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17 January 2025

Carmichael Tompkins Property Group

Suite 9.03, Level 9 Aurora Place

88 Philip Street, Sydney NSW 2000

Attention: Rocco Bombardiere

Dear Rocco,

RE: National Construction Code (NCC) 2022 Volume One Section J Part J4 Statement of Compliance

JOB NO.: 220269

REVISION NO.: E

SUBJECT PREMISE: Upgrade to Leppington Public School (Canteen and Hall) I 144 Richard Road, Leppington NSW 2179

This Part J4 Statement of Compliance has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Leppington Public School (LPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for upgrades to the existing LPS at 144 Rickard Road, Leppington, NSW, 2179 (the site).

The purpose of this NCC Section J Part J4 statement is to demonstrate design compliance for the new activity of Leppington Public School Canteen & Hall located at 144 Rickard Road, Leppington NSW 2179.

Site Description

The proposed activity is located in climate Zone 6 as defined by the NCC 2022 Building Code of Australia – Volume One.

LPS is located at 144 Rickard Road, Leppington on the eastern side of Rickard Road, north of Ingleburn Road and south of Byron Road. The site has an area of 3.013 ha and comprises 4 allotments, legally described as:

- Lot 1 DP 127446
- Lot 1 DP 439310
- Lot 38E DP 8979
- Lot 39C DP 8979

The site currently comprises an existing co-education primary (K-6) public school with:

- 14 permanent buildings;
- 11 demountable structures (including 2 male/female toilet blocks);
- interconnected paths;
- covered walkways;
- play areas; and
- at-grade parking.

The site also contains locally listed heritage buildings along its southern boundary.

The buildings are 1 storey in height and there is a sports oval in the eastern portion of the site. The existing buildings are clustered in the north-western part of the site.

Figure 1 **Aerial image of the site, outlined in red (Source: NearMap, taken 24 Sept 2024)**

Proposed Activity Description

The proposed activity involves upgrades to the existing LPS, including the following:

- Demolition of existing structures and trees;
- Erection of a new 3-storey teaching space along the northern boundary that includes 20 permanent teaching spaces and 3 support teaching spaces;
- Erection of a new hall and COLA comprising of a hall, canteen and OSHC hub towards the eastern boundary of site;
- Extension of the existing library (Building E) and adjoining playground;
- Upgraded sports and play facilities;
- Relocation of the Yarning Circle;
- Erection of a substation and upgrades to site services;
- Footpaths, fencing and associated works; and
- Landscaping.

The intent of the activity is to allow for upgrades to LPS that will provide a 'CORE 35' school standard in line with the Educational Facilities Standards and Guidelines (EFSG). The activity will increase the capacity of the school from 430 to 621 students.

Figure 2 below show the scope of works for the proposed activity.

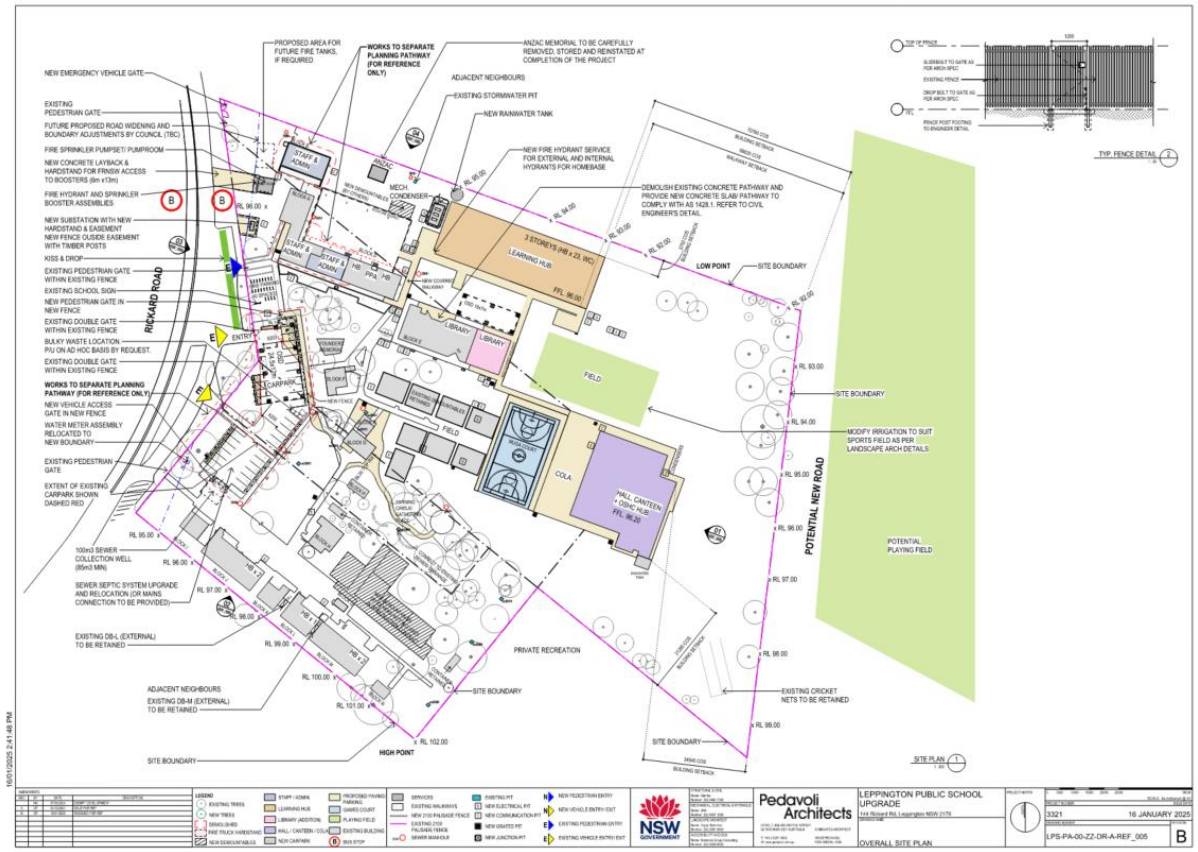


Figure 2 **Proposed Activity (Source: Pedavoli Architects, Overall Site Plan (Rev B))**

In accordance with A2G1, compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and the Performance Requirements. The Performance Requirements are satisfied by Performance Solution, Deemed-to-Satisfy Solution or a combination of both.

The table below shows the areas assessed, NCC 2022 Building Classification the Performance Requirements, the Method of Compliance, and the DTS Provisions subjected to Performance Solution.

Building Area Description	NCC Classification	Performance Requirements	Method of Compliance	DTS Provisions subjected to Performance Solution
Canteen & Hall	9b	JP1	J1V3	J1.3 – J1.6

Compliance with Performance Requirement JP1 will be achieved subject to this report and compliance with J4D3 (1-5), J3, J5, J6, J7, J8 & J9 being met by the relevant designers / contractors.

The assessment is based on the architectural drawings listed below.

Architectural Drawings — Pedavoli Architects
Project no. 3321
Issued 16/01/2025

Building	Title	Drawing No	Revision
Leppington Public School-Canteen and Hall	Site Plan – Ground Floor Composite Plans – Sheet 02	LPS-PA-00-GF-DR-A-REF_102	B
	Site Plan – Roof Composite Plans – Sheet 02	LPS-PA-00-L3-DR-A-REF_106	B
	Site Sections	LPS-PA-00-ZZ-DR-A-REF_006	B
	Elevations – Sheet 01	LPS-PA-00-ZZ-DR-A-REF_111	B
	Composite Sections – Sheet 01	LPS-PA-00-ZZ-DR-A-REF_121	B
	Composite Sections – Sheet 02	LPS-PA-00-ZZ-DR-A-REF_122	B

A JV Verification Method can be used to show compliance in areas where the proposed building fabric is not complying with the minimum DTS requirements.

