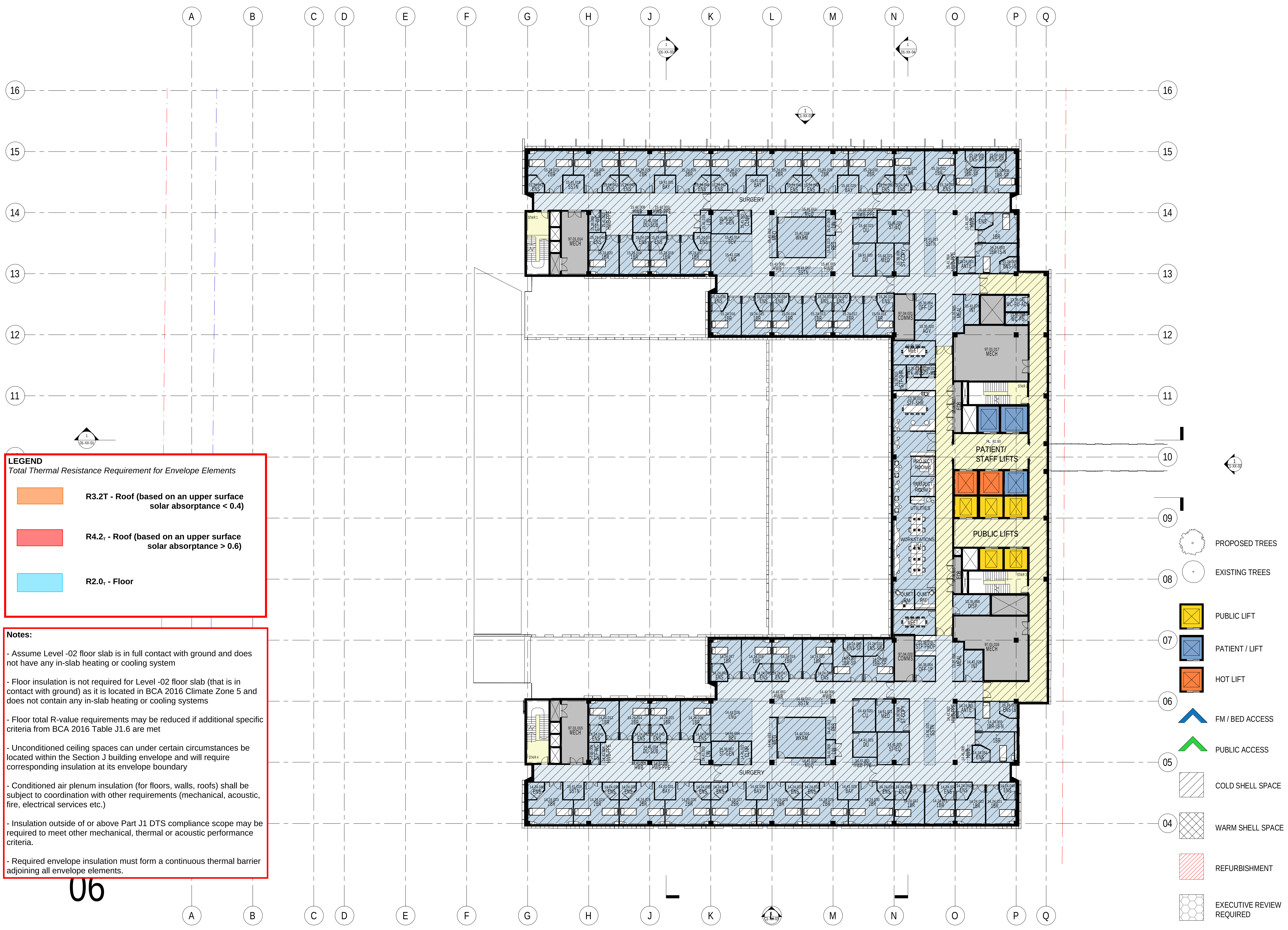
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 05

RCR-BVN-AR-50-DWG-B2-05-01 ISSUE T

2/02/2018 8:22:54 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

BVN TERROIR

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

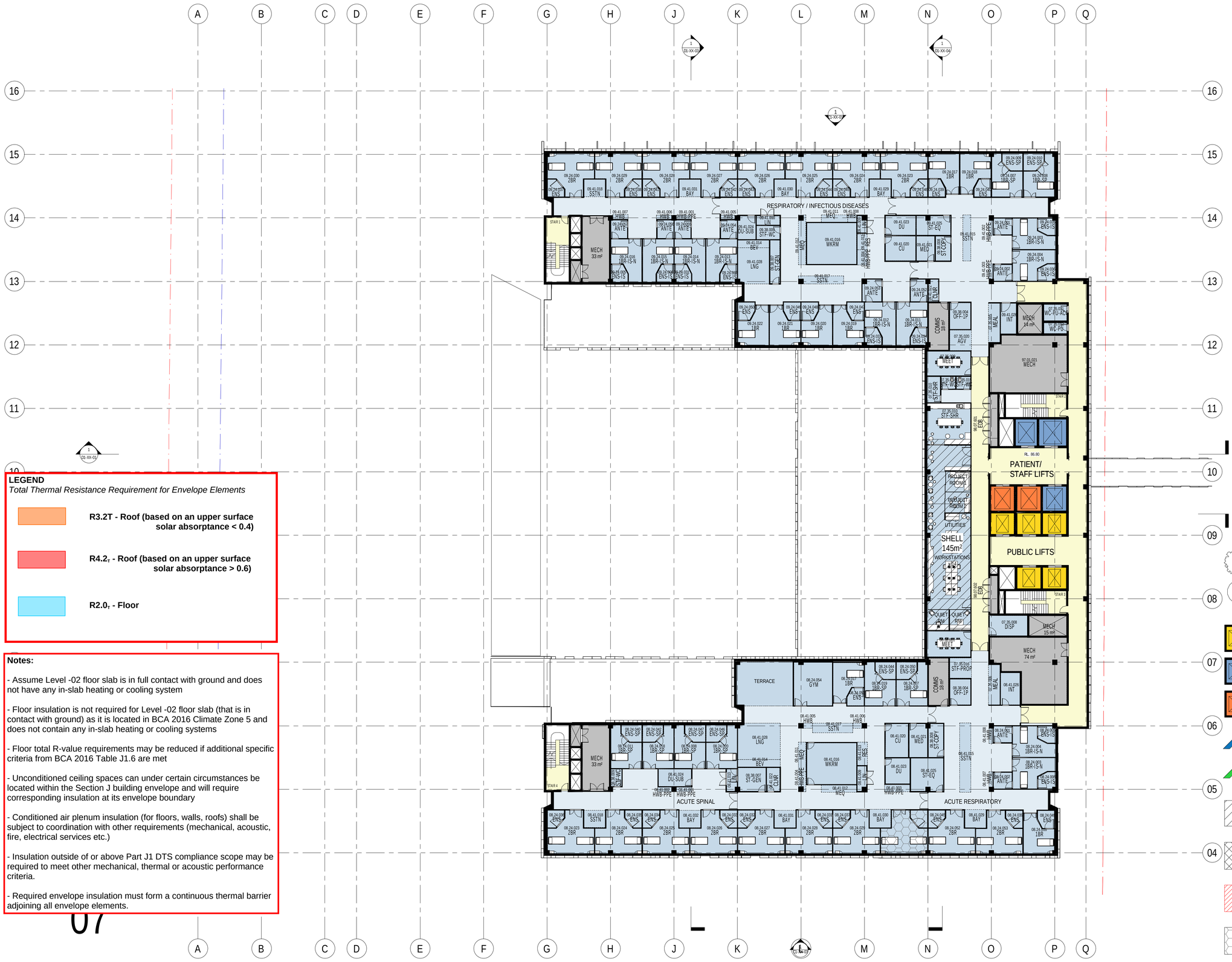
DRAWING
GENERAL ARRANGEMENT - LEVEL 06

RCR-BVN-AR-50-DWG-B2-06-01

ISSUE
T

2/02/2018 8:23:15 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

07

- PROPOSED TREES
- EXISTING TREES
- PUBLIC LIFT
- PATIENT / LIFT
- HOT LIFT
- FM / BED ACCESS
- PUBLIC ACCESS
- COLD SHELL SPACE
- WARM SHELL SPACE
- REFURBISHMENT
- EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@81 DO NOT SCALE