The J1V3 energy modelling simulation results were obtained using energy modelling software, IESVE. The results demonstrating design compliance are attached in Attachment A for J1V3 (1)(a)(ii) and Attachment B for J1V3 (1)(b).

As per J1V3 Verification Method Provisions of **NCC 2022 Volume One**, design compliance with Part J4 can be met subject to the following specifications:

Part J4 Building Fabric

Required **Total R-value** including allowance for **thermal bridging**.

Elements	Total Construction R-value	Notes
Roof/Exposed Ceiling Envelope	R_T3.84 (Downwards, SA < 0.45)	1. It is a total system performance value and **NOT** the insulation. 2. The impact of **Thermal Bridging** must be included in the building envelope total system R-value calculations. 3. As per J4D7 a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0. 4. The R-value requirements are to the proposed **NEW WORK** only. Existing building fabric does not need to be upgraded.
Envelope Walls	R_T1.68	
Envelope Floors	R_T2.4	

Note: Mark-ups of above construction thermal requirements are attached in Attachment C.

Required **Total System U-value** and **SHGC**.

Location/Type	Window Assembly (Glass & Frame)		Description
	U-value	SHGC	
All	5.0	0.60	Single Glazed Low E Clear or the like

MITIGATION MEASURES

Not applicable for this statement

Additional Section J Compliance Notes

Note project needs to adhere to the following NCC 2022 Section J construction requirements as applicable:

- *J4D3 (1-4) Thermal Construction – general* installation requirements for insulations
- *J4D3 (5)* The required total R-value and total system U-value, including thermal bridging calculation.

JHA recommend the following general construction requirements from Section J of the NCC 2022 be included in the architectural specification and drawings to ensure compliance.

- *Part J5 – Building Sealing*
  - *J5D3 Chimneys and flues*
  - *J5D4 Roof lights*
  - *J5D5 Windows and doors*
  - *J5D6 Exhaust fans*
  - *J5D7 Construction of ceilings, walls and floors*
  - *J5D8 Evaporative coolers*

Full Name of Designer:	Jasmin Bayocot
Qualifications:	BSCE
Address of Designer:	JHA Level 20, 2 Market Street SYDNEY NSW 2000
Business Telephone No:	(02) 9437 1000
Name of Employer:	JHA

Yours sincerely,

Jasmin Bayocot

ESD Consultant

Disclaimer

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

Revision History

REV	DATE	Amendment
P1	09/02/24	Preliminary JV3 report
P2	12/02/24	95% Schematic Design
P3	26/02/24	Final Draft DA
P4	12/03/24	Final DA
A	30/04/2024	SD
B	31/05/2024	30% DD
C	25/10/2024	Reissue For DA
D	04/12/2024	REF Updates

Attachment A – J1V3 (1)(a)(ii) Modelling Results:

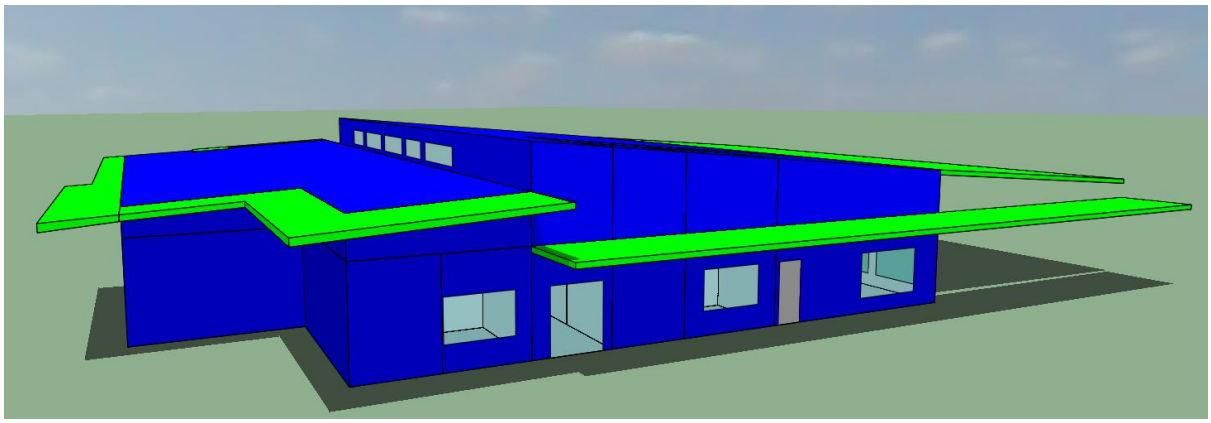
Thermal modelling was undertaken to demonstrate Building Fabric compliance with the Performance Requirement for JP1 of Section J, NCC 2022, Volume One. Energy simulation was conducted in accordance with NCC 2022, Volume One J1V3 requirements, including *Specification 33 Additional requirements*, *Specification 34 Modelling parameters for J1V3* & *Specification 35 Modelling profiles for J1V3*.

For a Class 3, 5, 6, 7, 8 or 9 building or common area of a Class 2 building, compliance with J1P1 is verified when it is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building.

Results

Building	Modelled Items	Calculated Annual Greenhouse Gas Emission [$kgCO_2$-e/m2.annum]
Leppington Public School-Canteen and Hall	Reference Building	31
	Proposed Building J1V3(1)(a)(ii)	30

The Annual Greenhouse Gas Emission of the Proposed Building is less than Annual Greenhouse Gas Emission of Reference Building. Therefore, the proposed Building Fabric including Glazing is compliant with Section JP1 requirements.



IES Energy Simulation Model of the Proposed Building

Model Inputs

Building Fabric Total R-Value.

Building Fabric Parameter Summary		
Elements	DTS Reference Building	Proposed Building
Envelope Roof	RT3.2 (SA < 0.45)	RT3.84
Envelope Walls	RT1.4	RT1.68
Envelope Slab on Ground	RT2.0	RT2.4

Building Fabric Total System (Glass & Frame) U-Value and SHGC.

Window Assembly (Glass & Frame)				
Location/Type	DTS Reference Building		Proposed Building	
	U-Value	SHGC	U-Value	SHGC
All	5.8	0.80	5.0	0.60

Modelling Results

Energy Use		DTS Reference Building	Proposed Building
		Electricity [MWhr]	Electricity [MWhr]
Space Heating		12.02	10.42
Space Cooling		4.37	5.01
Heat Rejection		1.01	1.16
Interior Central Fans		0.83	0.83
Pumps		0.83	0.83
Interior Lighting		5.02	5.02
Total [GJ/annum]		86.69	83.76
Greenhouse Gas Emissions factor	NSW	236	236
Greenhouse Gas Emission [tCO_2-e/annum]		20,458.5	19,768.3
Total Conditioned Areas [m2]		639.6	
Greenhouse Gas Emission [$kgCO_2$-e/m2.annum]		31.48	30.42
% Improvement		3.4%	

Attachment B – J1V3 (1)(b) PMV Modelling Results

For NCC 2022, J1V3 additionally requires that the proposed building achieve a thermal comfort level of between a Predicted Mean Vote (PMV) of -1 to +1 is across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building.

PMV Model Inputs

Space Operative Temperature Set Points and Comfort Parameters

Parameters	Values	Description
Operative Temperature (ºC)	21 – 24	As per NCC 2022 Specification 34
Clothing Level (CLO)	0.67 – 0.97	Light Clothing (Summer) & Warm Clothing (Winter)
Activity Level (MET)	1.1	Seated, reading, relaxed
Nominal Air Velocity (m/s)	0.15	As per ASHRAE Standard 55-2017
Infiltration (ACH)	0.70 when AC plant is not operating, 0.35 at all other times	As per NCC 2022 Specification 34

Internal Heat Gains

Locations	Lighting [W/m²]	Internal Sensible [W/m²]	Heat Gains per Person	
			Sensible	Latent
Canteen	4.5	5	75 W	55 W
Canteen Office / Store	4.5	5	75 W	55 W
Communal Hall / Corridor / Raised Platform	4.5	5	75 W	55 W
OSHC Kitchenette	4.5	5	75 W	55 W
OSHC Office	4.5	5	75 W	55 W

Note:

- *All comfort parameters in accordance with "ASHRAE Standard 55-2017".*
- *Modelling profiles are as per NCC 2022 Specification 35.*

PMV Modelling Results

Locations	Area (m2)	PMV (% hours in range)			Meets J1V3 (1)(b) criteria	Compliant Areas (m2)
		<-1.0	≥-1.0 & ≤1.0	> 1.0		
C_GF_Canteen	61.5	0.4	99.6	0	Y	61.25
C_GF_Canteen Office / Store	14.6	0.3	99.7	0	Y	14.56
C_GF_Communal Hall / Corridor / Raised Platform	526.8	0.1	99.9	0	Y	526.27
C_GF_OSHC Kitchenette	23.6	0.1	99.9	0	Y	23.58
C_GF_OSHC Office	13.1	0.3	99.7	0	Y	13.06
Total	**639.6**					**638.7 (99.9%)**

The results show **99.9%** of floor areas achieve a thermal comfort level of between a Predicted Mean Vote (PMV) of -1 to +1 for not less than 98% of the annual hours of operation of the building.

Therefore, PMV modelling results demonstrate that the proposed building **meets** the J1V3 Verification Method thermal comfort level requirements.

Attachment C – Building Fabric Requirements Markups

JHA
MARKUP / SKETCH

DOCUMENT No.: 220269
DOCUMENT TITLE: Leppington Public School - Learning Hub
NCC 2022 J Part J4 Building Fabric Requirement
DOCUMENT REV: E
DOCUMENT BY: JB DATE: 17/01/25

Preliminary J1 fabric mark-up

Roof & Ceiling	- Rt 3.84 (Downward) (SA<0.45)
Envelope Floors	- Rt 2.4 (Downward)
Envelope Walls	- Rt 1.68

Note:
1) All R-values must account for the impact of Thermal Bridging.
2) The R-value is a total system performance value and NOT insulation. Slab on ground floors are considered to achieve Rt2.0.
3) All requirements only applies to proposed **NEW WORKS**. No requirement to update the existing elements.

Glazing (Glass + Frame) requirements:
Canteen & Hall - U-value 5.0 & SHGC 0.60

RL 95.00 x
OSD 24.5x12m
CARPARK
BULK WASTE
EXIT
BLOCK F
BLOCK R
BLOCK G
BLOCK P
BLOCK H
BLOCK J
BLOCK K
BLOCK L
BLOCK M
BLOCK Q
EXISTING DEMOUNTABLES RETAINED
EXISTING CONTAINER RETAINED
NEW COVERED WALKWAY
BENCH SEATS
HB x 2
WORKS TO SEPARATE PLANNING PATHWAY (FOR REFERENCE ONLY)
NEW DEMOUNTABLES (BY OTHERS) NOT INCLUDED IN CONSTRUCTION CONTRACT
SITE BOUNDARY
SPORTS
MUGA COURT
COLA
CANTEEN SERVERY COVERED AREA
CANTEEN
CANTEEN OFFICE/STORE
ENTRY
OSHC OFFICE
KITCHENETTE
OSHC STORE
HAIR STORE
BULK STORE
CORRIDOR
COMMUNAL HALL
PLN SUPPLIES STORE
GARDEN STORE
STAGE
COMMS
HALL, CANTEEN + OSHC HUB
CORRIDOR
PERFORMANCE STORE
SPORTS STORE
GIRLS WC
RAINWATER PUMP AND FILTRATION
RAINWATER TANK

02 CERT. BRBC

16/01/2025 2:44:55 PM

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	CP	04/12/2024	ISSUE FOR REF
B	CP	16/01/2025	REISSUED FOR REF

Admin & Staff, Amenities, Canteen, Circulation, Existing, GLS & Homebase, Hall, Library, OSHC, Sport, Storage & Services

NSW GOVERNMENT

STRUCTURAL & CIVIL
Name: Stantec
Number: (02) 8484 7000
MECHANICAL, ELECTRICAL & HYDRAULIC
Name: JHA
Number: (02) 9437 1000
LANDSCAPE ARCHITECT
Name: Taylor Brammer
Number: (02) 9387 6855
ACCESSIBILITY AND BCA
Name: Mckenzie Group Consulting
Number: (02) 8298 6800

Pedavoli Architects
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T: +61 2 9291 0000
W: www.pedavoli.com.au
NOMINATED ARCHITECT:
VINCE PEDAVOLI
NSW ARB No. 5045

LEPPINGTON PUBLIC SCHOOL UPGRADE
144 Rickard Rd, Leppington NSW 2179
DRAWING NAME
SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 02

PROJECT NORTH

0 2000 4000 6000 8000 10000 20000
SCALE 1 : 200 @ A1

PROJECT NUMBER 3321
ISSUE DATE 16 JANUARY 2025
DRAWING NUMBER LPS-PA-00-GF-DR-A-REF_102
REVISION B

ABN 48 612 666 172

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PO Box Q453
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NSW 1230

Ph (02) 9437 1000

17 January 2025

Carmichael Tompkins Property Group

Suite 9.03, Level 9 Aurora Place

88 Philip Street, Sydney NSW 2000

Attention: Rocco Bombardiere

Dear Rocco,

RE: National Construction Code (NCC) 2022 Volume One Section J Part J4 Statement of Compliance

JOB NO.: 220269

REVISION NO.: E

SUBJECT PREMISE: Leppington Public School (Learning Hub) I 144 Richard Road, Leppington NSW 2179

This Part J4 Statement of Compliance has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Leppington Public School (LPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for upgrades to the existing LPS at 144 Rickard Road, Leppington, NSW, 2179 (the site).

The purpose of this NCC Section J Part J4 statement is to demonstrate design compliance for the new activity of Leppington Public School Building Learning Hub located at 144 Rickard Road, Leppington NSW 2179.

Site Description

The proposed activity is located in climate Zone 6 as defined by the NCC 2022 Building Code of Australia – Volume One.

LPS is located at 144 Rickard Road, Leppington on the eastern side of Rickard Road, north of Ingleburn Road and south of Byron Road. The site has an area of 3.013 ha and comprises 4 allotments, legally described as:

- Lot 1 DP 127446
- Lot 1 DP 439310
- Lot 38E DP 8979
- Lot 39C DP 8979

The site currently comprises an existing co-education primary (K-6) public school with:

- 14 permanent buildings;
- 11 demountable structures (including 2 male/female toilet blocks);
- interconnected paths;
- covered walkways;
- play areas; and
- at-grade parking.

The site also contains locally listed heritage buildings along its southern boundary.

The buildings are 1 storey in height and there is a sports oval in the eastern portion of the site. The existing buildings are clustered in the north-western part of the site.