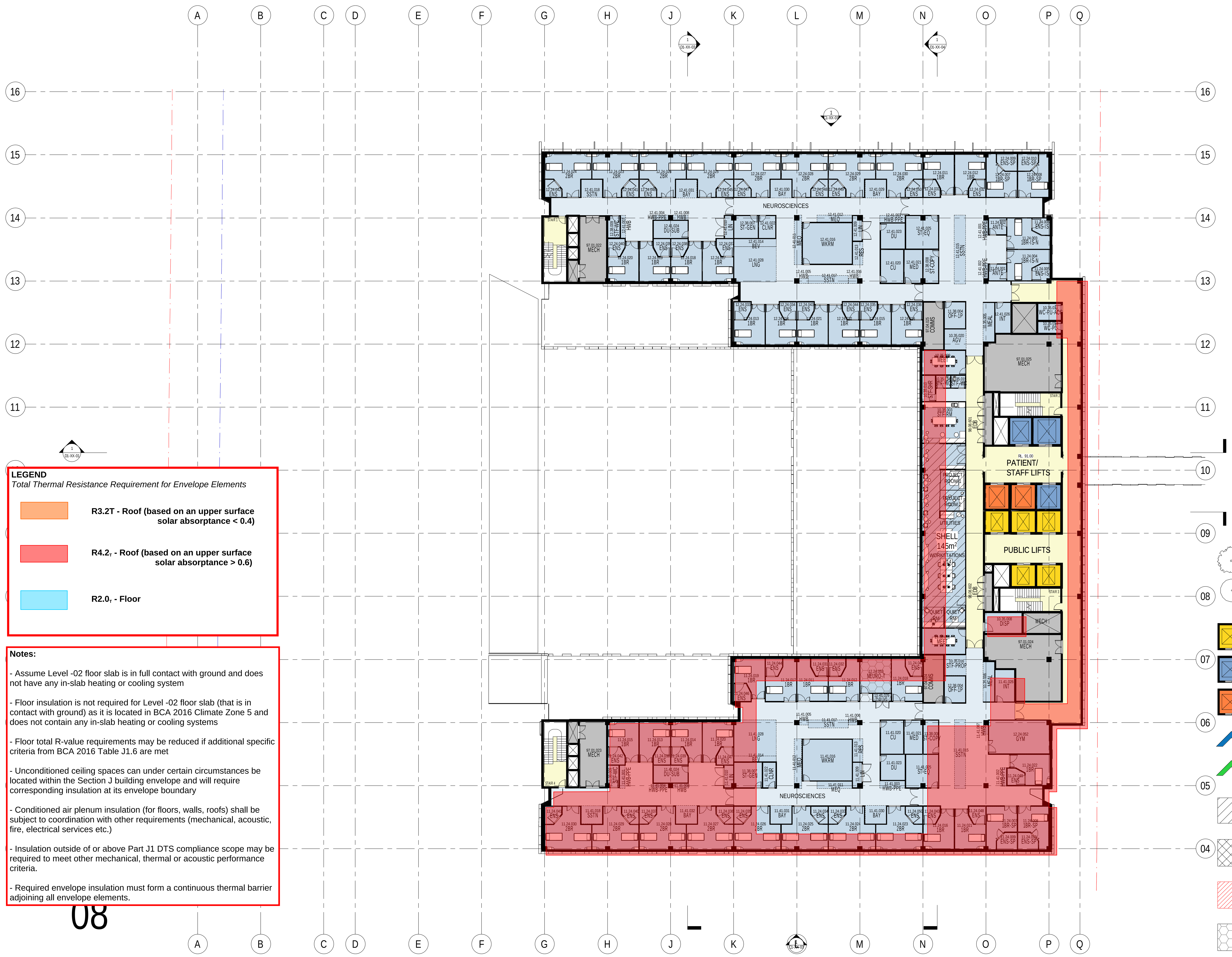
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 07

RCR-BVN-AR-50-DWG-
B2-07-01

ISSUE
T

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2T - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0T - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

PROPOSED TREES
EXISTING TREES
PUBLIC LIFT
PATIENT / LIFT
HOT LIFT
FM / BED ACCESS
PUBLIC ACCESS
COLD SHELL SPACE
WARM SHELL SPACE
REFURBISHMENT
EXECUTIVE REVIEW REQUIRED

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH / PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 08

RCR-BVN-AR-50-DWG-B2-08-01

ISSUE T

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up

LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

09

BVN TERROIR

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure
HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH / PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

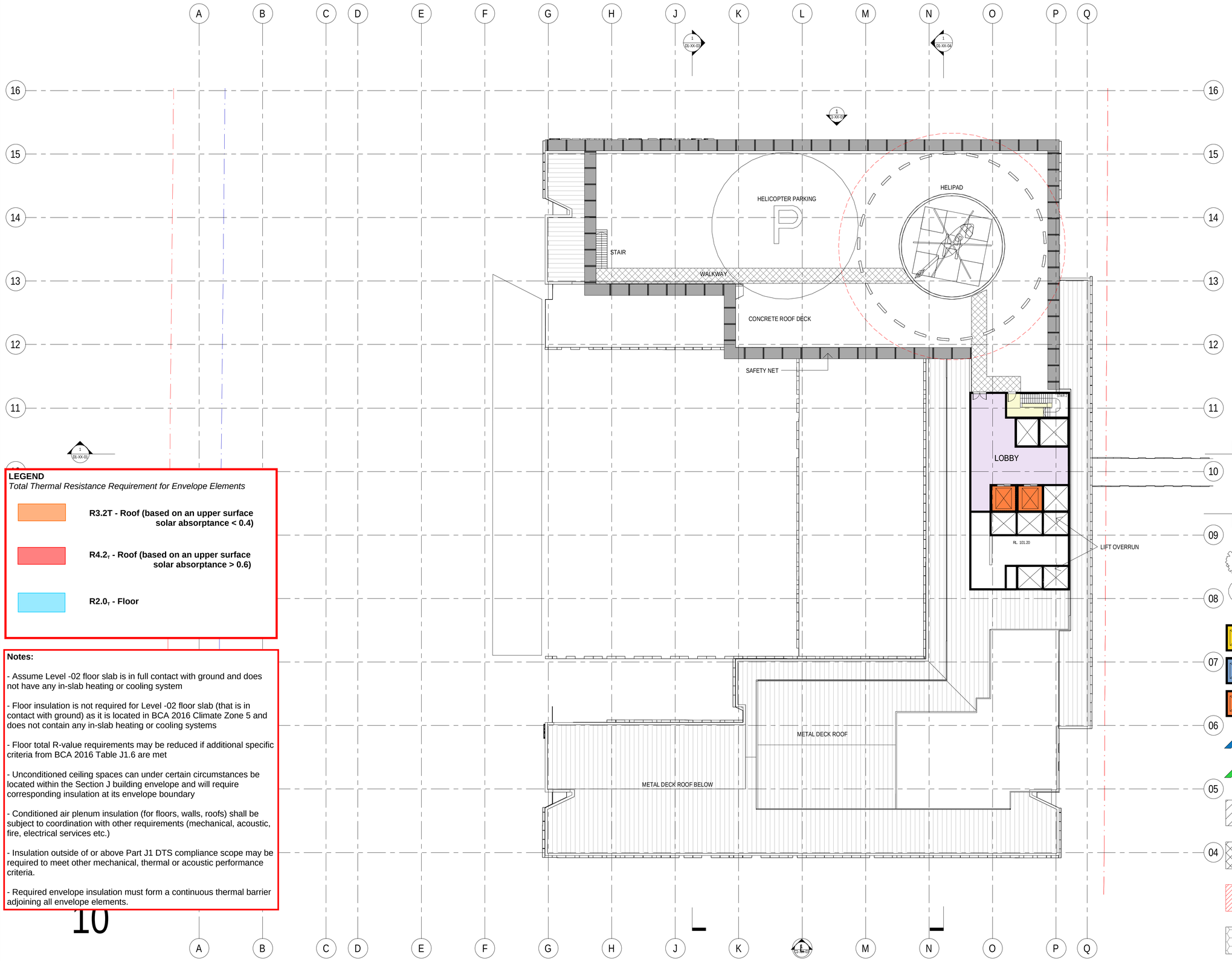
STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL 09