Figure 1 **Aerial image of the site, outlined in red (Source: NearMap, taken 24 Sept 2024)**

Proposed Activity Description

The proposed activity involves upgrades to the existing LPS, including the following:

- Demolition of existing structures and trees;
- Erection of a new 3-storey teaching space along the northern boundary that includes 20 permanent teaching spaces and 3 support teaching spaces;
- Erection of a new hall and COLA comprising of a hall, canteen and OSHC hub towards the eastern boundary of site;
- Extension of the existing library (Building E) and adjoining playground;
- Upgraded sports and play facilities;
- Relocation of the Yarning Circle;
- Erection of a substation and upgrades to site services;
- Footpaths, fencing and associated works; and
- Landscaping.

The intent of the activity is to allow for upgrades to LPS that will provide a 'CORE 35' school standard in line with the Educational Facilities Standards and Guidelines (EFSG). The activity will increase the capacity of the school from 430 to 621 students.

Figure 2 below show the scope of works for the proposed activity.

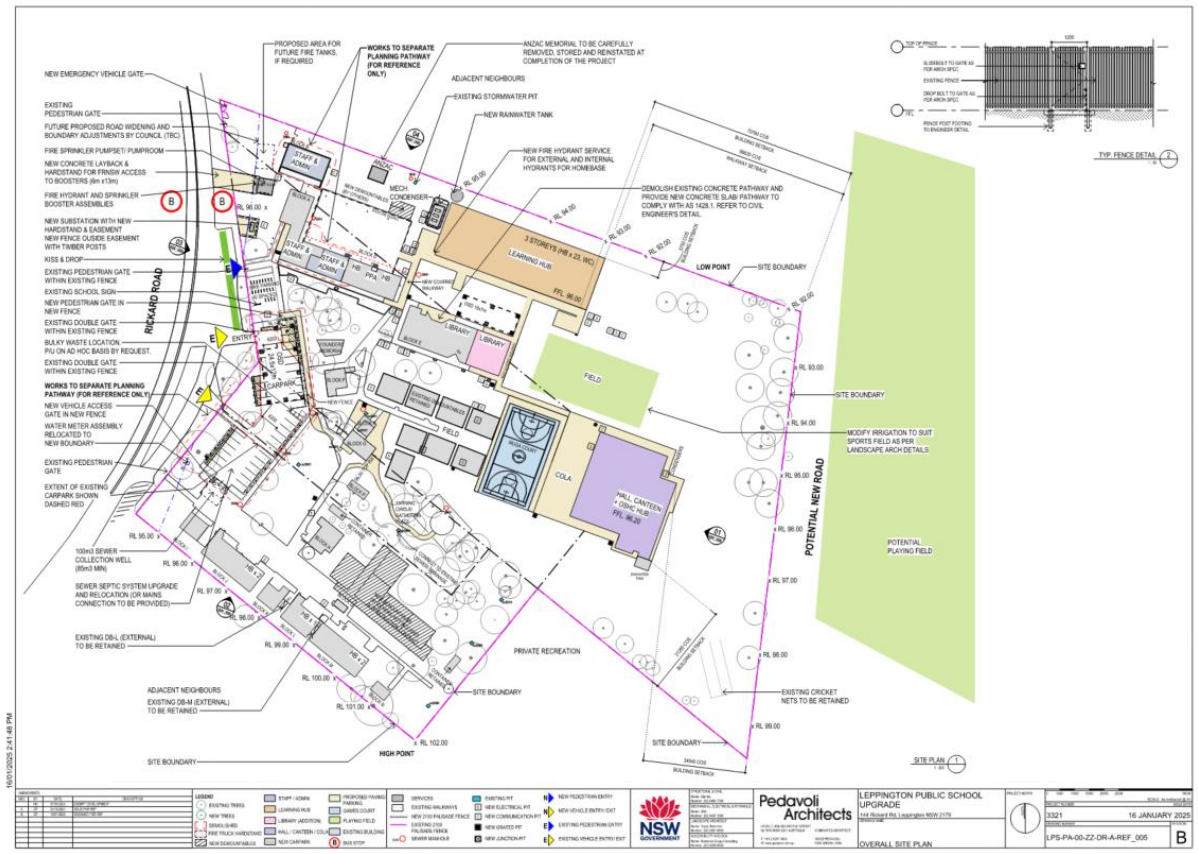

Figure 2 **Proposed Activity (Source: Pedavoli Architects, Overall Site Plan (Rev B))**

In accordance with A2G1, compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and the Performance Requirements. The Performance Requirements are satisfied by Performance Solution, Deemed-to-Satisfy Solution or a combination of both.

The table below shows the areas assessed, NCC 2022 Building Classification the Performance Requirements, the Method of Compliance, and the DTS Provisions subjected to Performance Solution.

Building Area Description	NCC Classification	Performance Requirements	Method of Compliance	DTS Provisions subjected to Performance Solution
Learning Hub	9b	JP1	J1V3	J1.3 – J1.6

Compliance with Performance Requirement JP1 will be achieved subject to this report and compliance with J4D3 (1-5), J3, J5, J6, J7, J8 & J9 being met by the relevant designers / contractors.

The assessment is based on the architectural drawings listed below.

Architectural Drawings — Pedavoli Architects
Project no. 3321
Issued 16/01/2025

Building	Title	Drawing No	Revision
Leppington Public School-Learning Hub	Site Plan - Ground Floor Plan Composite Plans – Sheet 01	LPS-PA-00-GF-DR-A-REF_101	B
	Site Plan – Level 1 Composite Plans – Sheet 01	LPS-PA-00-L1-DR-A-REF_103	B
	Site Plan – Level 2 Composite Plans	LPS-PA-00-L2-DR-A-REF_104	B
	Site Plan – Roof Composite Plans – Sheet 01	LPS-PA-00-GF-DR-A-REF_105	B
	Site Sections	LPS-PA-00-ZZ-DR-A-REF_006	B
	Elevations – Sheet 01	LPS-PA-00-ZZ-DR-A-REF_111	B
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A JV Verification Method can be used to show compliance in areas where the proposed building fabric is not complying with the minimum DTS requirements.

The J1V3 energy modelling simulation results were obtained using energy modelling software, IESVE. The results demonstrating design compliance are attached in Attachment A for J1V3 (1)(a)(ii) and Attachment B for J1V3 (1)(b).

As per J1V3 Verification Method Provisions of **NCC 2022 Volume One**, design compliance with Part J4 can be met subject to the following specifications:

Part J4 Building Fabric

Required **Total R-value** including allowance for **thermal bridging**.

Elements	Total Construction R-value	Notes
Roof/Exposed Ceiling Envelope	R_T3.2 (Downwards, SA < 0.45)	1. It is a total system performance value and **NOT** the insulation. 2. The impact of **Thermal Bridging** must be included in the building envelope total system R-value calculations. 3. As per J4D7 a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0. 4. The R-value requirements are to the proposed **NEW WORK** only. Existing building fabric does not need to be upgraded.
Envelope Walls	R_T1.75	
Envelope Floors	Nil	

Note: Mark-ups of above construction thermal requirements are attached in Attachment C.

Required **Total System U-value** and **SHGC**.

Location/Type	Window Assembly (Glass & Frame)		Description
	U-value	SHGC	
All	5.0	0.58	Single Glazed Low E Clear or the like

MITIGATION MEASURES

Not applicable for this Statement

Additional Section J Compliance Notes

Note project needs to adhere to the following NCC 2022 Section J construction requirements as applicable:

- *J4D3 (1-4) Thermal Construction – general* installation requirements for insulations
- *J4D3 (5)* The required total R-value and total system U-value, including thermal bridging calculation.

JHA recommend the following general construction requirements from Section J of the NCC 2022 be included in the architectural specification and drawings to ensure compliance.