RCR-BVN-AR-50-DWG-B2-09-01

ISSUE
V

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

10

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER

130487

PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER

s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE

0 2000 5000

SCALE

1 : 200@ B1 DO NOT SCALE

STATUS

FOR SIGN-OFF

DRAWING

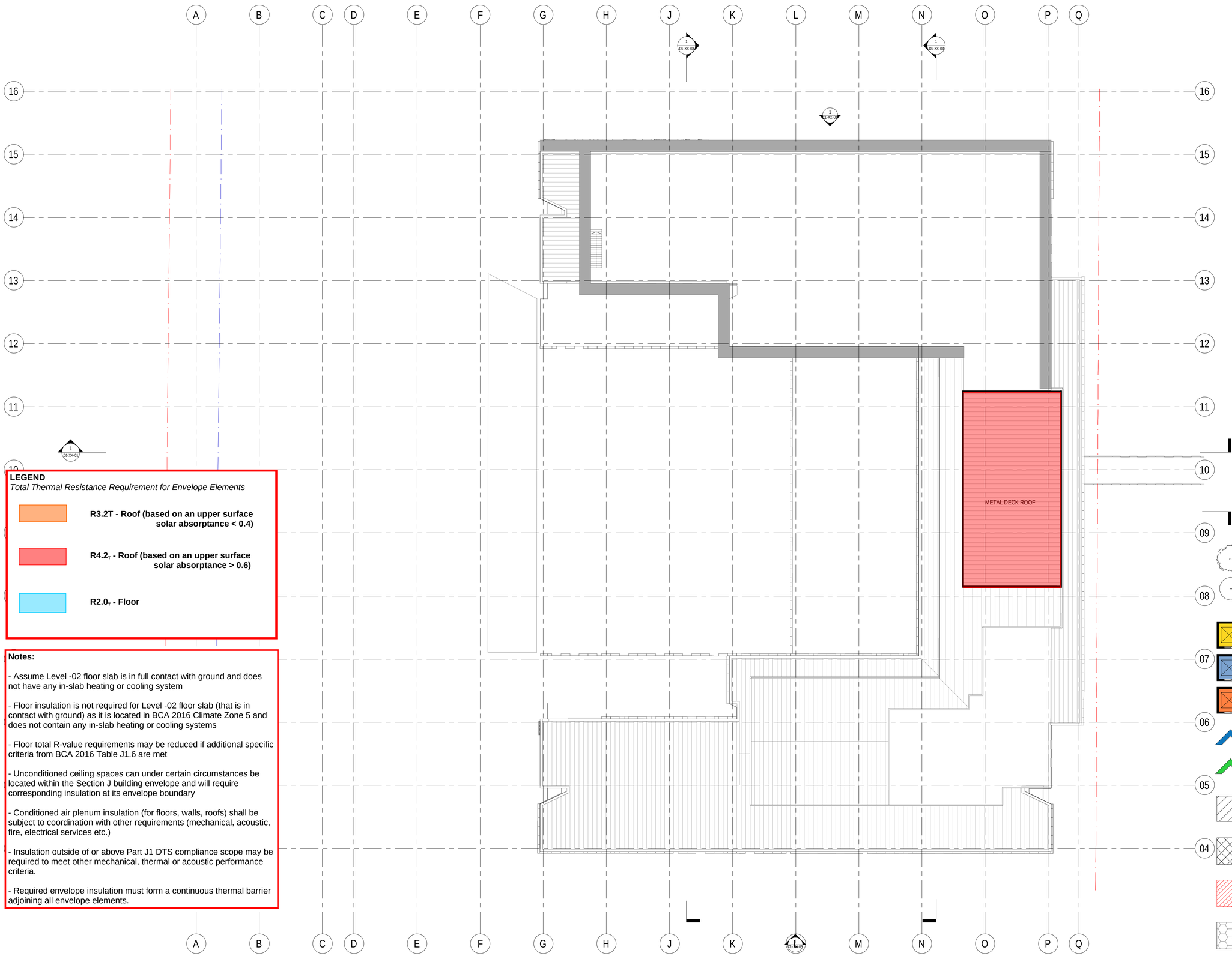
GENERAL ARRANGEMENT - LEVEL 10

RCR-BVN-AR-50-DWG-
B2-10-01

ISSUE
T

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_ayelen_ntoune.rvt 2/02/2018 8:34:18 PM

Prince of Wales - Acute Services Building - BCA Section J Part J1 Floor & Roof Insulation Mark-Up



LEGEND

Total Thermal Resistance Requirement for Envelope Elements

- **R3.2T - Roof (based on an upper surface solar absorptance < 0.4)**
- **R4.2$_T$ - Roof (based on an upper surface solar absorptance > 0.6)**
- **R2.0$_T$ - Floor**

Notes:

- Assume Level -02 floor slab is in full contact with ground and does not have any in-slab heating or cooling system

- Floor insulation is not required for Level -02 floor slab (that is in contact with ground) as it is located in BCA 2016 Climate Zone 5 and does not contain any in-slab heating or cooling systems

- Floor total R-value requirements may be reduced if additional specific criteria from BCA 2016 Table J1.6 are met

- Unconditioned ceiling spaces can under certain circumstances be located within the Section J building envelope and will require corresponding insulation at its envelope boundary

- Conditioned air plenum insulation (for floors, walls, roofs) shall be subject to coordination with other requirements (mechanical, acoustic, fire, electrical services etc.)

- Insulation outside of or above Part J1 DTS compliance scope may be required to meet other mechanical, thermal or acoustic performance criteria.

- Required envelope insulation must form a continuous thermal barrier adjoining all envelope elements.

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_system_resure.rvt 2/02/2018 8:24:26 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	27.11.2017	FOR INFORMATION
N	01.12.2017	FOR INFORMATION
P	11.12.2017	FOR INFORMATION
Q	21.12.2017	FOR INFORMATION
R	19.01.2018	FOR INFORMATION
S	25.01.2018	FOR INFORMATION
T	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 1000 @ A1 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - ROOF

RCR-BVN-AR-50-DWG-B2-11-01

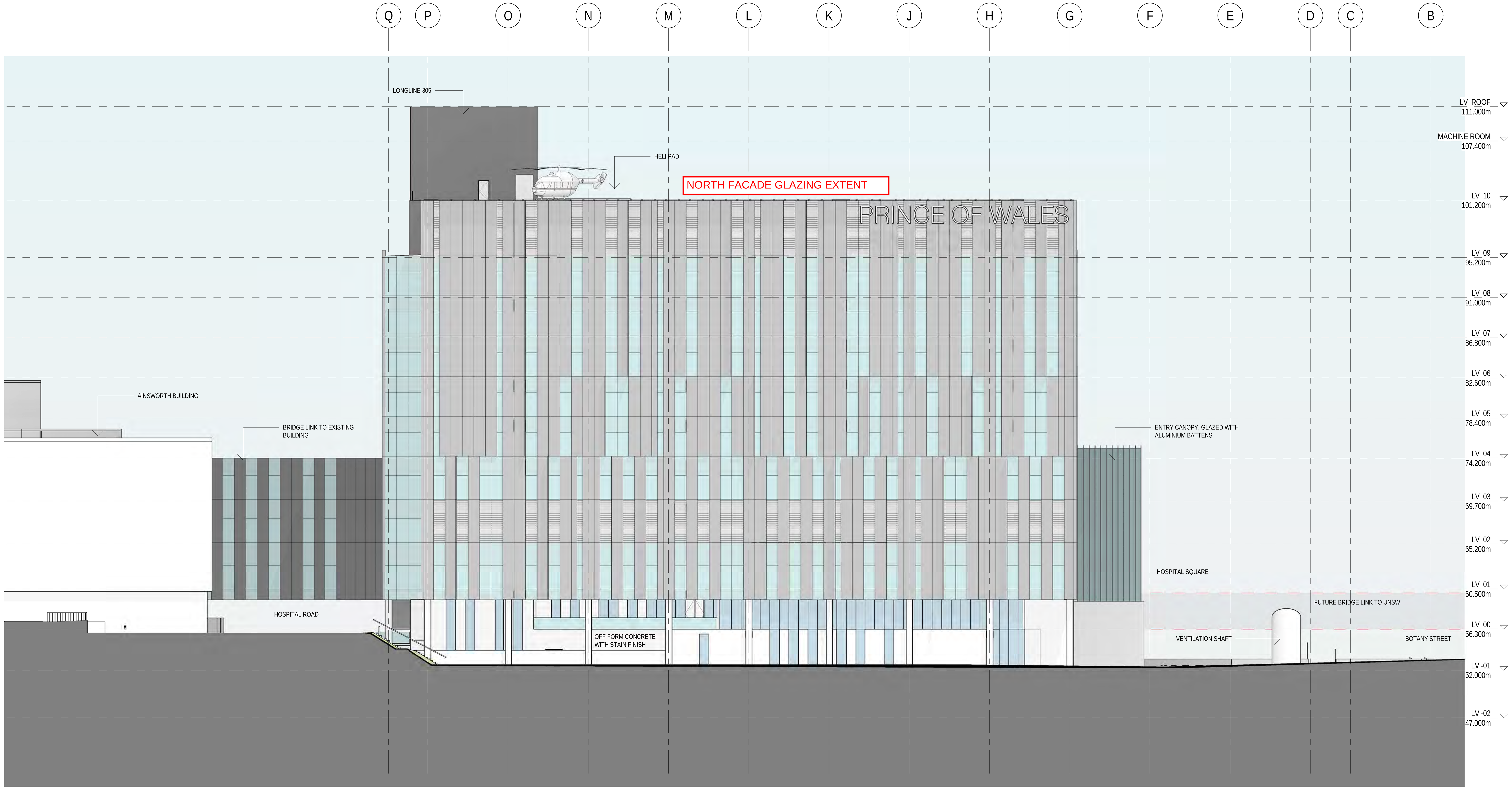
ISSUE T

11. Appendix C – Section J Part J1 Roof Light Mark-up

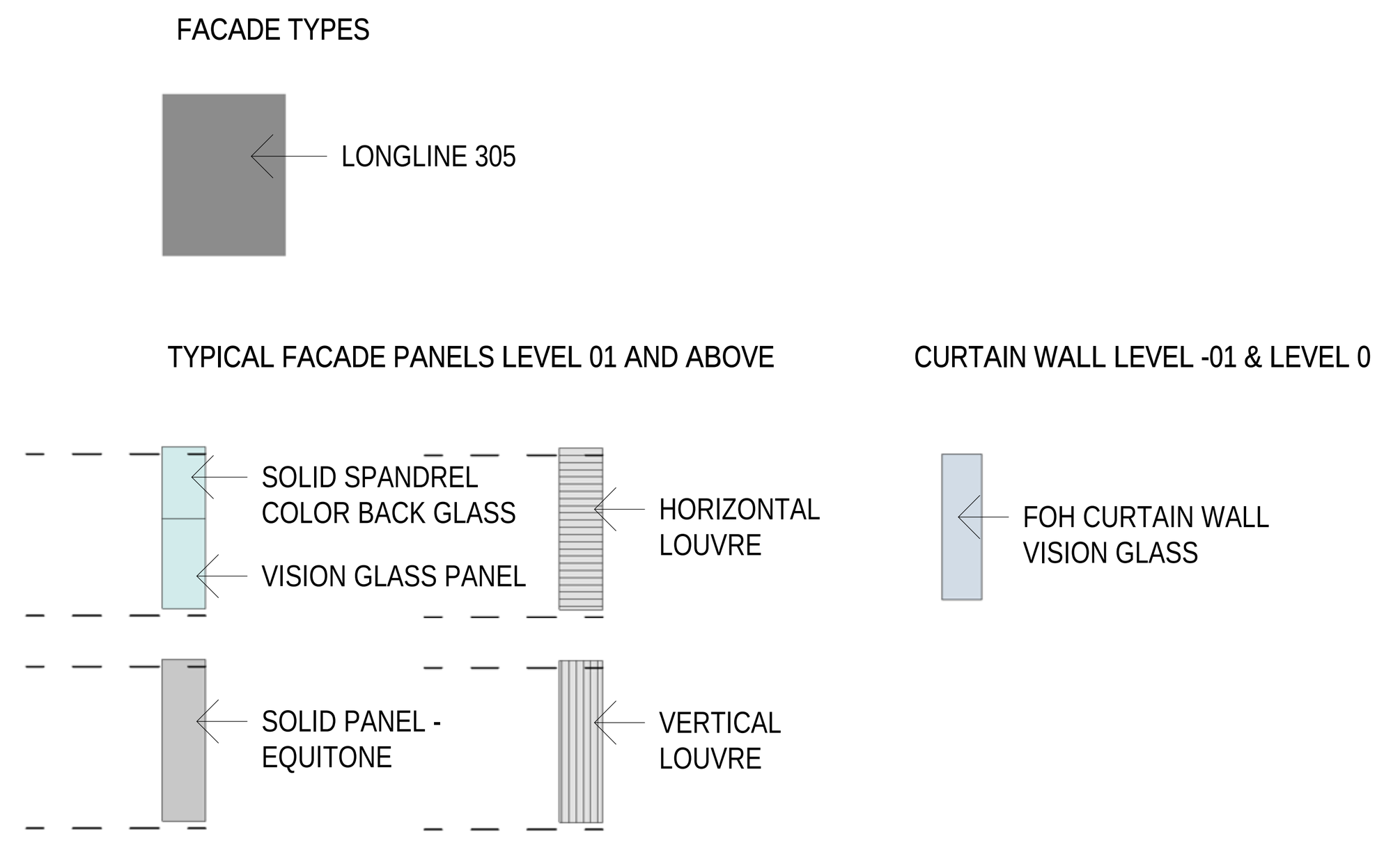
There are no roof lights proposed for the building

12. Appendix D – Section J Part J2 Glazing Mark-up

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



1 B2-00-01 NORTH ELEVATION
1 : 200



BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	28.07.2017	FOR INFORMATION
B	18.08.2017	FOR INFORMATION
C	07.09.2017	FOR INFORMATION
D	13.09.2017	FOR INFORMATION
E	22.09.2017	FOR INFORMATION
F	26.09.2017	FOR INFORMATION
G	16.10.2017	FOR INFORMATION
H	13.11.2017	FOR INFORMATION
J	22.11.2017	FOR INFORMATION
K	27.11.2017	FOR INFORMATION
L	11.12.2017	FOR INFORMATION
M	21.12.2017	FOR INFORMATION
N	19.01.2018	FOR INFORMATION
P	25.01.2018	FOR INFORMATION
Q	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE 0 2000 5000

SCALE
1 : 200@B1 DO NOT SCALE

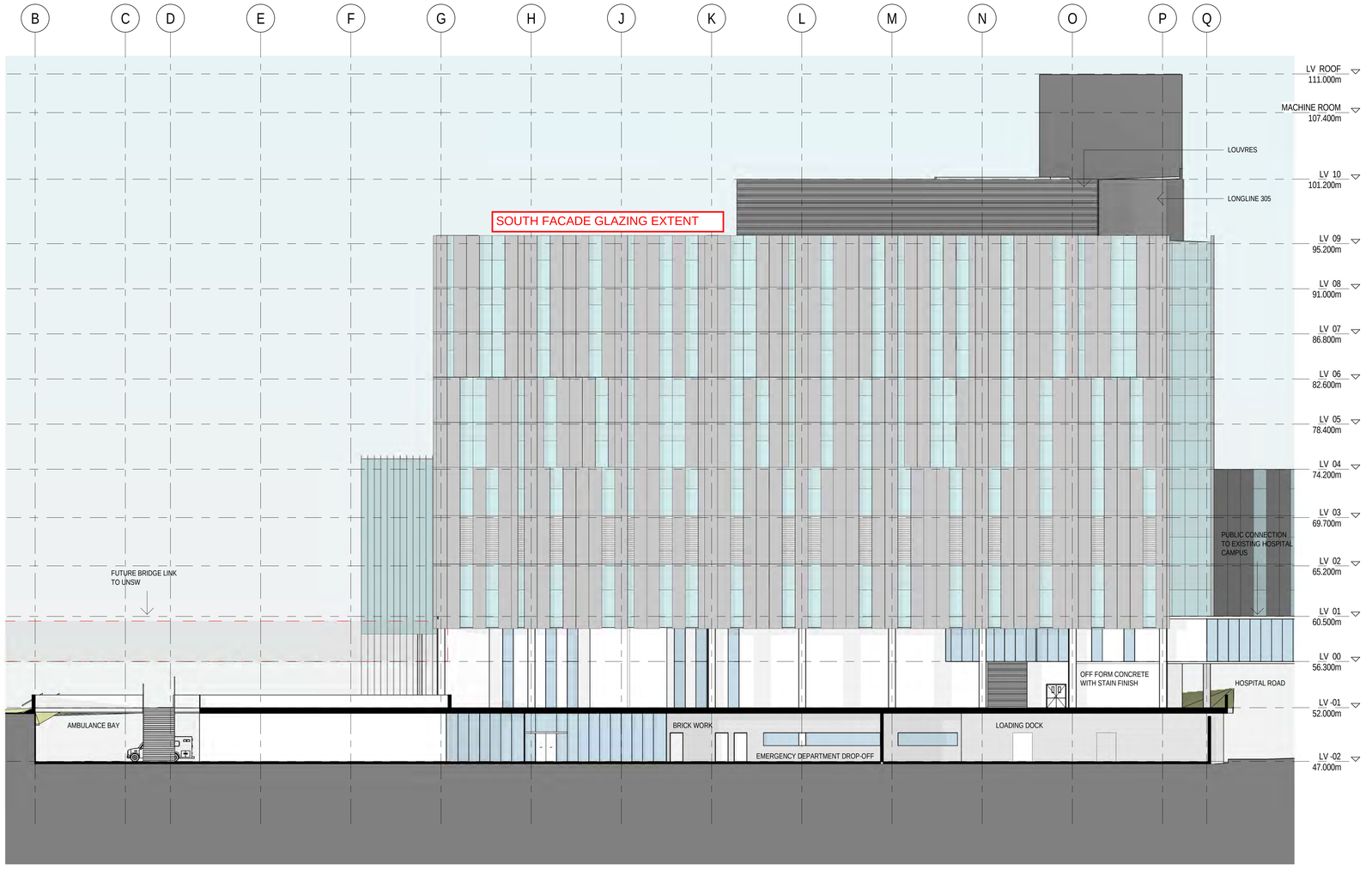
STATUS
FOR SIGN-OFF

DRAWING
NORTH ELEVATION

RCR-BVN-AR-50-DWG-C1-XX-01

ISSUE Q

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



1 / B0-XX-11 SOUTH ELEVATION
1 : 200

FACADE TYPES

LONGLINE 305

TYPICAL FACADE PANELS LEVEL 01 AND ABOVE

SOLID SPANDREL COLOR BACK GLASS

VISION GLASS PANEL

HORIZONTAL LOUVRE

SOLID PANEL - EQUITONE

VERTICAL LOUVRE

CURTAIN WALL LEVEL -01 & LEVEL 0

FOH CURTAIN WALL VISION GLASS

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mirgon.rvt 20/2/2018 8:48:25 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	28.07.2017	FOR INFORMATION
B	18.08.2017	FOR INFORMATION
C	07.09.2017	FOR INFORMATION
D	13.09.2017	FOR INFORMATION
E	22.09.2017	FOR INFORMATION
F	26.09.2017	FOR INFORMATION
G	16.10.2017	FOR INFORMATION
H	13.11.2017	FOR INFORMATION
J	22.11.2017	FOR INFORMATION
K	27.11.2017	FOR INFORMATION
L	11.12.2017	FOR INFORMATION
M	21.12.2017	FOR INFORMATION
N	19.01.2018	FOR INFORMATION
P	25.01.2018	FOR INFORMATION
Q	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000
SCALE