- *Part J5 – Building Sealing*
  - *J5D3 Chimneys and flues*
  - *J5D4 Roof lights*
  - *J5D5 Windows and doors*
  - *J5D6 Exhaust fans*
  - *J5D7 Construction of ceilings, walls and floors*
  - *J5D8 Evaporative coolers*

Full Name of Designer:	Jasmin Bayocot
Qualifications:	BSCE
Address of Designer:	JHA Level 20, 2 Market Street SYDNEY NSW 2000
Business Telephone No:	(02) 9437 1000
Name of Employer:	JHA

Yours sincerely,

Jasmin Bayocot

ESD Consultant

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Revision History

REV	DATE	Amendment
P1	09/02/24	Draft DA
P2	12/02/24	95% Schematic Design
P3	26/02/24	Final Draft DA
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A	30/04/2024	SD
B	31/05/2024	30% DD
C	25/10/2024	Reissue for DA
D	04/12/2024	REF
E	17/01/2024	REF Updates

Attachment A – J1V3 (1)(a)(ii) Modelling Results:

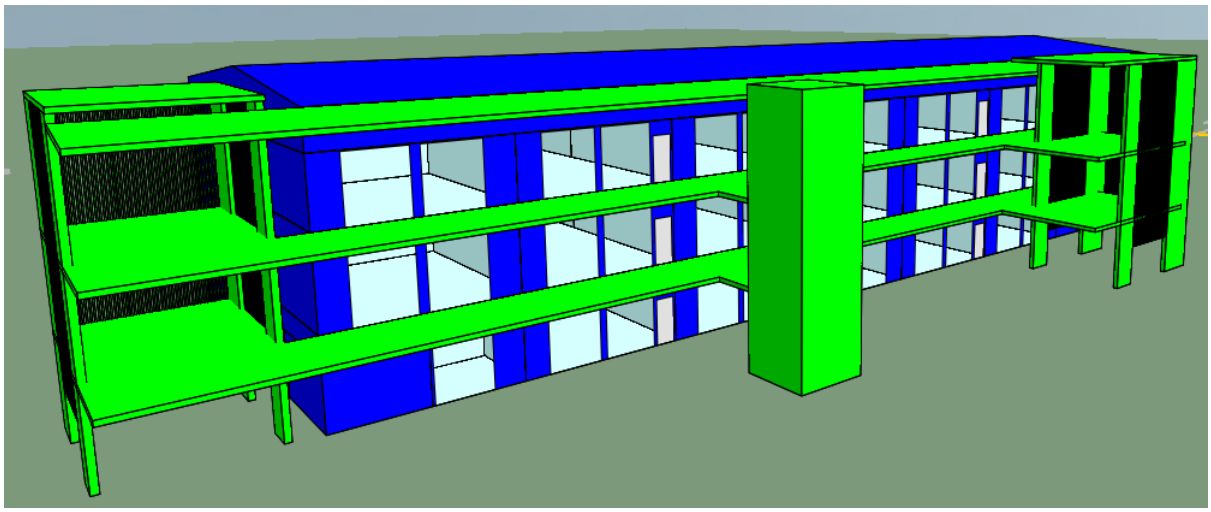
Thermal modelling was undertaken to demonstrate Building Fabric compliance with the Performance Requirement for JP1 of Section J, NCC 2022, Volume One. Energy simulation was conducted in accordance with NCC 2022, Volume One J1V3 requirements, including *Specification 33 Additional requirements*, *Specification 34 Modelling parameters for J1V3* & *Specification 35 Modelling profiles for J1V3*.

For a Class 3, 5, 6, 7, 8 or 9 building or common area of a Class 2 building, compliance with J1P1 is verified when it is determined that the annual greenhouse gas emissions of the proposed building are not more than the annual greenhouse gas emissions of a reference building.

Results

Building	Modelled Items	Calculated Annual Greenhouse Gas Emission [$kgCO_2$-e/m2.annum]
Leppington Public School-Learning Hub	Reference Building	52
	Proposed Building J1V3(1)(a)(ii)	50

The Annual Greenhouse Gas Emission of the Proposed Building is less than Annual Greenhouse Gas Emission of Reference Building. Therefore, the proposed Building Fabric including Glazing is compliant with Section JP1 requirements.



IES Energy Simulation Model of the Proposed Building

Model Inputs

Building Fabric Total R-Value.

Building Fabric Parameter Summary		
Elements	DTS Reference Building	Proposed Building
Envelope Roof	RT3.2 (SA < 0.45)	RT3.2
Envelope Walls	RT1.4	RT1.75
Envelope Floors	RT2.0	Nil

Building Fabric Total System (Glass & Frame) U-Value and SHGC.

Window Assembly (Glass & Frame)				
Location/Type	DTS Reference Building		Proposed Building	
	U-Value	SHGC	U-Value	SHGC
All	5.3	0.30	5.0	0.58

Modelling Results

Energy Use		DTS Reference Building	Proposed Building
		Electricity [MWhr]	Electricity [MWhr]
Space Heating		2.47	3.79
Space Cooling		95.12	90.13
Heat Rejection		21.95	20.80
Interior Central Fans		3.48	3.48
Pumps		3.48	3.48
Interior Lighting		21.15	21.15
Total [GJ/annum]		531.57	514.24
Greenhouse Gas Emissions factor	NSW	236	236
Greenhouse Gas Emission [tCO_2-e/annum]		125,449.4	121,361.4
Total Conditioned Areas [m2]		2384.4	
Greenhouse Gas Emission [$kgCO_2$-e/m2.annum]		52.61	50.90
% Improvement		3.3%	

Attachment B – J1V3 (1)(b) PMV Modelling Results

For NCC 2022, J1V3 additionally requires that the proposed building achieve a thermal comfort level of between a Predicted Mean Vote (PMV) of -1 to +1 is across not less than 95% of the floor area of all occupied zones for not less than 98% of the annual hours of operation of the building.

PMV Model Inputs

Space Operative Temperature Set Points and Comfort Parameters

Parameters	Values	Description
Operative Temperature (ºC)	21 – 24	As per NCC 2022 Specification 34
Clothing Level (CLO)	0.67 – 0.97	Light Clothing (Summer) & Warm Clothing (Winter)
Activity Level (MET)	1.1	Seated, reading, relaxed
Nominal Air Velocity (m/s)	0.15	As per ASHRAE Standard 55-2017
Infiltration (ACH)	0.70 when AC plant is not operating, 0.35 at all other times	As per NCC 2022 Specification 34

Internal Heat Gains

Locations	Lighting [W/m^2]	Internal Sensible [W/m^2]	Heat Gains per Person	
			Sensible	Latent
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
Multi-purpose	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
Withdrawal	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
Toilet	4.5	5	75 W	55 W
Acc Toilet	4.5	5	75 W	55 W
AMB. WC	4.5	5	75 W	55 W
AMB. WC	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
Multi-purpose	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W

General Learning Space	4.5	5	75 W	55 W
Multi-Purpose	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
Multi-purpose	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W
Multi-Purpose	4.5	5	75 W	55 W
Learning Commons	4.5	5	75 W	55 W
General Learning Space	4.5	5	75 W	55 W

Note:

- *All comfort parameters in accordance with "ASHRAE Standard 55-2017".*
- *Modelling profiles are as per NCC 2022 Specification 35.*