1 : 200@81 DO NOT SCALE
STATUS

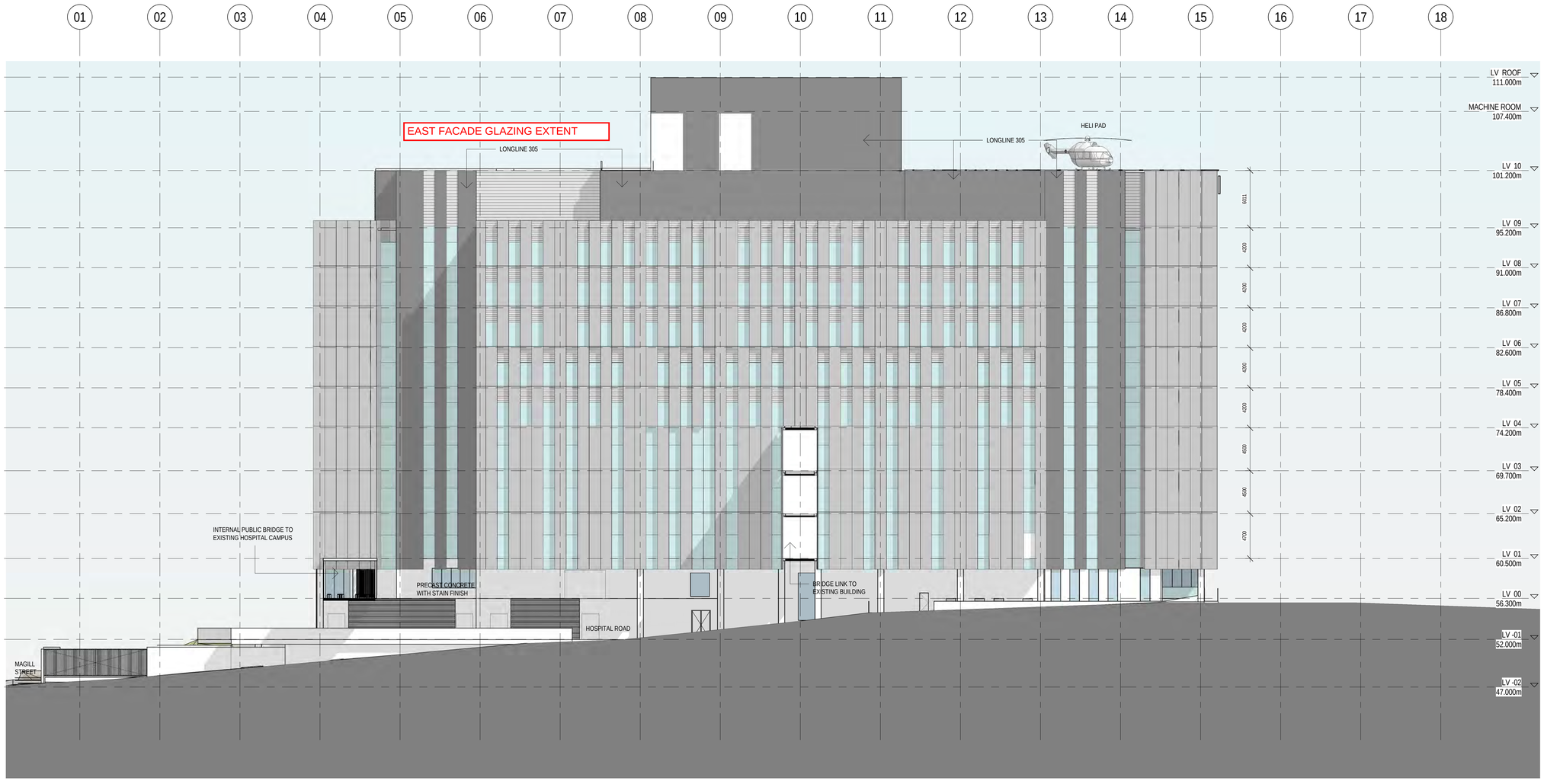
FOR SIGN-OFF
DRAWING

SOUTH ELEVATION

RCR-BVN-AR-50-DWG-
C1-XX-03

ISSUE
Q

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



1 / B2-00-01 EAST ELEVATION
1 : 200

FACADE TYPES

LONGLINE 305

TYPICAL FACADE PANELS LEVEL 01 AND ABOVE

SOLID SPANDREL
COLOR BACK GLASS

VISION GLASS PANEL

HORIZONTAL
LOUVRE

SOLID PANEL -
EQUITONE

VERTICAL
LOUVRE

CURTAIN WALL LEVEL -01 & LEVEL 0

FOH CURTAIN WALL
VISION GLASS

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mirgon.rvt 20/2/2018 7:15:15 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	28.07.2017	FOR INFORMATION
B	18.08.2017	FOR INFORMATION
C	07.09.2017	FOR INFORMATION
D	13.09.2017	FOR INFORMATION
E	22.09.2017	FOR INFORMATION
F	26.09.2017	FOR INFORMATION
G	16.10.2017	FOR INFORMATION
H	13.11.2017	FOR INFORMATION
J	22.11.2017	FOR INFORMATION
K	27.11.2017	FOR INFORMATION
L	11.12.2017	FOR INFORMATION
M	21.12.2017	FOR INFORMATION
N	19.01.2018	FOR INFORMATION
P	25.01.2018	FOR INFORMATION
Q	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

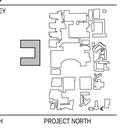
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY



TRUE NORTH PROJECT NORTH

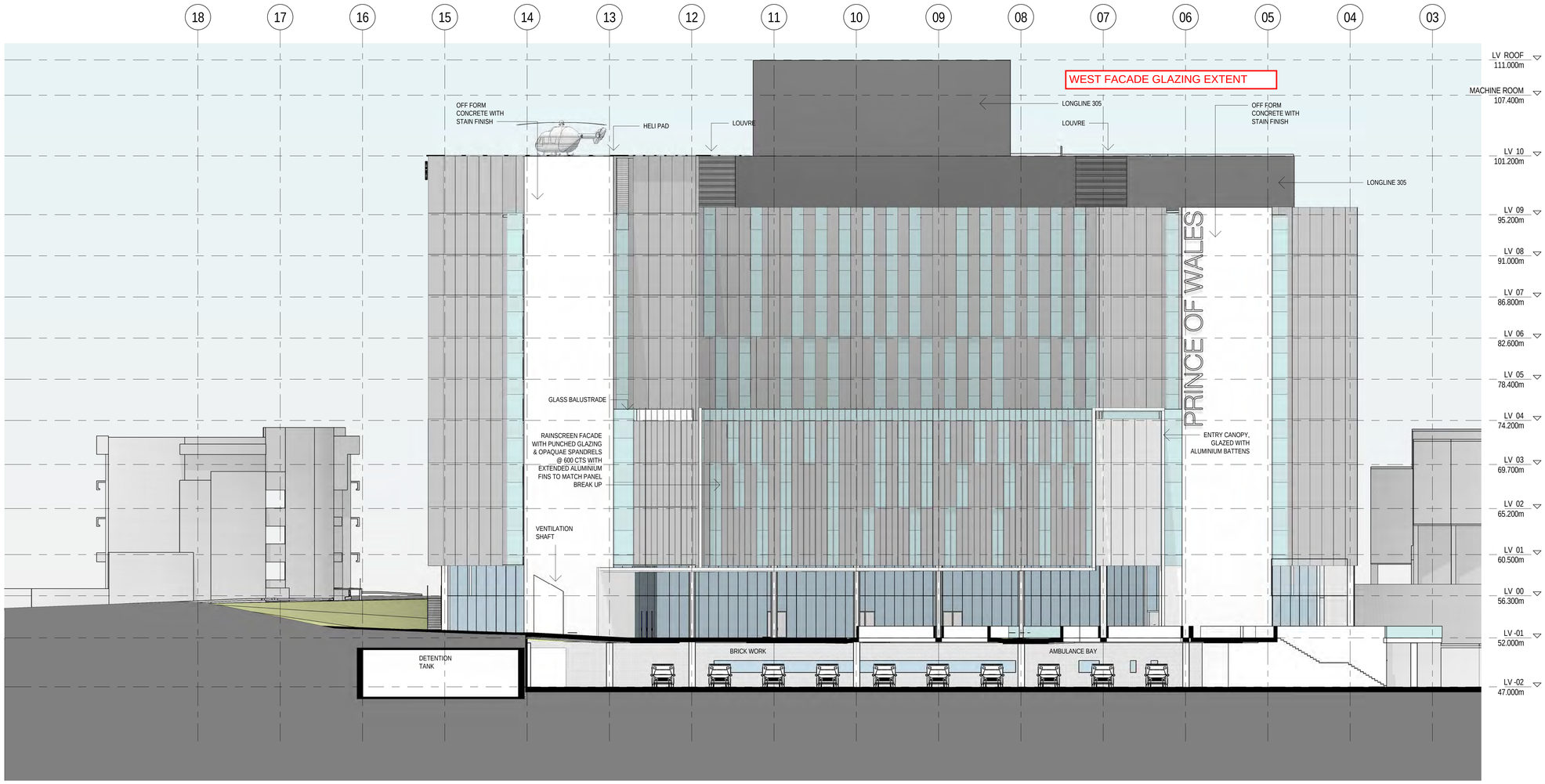
GRAPHIC SCALE
0 2000 5000
SCALE
1 : 200@B1 DO NOT SCALE
STATUS
FOR SIGN-OFF
DRAWING

EAST ELEVATION

RCR-BVN-AR-50-DWG-
C1-XX-02

ISSUE
Q

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



1 / B2-00-01 WEST ELEVATION
1 : 200

FACADE TYPES

LONGLINE 305

TYPICAL FACADE PANELS LEVEL 01 AND ABOVE

SOLID SPANDREL COLOR BACK GLASS
VISION GLASS PANEL
HORIZONTAL LOUVRE
SOLID PANEL - EQUITONE
VERTICAL LOUVRE

CURTAIN WALL LEVEL -01 & LEVEL 0

FOH CURTAIN WALL VISION GLASS

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mrgcrr.rvt 20/02/2018 7:35:57 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	28.07.2017	FOR INFORMATION
B	18.08.2017	FOR INFORMATION
C	07.09.2017	FOR INFORMATION
D	13.09.2017	FOR INFORMATION
E	22.09.2017	FOR INFORMATION
F	26.09.2017	FOR INFORMATION
G	16.10.2017	FOR INFORMATION
H	13.11.2017	FOR INFORMATION
J	22.11.2017	FOR INFORMATION
K	27.11.2017	FOR INFORMATION
L	11.12.2017	FOR INFORMATION
M	21.12.2017	FOR INFORMATION
N	19.01.2018	FOR INFORMATION
P	25.01.2018	FOR INFORMATION
Q	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEIHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000
SCALE

1 : 200@B1 DO NOT SCALE
STATUS

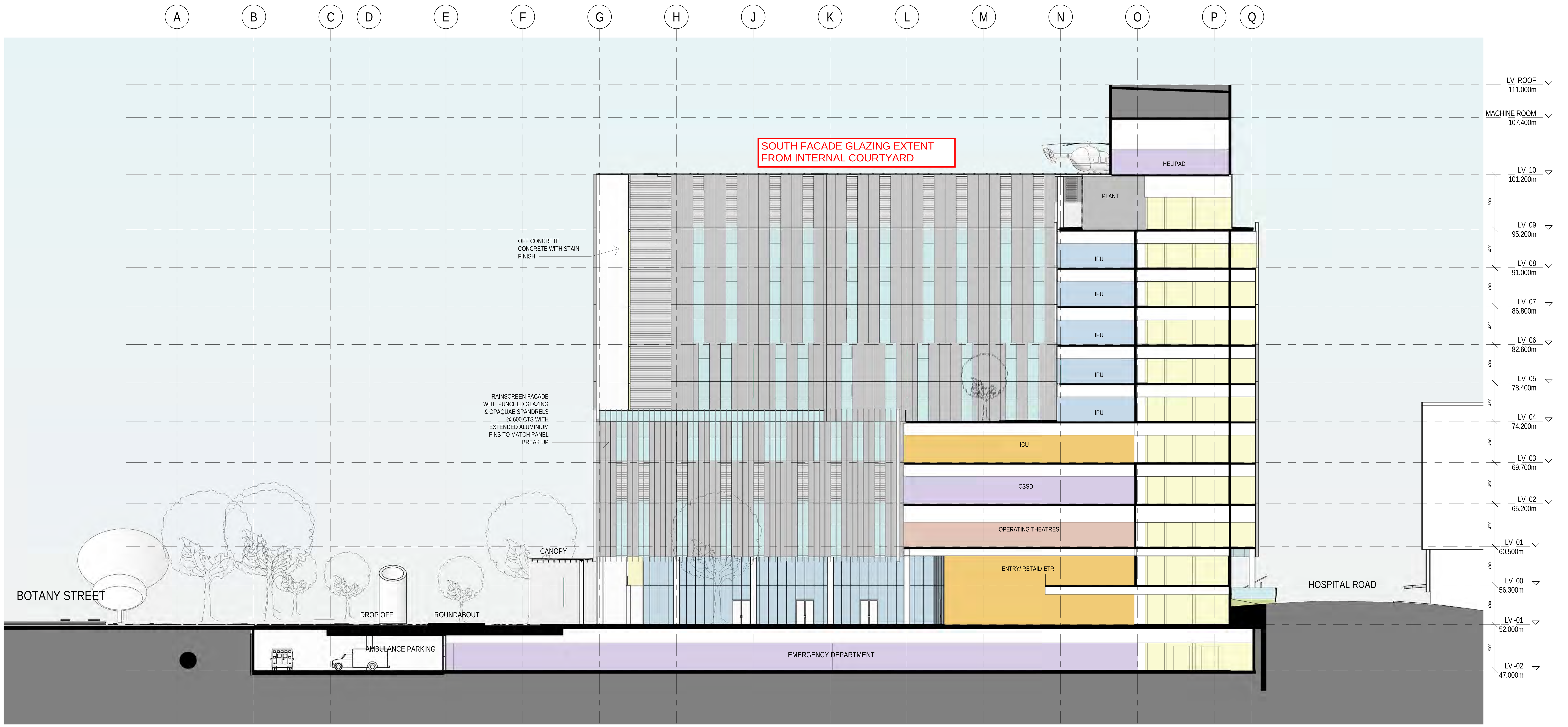
FOR SIGN-OFF
DRAWING

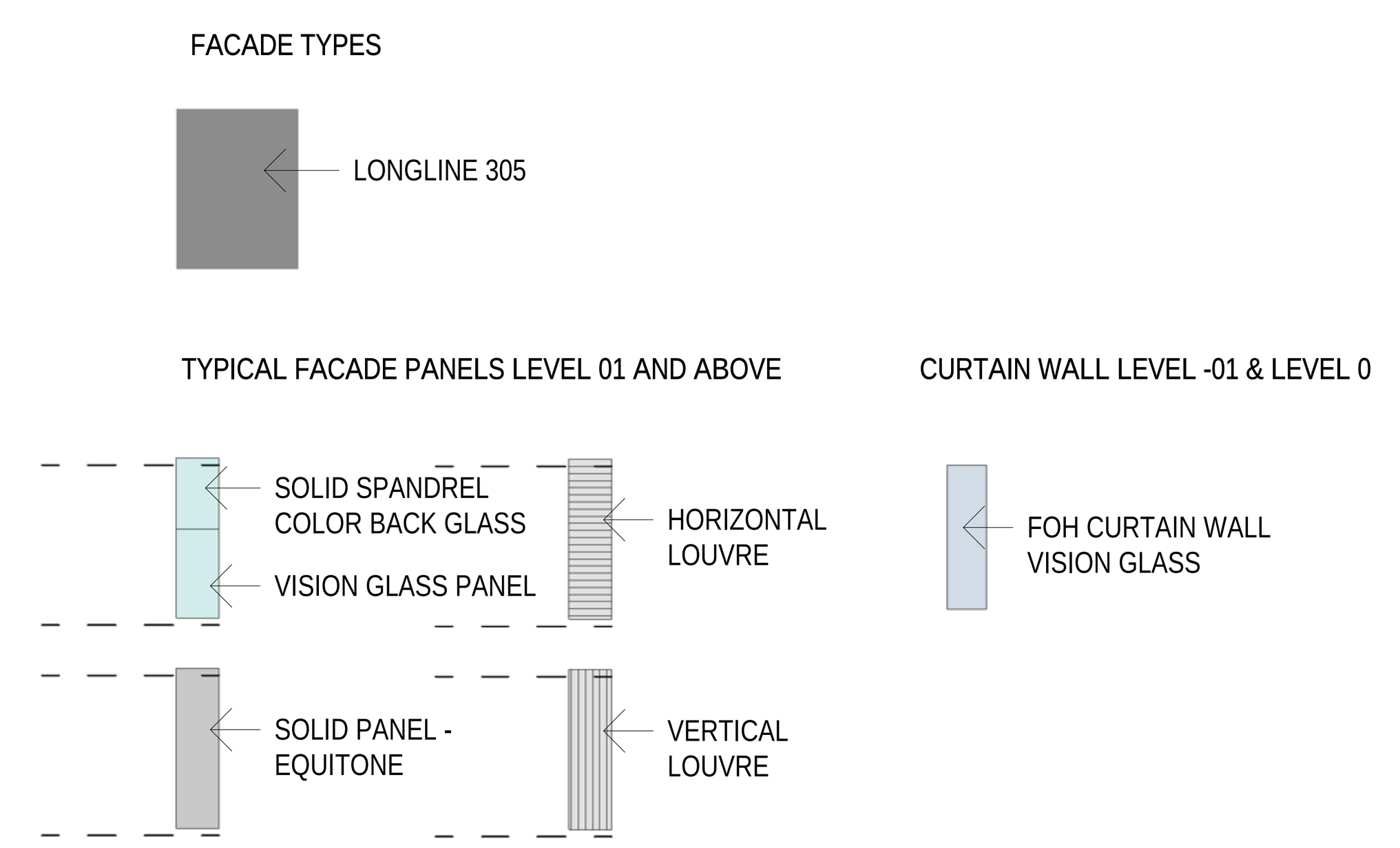
WEST ELEVATION

RCR-BVN-AR-50-DWG-
C1-XX-04

ISSUE
Q

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up





BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	13.07.2017	FOR INFORMATION
B	28.07.2017	FOR INFORMATION
C	18.08.2017	FOR INFORMATION
D	07.09.2017	FOR INFORMATION
E	13.09.2017	FOR INFORMATION
F	22.09.2017	FOR INFORMATION
G	26.09.2017	FOR INFORMATION
H	16.10.2017	FOR INFORMATION
J	13.11.2017	FOR INFORMATION
K	22.11.2017	FOR INFORMATION
L	27.11.2017	FOR INFORMATION
M	11.12.2017	FOR INFORMATION
N	21.12.2017	FOR INFORMATION
P	19.01.2018	FOR INFORMATION
Q	25.01.2018	FOR INFORMATION
R	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@A1 DO NOT SCALE