PMV Modelling Results

Locations	Area (m2)	PMV (% hours in range)			Meets J1V3 (1)(b) criteria	Compliant Areas (m2)
		<-1.0	≥-1.0 & ≤1.0	> 1.0		
GF_General Learning Space	67.5	0	100	0	Y	67.5
GF_General Learning Space	67.5	0	100	0	Y	67.5
GF_Multi-purpose	28.9	0	100	0	Y	28.9
GF_Learning Commons	104.2	0	100	0	Y	104.2
GF_General Learning Space	68	0	100	0	Y	68
GF_General Learning Space	68	0	100	0	Y	68
GF_General Learning Space	68.4	0	100	0	Y	68.4
GF_General Learning Space	68.4	0	100	0	Y	68.4
GF_General Learning Space	68.9	0	100	0	Y	68.9
GF_Withdrawal	28.7	0	100	0	Y	28.7
GF_Learning Commons	103.6	0	100	0	Y	103.6
GF_Toilet	7	0	100	0	Y	7
GF_Staff WC	6.1	0	100	0	Y	6.1
GF_Adult Change Facility	3.7	0	100	0	Y	3.7

GF_Support Hub Meeting Room	3.7	0	100	0	Y	3.7
GF_Acc Toilet	67.5	0	100	0	Y	67.5
GF_AMB. WC	67.5	0	100	0	Y	67.5
GF_AMB. WC	28.9	0	100	0	Y	28.9
GF_Plant / Elec	104.2	0	100	0	Y	104.2
GF_Corridor	68	0	100	0	Y	68
GF_Comms/Airlock/Amenities	68	0	100	0	Y	68
L1_General Learning Space	68.4	0	100	0	Y	68.4
L1_General Learning Space	68.4	0	100	0	Y	68.4
L1_Multi-purpose	68.9	0	100	0	Y	68.9
L1_Learning Commons	28.7	0	100	0	Y	28.7
L1_General Learning Space	103.6	0	100	0	Y	103.6
L1_General Learning Space	68.8	0	100	0	Y	68.8
L1_General Learning Space	67.5	0	100	0	Y	67.5
L1_General Learning Space	67.5	0	100	0	Y	67.5
L1_General Learning Space	28.9	0	100	0	Y	28.9
L1_Multi-Purpose	104.2	0	100	0	Y	104.2
L1_Learning Commons	68	0	100	0	Y	68
L1_Mech Plant	68	0	100	0	Y	68
L1_Corridor	68.4	0	100	0	Y	68.4
L1_Comms/Airlock/Amenities	68.4	0	100	0	Y	68.4
L1_General Learning Space	68.9	0	100	0	Y	68.9
L1_General Learning Space	28.7	0	100	0	Y	28.7
L1_General Learning Space	103.6	0	100	0	Y	103.6
L1_Multi-purpose	68.8	0	100	0	Y	68.8
L1_Learning Commons	67.5	0	100	0	Y	67.5
Total	2384.4					2384.4 (100%)

The results show **100%** of floor areas achieve a thermal comfort level of between a Predicted Mean Vote (PMV) of -1 to +1 for not less than 98% of the annual hours of operation of the building.

Therefore, PMV modelling results demonstrate that the proposed building **meets** the J1V3 Verification Method thermal comfort level requirements.

Attachment C – Building Fabric Requirements Markups

EXISTING PEDESTRIAN GATE

FUTURE PROPOSED ROAD WIDENING AND BOUNDARY ADJUSTMENTS BY COUNCIL (TBC)

NEW FIRE SPRINKLER BOOSTER ASSEMBLY

CONCRETE HARDSTAND FOR FRNSW

NEW FIRE HYDRANT BOOSTER ASSEMBLY

NEW FIRE HYDRANT & SPRINKLER PUMPSET (SEPARATE) IN COMBINED ENCLOSURE

NEW 1000kVA SUBSTATION

NEW SUBSTATION WITH NEW HARDSTAND & EASEMENT
NEW FENCE OUSIDE EASEMENT
WITH TIMBER POSTS

03 REF: 1986

RICKARD ROAD

COMBINED FIRE HYDRANT AND SPRINKLER MAINS CONNECTION

EXISTING SCHOOL SIGN

PROPOSED AREA FOR FUTURE FIRE TANKS, IF REQUIRED

WORKS TO SEPARATE PLANNING PATHWAY (FOR REFERENCE ONLY)

04 REF: 1986

ADJACENT NEIGHBOURS

BLOCK B STAFF & ADMIN

NEW STAFF

ANZAC

NEW RAINWATER TANK

RL 95.00 x

SITE BOUNDARY

FHBA FSBA

RL 96.00 x

BLOCK A

NEW DEMOUNTABLES (BY OTHERS)

MECH. CONDENSER

RL 94.00 x

RL 93.00 x

SPORT COURT / ASSEMBLY / COLA

NEW FLAGPOLES

BLOCK D STAFF & ADMIN

BLOCK D HB

NEW ADMIN

HB

HB /

SUPPORT HUB

GLS HUB

5730 - COS

SERVICES

AMENITIES

AMENITIES

LIFT

BIKE PARKING

(40 SPACES)

1:14

WORKS TO SEPARATE PLANNING PATHWAY (FOR REFERENCE ONLY)

DEMOLISH EXISTING CONCRETE PATHWAY AND PROVIDE NEW CONCRETE SLAB/ PATHWAY TO COMPLY WITH AS 1428.1

DEMOLISH EXISTING CONCRETE PATHWAY AND PROVIDE NEW CONCRETE RAMP TO COMPLY WITH AS 1428.1

OSD 18x7m

BLOCK E

NEW KLA

EXT. LIBRARY

NEW LIBRARY

NEW COVERED WALKWAY

ENTRY

EXTENT OF EXISTING CARPARK SHOWN DASHED RED

OSD 24.5x12m

FOUNDERS MEMORIAL

RL 95.00 x

SITE BOUNDARY

CARPARK

BLOCK F

BULK WASTE

EXIT

BLOCK R

EXISTING DEMOUNTABLES RETAINED

FIELD

COLA

NCC 2022 Volume One Preface Section J4 DtS Requirements Building Fabric Required total system R-Values

Envelope Walls	- Rt 1.75
Roof and Ceiling	- Rt 3.2

Glazing (Glass + Frame) requirements:
U-value 5.0 SHGC 0.58

Note:
1) The R-value is a total system performance value and NOT insulation.
2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.
3) The above requirements are to the proposed new works only, existing building fabric does not need to be upgraded.

JHA
MARKUP / SKETCH

DOCUMENT No.:	220269
DOCUMENT TITLE:	Leppington Public School - Learning Hub NCC 2022 Section J Part J4 Building Fabric Requirement
DOCUMENT REV:	A5
DOCUMENT BY:	JB DATE: 17/01/25

16/01/2025 2:44:28 PM

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	CP	04/12/2024	ISSUE FOR REF
B	CP	16/01/2025	REISSUED FOR REF

Admin & Staff
Amenities
Canteen
Circulation
Existing
GLS & Homebase
Hall
Library
OSHC
Sport
Storage & Services
DEMOLISHED
NEW 2100 PALISADE FENCE
EXISTING 2100 PALISADE FENCE
NEW DEMOUNTABLES

NSW GOVERNMENT

STRUCTURAL & CIVIL
Name: Stantec
Number: (02) 8484 7000
MECHANICAL, ELECTRICAL & HYDRAULIC
Name: JHA
Number: (02) 9437 1000
LANDSCAPE ARCHITECT
Name: Taylor Brammer
Number: (02) 9387 8855
ACCESSIBILITY AND BCA
Name: Mckenzie Group Consulting
Number: (02) 8298 6800

Pedavoli Architects
LEVEL 2, 458-468 WATTLE STREET
ULTIMO NSW 2007 AUSTRALIA
T: +61 2 9291 0000
W: www.pedavoli.com.au
NOMINATED ARCHITECT:
VINCE PEDAVOLI
NSW ARB No. 5045

LEPPINGTON PUBLIC SCHOOL UPGRADE
144 Rickard Rd, Leppington NSW 2179
DRAWING NAME
SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 01

PROJECT NORTH

0 2000 4000 6000 8000 10000 20000
SCALE 1 : 200 @ A1

PROJECT NUMBER	ISSUE DATE
3321	16 JANUARY 2025
DRAWING NUMBER	REVISION
LPS-PA-00-GF-DR-A-REF_101	B

NCC 2022 Volume One Preface Section J4 DtS Requirements Building Fabric Required total system R-Values

Envelope Walls - Rt 1.75
Roof and Ceiling - Rt 3.2

Glazing (Glass + Frame) requirements: U-value 5.0 SHGC 0.58

Note:
1) The R-value is a total system performance value and NOT insulation.
2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.
3) The above requirements are to the proposed new works only, existing building fabric does not need to be upgraded.