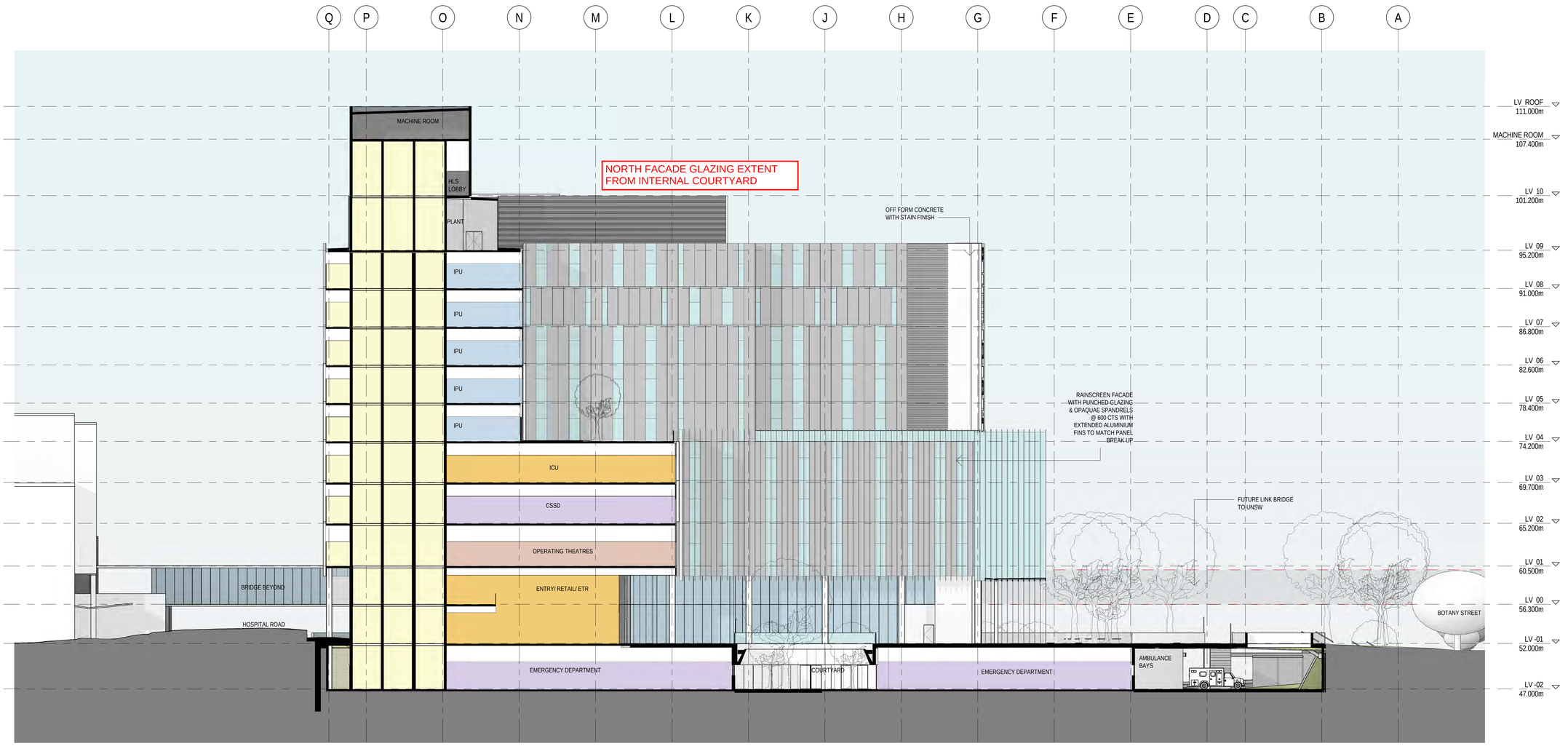
STATUS
FOR SIGN-OFF

DRAWING
EAST WEST SECTION 1

RCR-BVN-AR-50-DWG-D1-XX-01

ISSUE
R

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



FACADE TYPES

LONGLINE 305

TYPICAL FACADE PANELS LEVEL 01 AND ABOVE

SOLID SPANDREL COLOR BACK GLASS

VISION GLASS PANEL

HORIZONTAL LOUVRE

SOLID PANEL - EQUITONE

VERTICAL LOUVRE

CURTAIN WALL LEVEL -01 & LEVEL 0

FOH CURTAIN WALL VISION GLASS

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mrgcn.rvt 20/2/2018 7:45:47 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	13.07.2017	FOR INFORMATION
B	28.07.2017	FOR INFORMATION
C	18.08.2017	FOR INFORMATION
D	07.09.2017	FOR INFORMATION
E	13.09.2017	FOR INFORMATION
F	22.09.2017	FOR INFORMATION
G	26.09.2017	FOR INFORMATION
H	16.10.2017	FOR INFORMATION
J	13.11.2017	FOR INFORMATION
K	22.11.2017	FOR INFORMATION
L	27.11.2017	FOR INFORMATION
M	11.12.2017	FOR INFORMATION
N	21.12.2017	FOR INFORMATION
P	19.01.2018	FOR INFORMATION
Q	25.01.2018	FOR INFORMATION
R	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000
SCALE

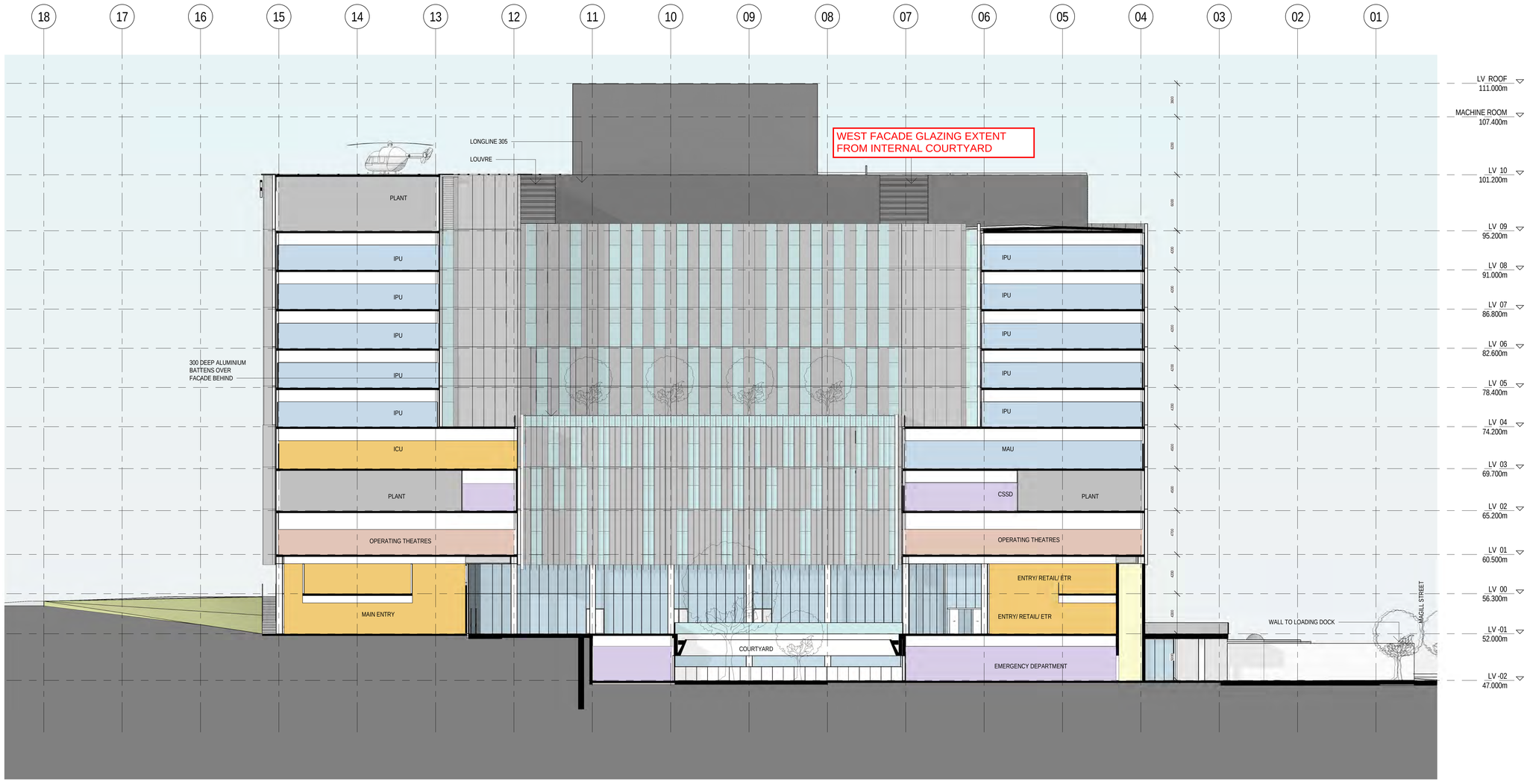
1 : 200@B1 DO NOT SCALE
STATUS

FOR SIGN-OFF
DRAWING

EAST WEST SECTON 2

RCR-BVN-AR-50-DWG-D1-XX-02

ISSUE R



FACADE TYPES

LONGLINE 305

TYPICAL FACADE PANELS LEVEL 01 AND ABOVE

SOLID SPANDREL
COLOR BACK GLASS

VISION GLASS PANEL

HORIZONTAL
LOUVRE

SOLID PANEL -
EQUITONE

VERTICAL
LOUVRE

CURTAIN WALL LEVEL -01 & LEVEL 0

FOH CURTAIN WALL
VISION GLASS

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mrgcm.rvt 20/2/2018 7:52:15 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	13.07.2017	FOR INFORMATION
B	28.07.2017	FOR INFORMATION
C	18.08.2017	FOR INFORMATION
D	07.09.2017	FOR INFORMATION
E	13.09.2017	FOR INFORMATION
F	22.09.2017	FOR INFORMATION
G	26.09.2017	FOR INFORMATION
H	16.10.2017	FOR INFORMATION
J	13.11.2017	FOR INFORMATION
K	22.11.2017	FOR INFORMATION
L	27.11.2017	FOR INFORMATION
M	11.12.2017	FOR INFORMATION
N	21.12.2017	FOR INFORMATION
P	19.01.2018	FOR INFORMATION
Q	25.01.2018	FOR INFORMATION
R	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT
NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000
SCALE