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MARKUP / SKETCH
DOCUMENT No.: 220269
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NCC 2022 Section J Part J4 Building Fabric Requirement
DOCUMENT REV: A5
DOCUMENT BY: JB DATE: 17/01/25

RICKARD ROAD

SITE BOUNDARY

ADJACENT NEIGHBOURS

SITE BOUNDARY

SITE BOUNDARY

BLOCK B

BLOCK A

BLOCK D

BLOCK E

BLOCK F

BLOCK R

ASSEMBLY

NEW DEMOUNTABLES (BY OTHERS)

EXISTING DEMOUNTABLES RETAINED

FIRE SPRINKLER PUMPSET/ PUMPROOM

3° FALL

2° FALL

2° FALL

18° FALL

18° FALL

18° FALL

18° FALL

GENERAL LEARNING SPACE

MULTI-PURPOSE ROOM

GLS HUB

LEARNING COMMONS

STAIR

LIFT

WALKWAY

EDR

SERVICES

PLANT

COMMS

AMENITIES

GIRLS

BOYS

ACC. WC

CLN

SERVICE WALKWAY

MUGA

01 00121
02 00121
03 00121
04 00122
05 00122
06 00122

16/01/2025 2:45:09 PM

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	CP	04/12/2024	ISSUE FOR REF
B	CP	16/01/2025	REISSUED FOR REF

Admin & Staff
Amenities
Canteen
Circulation
Existing
GLS & Homebase
Hall
Library
OSHC
Sport
Storage & Services
DEMOLISHED
NEW 2100 PALISADE FENCE
EXISTING 2100 PALISADE FENCE
NEW DEMOUNTABLES

NSW GOVERNMENT

STRUCTURAL & CIVIL
Name: Stantec
Number: (02) 8484 7000
MECHANICAL, ELECTRICAL & HYDRAULIC
Name: JHA
Number: (02) 9437 1000
LANDSCAPE ARCHITECT
Name: Taylor Brammer
Number: (02) 9387 8855
ACCESSIBILITY AND BCA
Name: Mckenzie Group Consulting
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W: www.pedavoli.com.au
NOMINATED ARCHITECT:
VINCE PEDAVOLI
NSW ARB No. 5045

LEPPINGTON PUBLIC SCHOOL UPGRADE
144 Rickard Rd, Leppington NSW 2179
DRAWING NAME
SITE PLAN - LEVEL 1 COMPOSITE PLANS - SHEET 01

PROJECT NORTH
NORTH

0 2000 4000 6000 8000 10000 20000
SCALE 1 : 200 @ A1
PROJECT NUMBER 3321
ISSUE DATE 16 JANUARY 2025
DRAWING NUMBER LPS-PA-00-L1-DR-A-REF_103
REVISION B

NCC 2022 Volume One Preface Section J4 DtS Requirements Building Fabric Required total system R-Values

Envelope Walls - Rt 1.75
Roof and Ceiling - Rt 3.2

Glazing (Glass + Frame) requirements: U-value 5.0 SHGC 0.58

Note:
1) The R-value is a total system performance value and NOT insulation.
2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.
3) The above requirements are to the proposed new works only, existing building fabric does not need to be upgraded.

JHA
MARKUP / SKETCH
DOCUMENT No.: 220269
DOCUMENT TITLE: Leppington Public School - Learning Hub
NCC 2022 Section J Part J4 Building Fabric Requirement
DOCUMENT REV: A5
DOCUMENT BY: JB DATE: 17/01/25

01 00121

BLOCK B

3° FALL

FIRE SPRINKLER PUMPSET/ PUMPROOM

BLOCK A

NEW DEMOUNTABLES (BY OTHERS)

ASSEMBLY

SITE BOUNDARY

BLOCK D

2° FALL

2° FALL

2° FALL

05 00122

STAIR

GENERAL LEARNING SPACE

MULTI-PURPOSE ROOM

GENERAL LEARNING SPACE

GLS HUB

GENERAL LEARNING SPACE

LEARNING COMMONS

GENERAL LEARNING SPACE

EDR

GENERAL LEARNING SPACE

MULTI-PURPOSE ROOM

GENERAL LEARNING SPACE

GLS HUB

GENERAL LEARNING SPACE

PLANT

SERVICES

COMMS

LEARNING COMMONS

GENERAL LEARNING SPACE

LIFT

WALKWAY

EDR

BOYS AMENITIES

GIRLS AMENITIES

SERVICE WALKWAY

ACC. WC

CLN

01 00121

STAIR

BLOCK E

18° FALL

18° FALL

18° FALL

18° FALL

18° FALL

05 00122

BLOCK F

EXISTING DEMOUNTABLES RETAINED

SITE BOUNDARY

BLOCK R

MUGA

16/01/2025 2:45:21 PM

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	CP	04/12/2024	ISSUE FOR REF
B	CP	16/01/2025	REISSUED FOR REF

DEMOLISHED
NEW 2100 PALISADE FENCE
EXISTING 2100 PALISADE FENCE
NEW DEMOUNTABLES

NSW GOVERNMENT

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VINCE PEDAVOLI
NSW ARB No. 5045

LEPPINGTON PUBLIC SCHOOL UPGRADE
144 Rickard Rd, Leppington NSW 2179
DRAWING NAME
SITE PLAN - LEVEL 2 COMPOSITE PLANS

PROJECT NORTH
NORTH

0 2000 4000 6000 8000 10000 20000
SCALE 1 : 200 @ A1

PROJECT NUMBER: 3321
ISSUE DATE: 16 JANUARY 2025
DRAWING NUMBER: LPS-PA-00-L2-DR-A-REF_104
REVISION: B

ABN 48 612 666 172

Sydney | Brisbane | Melbourne

Level 20, 2 Market St
Sydney NSW 2000

PO Box Q453
Queen Victoria Building
NSW 1230

Ph (02) 9437 1000

17 January 2025

Carmichael Tompkins Property Group

Suite 9.03, Level 9 Aurora Place

88 Philip Street, Sydney NSW 2000

Attention: Rocco Bombardiere

Dear Rocco,

RE: National Construction Code (NCC) 2022 Volume One Section J Part J4 Statement of Compliance

JOB NO.: 220269

REVISION NO.: [D]

SUBJECT PREMISE: Upgrade to Leppington Public School Building E | 144 Richard Road, Leppington NSW 2179

This Part J4 Statement of Compliance has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of Leppington Public School (LPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP.

The proposed activity is for upgrades to the existing LPS at 144 Rickard Road, Leppington, NSW, 2179 (the site).

The purpose of this NCC Section J Part J4 statement is to demonstrate design compliance for the new activity of Leppington Public School Building E located at 144 Rickard Road, Leppington NSW 2179.

Site Description

The proposed activity is located in climate Zone 6 as defined by the NCC 2022 Building Code of Australia – Volume One.