1 : 200@81 DO NOT SCALE
STATUS

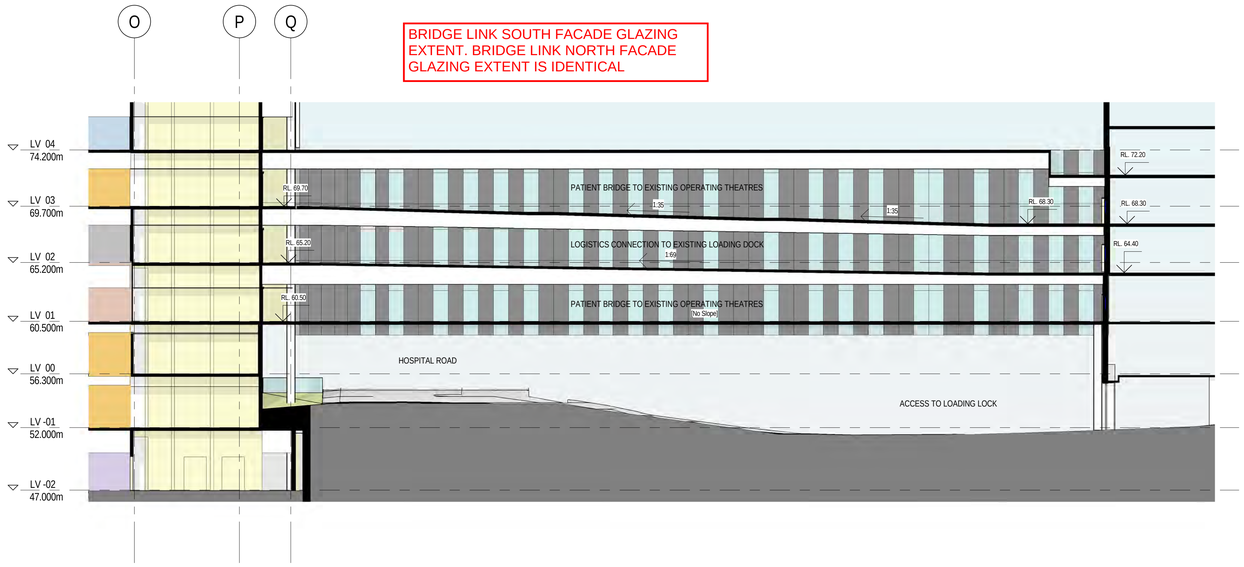
FOR SIGN-OFF
DRAWING

NORTH SOUTH SECTION 1

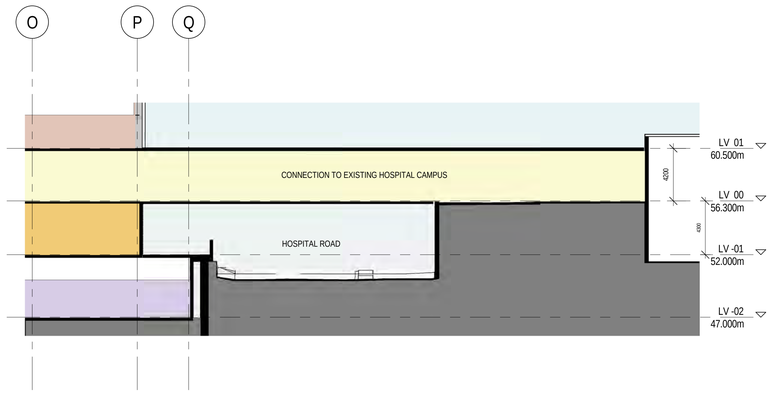
RCR-BVN-AR-50-DWG-
D1-XX-03

ISSUE
R

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



1 / B2-XX-01 PATIENT BRIDGE SECTION
1 : 200



2 / B2-00-01 PUBLIC BRIDGE SECTION
1 : 200

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	28.07.2017	FOR INFORMATION
B	07.09.2017	FOR INFORMATION
C	22.09.2017	FOR INFORMATION
D	16.10.2017	FOR INFORMATION
E	13.11.2017	FOR INFORMATION
F	27.11.2017	FOR INFORMATION
G	11.12.2017	FOR INFORMATION
H	21.12.2017	FOR INFORMATION
J	19.01.2018	FOR INFORMATION
K	25.01.2018	FOR INFORMATION
L	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE
CLIENT NUMBER

130487
PROJECT

POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA
BVN PROJECT NUMBER

s1606008
DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000
SCALE

1 : 200@B1 DO NOT SCALE
STATUS

FOR SIGN-OFF
DRAWING

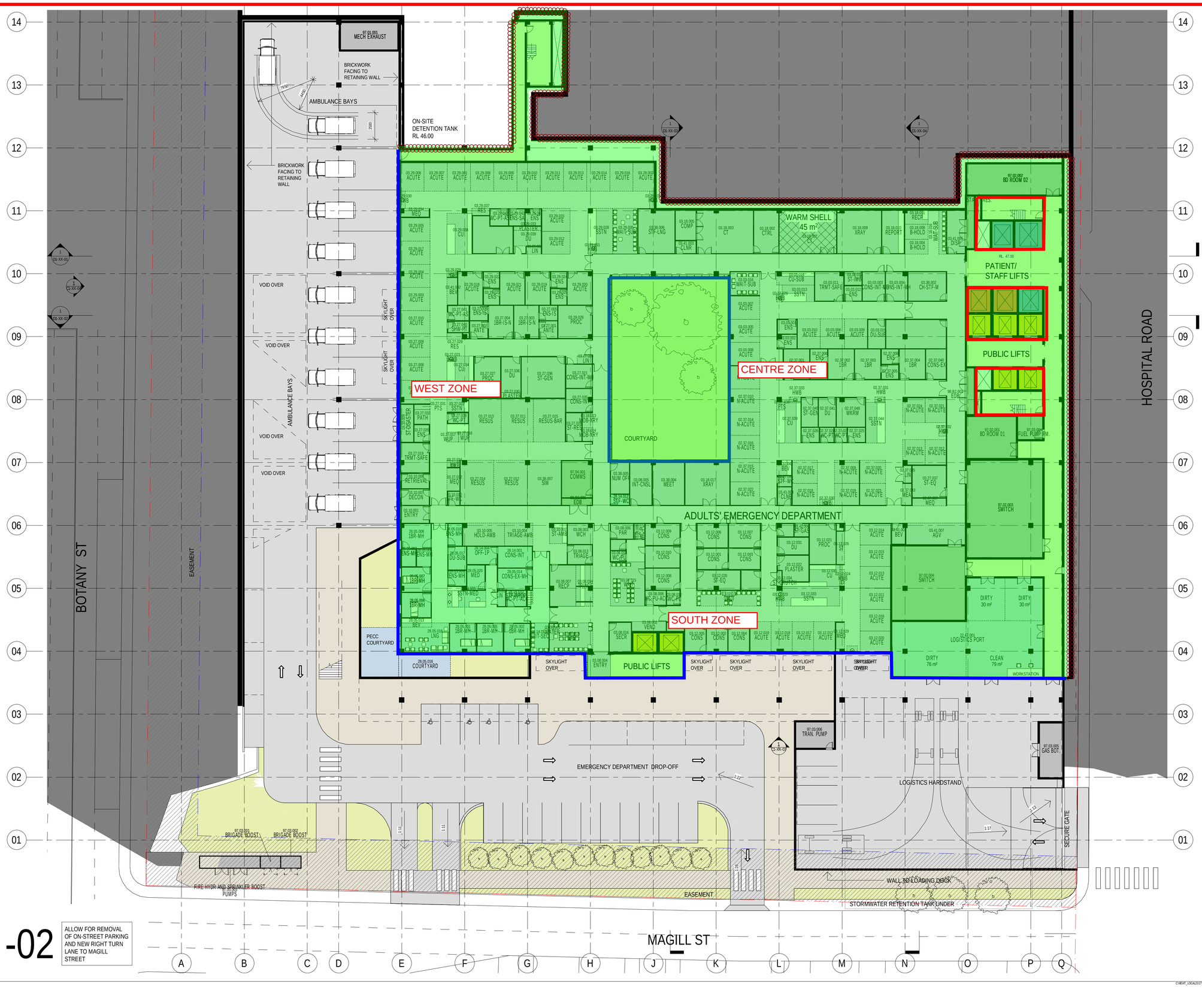
BRIDGE SECTIONS

RCR-BVN-AR-50-DWG-D1-XX-05

ISSUE L

C:\REVIT_LOCAL\2017\RCR-BVN-AR-50-RVT-0001 - New Acute Services Building_mrgcm.rvt 2/02/2018 7:57:14 PM

Prince of Wales - Acute Services Building - BCA Section J Part J2 GLAZING Mark-Up



-02

ALLOW FOR REMOVAL OF ON-STREET PARKING AND NEW RIGHT TURN LANE TO MAGILL STREET

C:\REVIT_LOCAL\2017\RCR-BVN-AR50-RVT-0001 - New Acute Services Building_system_mount.rvt 2/02/2018 8:25:27 PM

BVN TERROIR

Telephone +61 2 8297 7200
Facsimile +61 2 8297 7299
www.bvn.com.au

NOTE

CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
A	26.06.2017	FOR INFORMATION
B	06.07.2017	FOR INFORMATION
C	28.07.2017	FOR INFORMATION
D	18.08.2017	FOR INFORMATION
E	07.09.2017	FOR INFORMATION
F	13.09.2017	FOR INFORMATION
G	22.09.2017	FOR INFORMATION
H	26.09.2017	FOR INFORMATION
J	06.10.2017	FOR INFORMATION
K	16.10.2017	FOR INFORMATION
L	13.11.2017	FOR INFORMATION
M	14.11.2017	FOR INFORMATION
N	22.11.2017	FOR INFORMATION
P	27.11.2017	FOR INFORMATION
Q	01.12.2017	FOR INFORMATION
R	11.12.2017	FOR INFORMATION
S	21.12.2017	FOR INFORMATION
T	19.01.2018	FOR INFORMATION
U	25.01.2018	FOR INFORMATION
V	29.01.2018	FOR INFORMATION
W	30.01.2018	FOR INFORMATION
X	02.02.2018	FOR INFORMATION

PROJECT MANAGEMENT
AURECON

CIVIL AND STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
LEHR CONSULTANTS INTERNATIONAL

ELECTRICAL ENGINEERING
AECOM AUSTRALIA

HYDRAULIC ENGINEERING
ACOR CONSULTANTS

CONSULTANT
PROJECT MANAGER

CLIENT

NSW GOVERNMENT Health Infrastructure

HEALTH INFRASTRUCTURE

CLIENT NUMBER
130487

PROJECT
POW REDEVELOPMENT
BAKER ST
RANDWICK NSW
AUSTRALIA

BVN PROJECT NUMBER
s1606008

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 2000 5000

SCALE
1 : 200@81 DO NOT SCALE

STATUS
FOR SIGN-OFF

DRAWING
GENERAL ARRANGEMENT - LEVEL -02

RCR-BVN-AR-50-DWG-B2-B2-01

ISSUE X