LPS is located at 144 Rickard Road, Leppington on the eastern side of Rickard Road, north of Ingleburn Road and south of Byron Road. The site has an area of 3.013 ha and comprises 4 allotments, legally described as:

- Lot 1 DP 127446
- Lot 1 DP 439310
- Lot 38E DP 8979
- Lot 39C DP 8979

The site currently comprises an existing co-education primary (K-6) public school with:

- 14 permanent buildings;
- 11 demountable structures (including 2 male/female toilet blocks);

- interconnected paths;
- covered walkways;
- play areas; and
- at-grade parking.

The site also contains locally listed heritage buildings along its southern boundary.

The buildings are 1 storey in height and there is a sports oval in the eastern portion of the site. The existing buildings are clustered in the north-western part of the site.

Figure 1 **Aerial image of the site, outlined in red (Source: NearMap, taken 24 Sept 2024)**

Proposed Activity Description

The proposed activity involves upgrades to the existing LPS, including the following:

- Demolition of existing structures and trees;
- Erection of a new 3-storey teaching space along the northern boundary that includes 20 permanent teaching spaces and 3 support teaching spaces;
- Erection of a new hall and COLA comprising of a hall, canteen and OSHC hub towards the eastern boundary of site;
- Extension of the existing library (Building E) and adjoining playground;
- Upgraded sports and play facilities;
- Relocation of the Yarning Circle;
- Erection of a substation and upgrades to site services;
- Footpaths, fencing and associated works; and
- Landscaping.

The intent of the activity is to allow for upgrades to LPS that will provide a 'CORE 35' school standard in line with the Educational Facilities Standards and Guidelines (EFSG). The activity will increase the capacity of the school from 430 to 621 students.

Figure 2 below show the scope of works for the proposed activity.

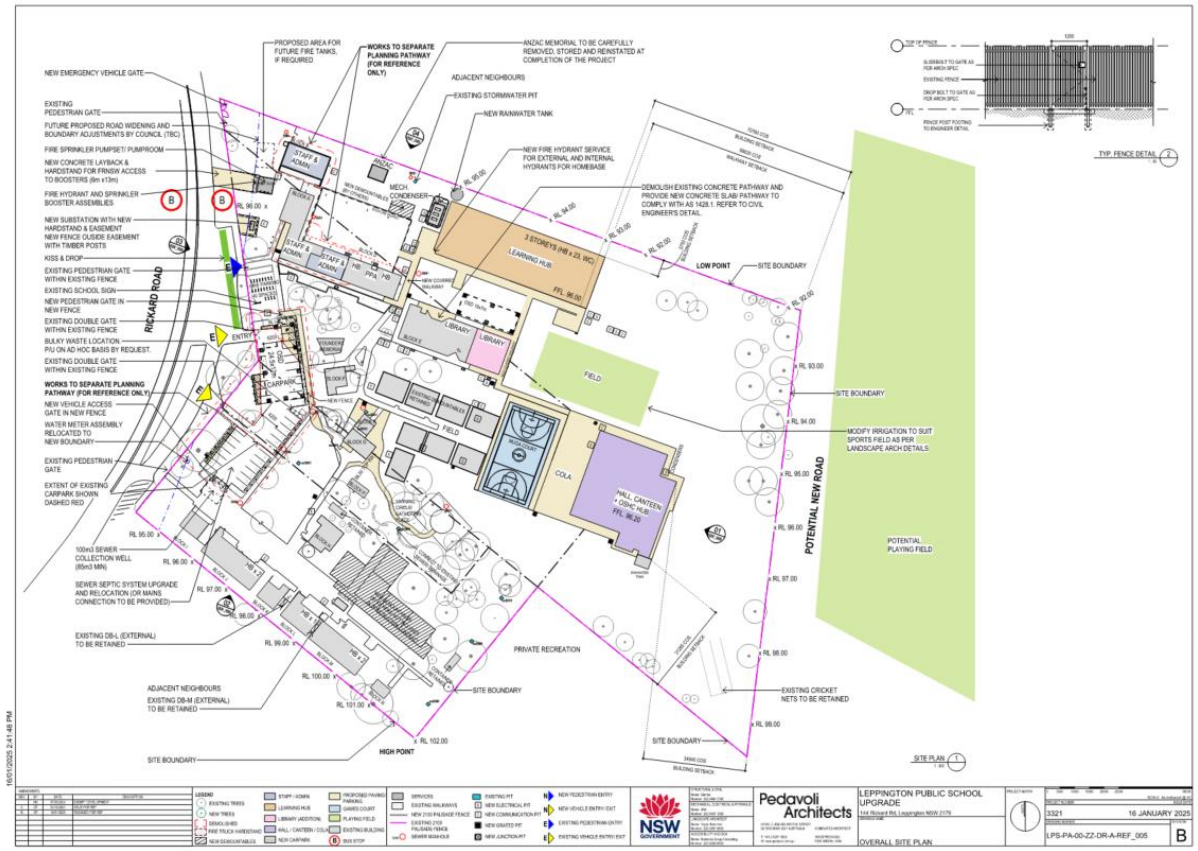

Figure 2 **Proposed Activity (Source: Pedavoli Architects, Overall Site Plan (Rev B))**

In accordance with A2G1, compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and the Performance Requirements. The Performance Requirements are satisfied by Performance Solution, Deemed-to-Satisfy Solution or a combination of both.

The table below shows the areas assessed, NCC 2022 Building Classification the Performance Requirements, the Method of Compliance, and the DTS Provisions subjected to Performance Solution.

Building Area Description	NCC Classification	Performance Requirements	Method of Compliance
Library	9b	JP1	DTS

Compliance with Performance Requirement JP1 will be achieved subject to this report and compliance with J4D3 (1-5), J3, J5, J6, J7, J8 & J9 being met by the relevant designers / contractors.

The assessment is based on the architectural drawings listed below.

Architectural Drawings — Pedavoli Architects
Project no.
Issued 16/01/2025

Building	Title	Drawing No	Revision
Leppington Public School-Building E	Site Plan - Ground Floor Composite Plans - Sheet 01	LPS-PA-00-GF-DR-A-REF_101	B
	Site Plan - Roof Composite Plans - Sheet 01	LPS-PA-00-L3-DR-A-REF_105	B
	Elevations	LPS-PA-00-ZZ-DR-A-REF_111	B
	Composite Sections - Sheet 01	LPS-PA-00-ZZ-DR-A-REF_121	B
	Composite Sections - Sheet 02	LPS-PA-00-ZZ-DR-A-REF_122	B

As per the Deemed-to-Satisfy Provisions of **NCC 2022 Volume One**, design compliance with Part J4 can be met subject to the following specifications:

Part J4 Building Fabric

Required **Total R-value** including allowance for **thermal bridging**.

Elements	Total Construction R-value	Notes
Roofs & Ceilings	R3.2 (Downwards, SA < 0.45)	1. Potential roof SA noncompliance – potential to relax roof SA requirements via J1V3 method. 2. It is a total system performance value and **NOT** the insulation. 3. The impact of **Thermal Bridging** must be included in the building envelope total system R-value calculations. 4. As per J4D7 a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0. 5. All requirements apply only to proposed **NEW WORKS**. No requirement to update any existing elements.
External Walls	R1.4	
Envelope Floors	R2.0	

Required **Total System U-value** and **SHGC**.

Location/Type	Window Assembly (Glass & Frame)		Description
	U-value	SHGC	
External Window	5.1	0.69	Single Glazed Clear or the like

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

Additional Section J Compliance Notes

Note project needs to adhere to the following NCC 2022 Section J construction requirements as applicable:

- *J4D3 (1-4) Thermal Construction – general* installation requirements for insulations
- *J4D3 (5)* The required total R-value and total system U-value, including thermal bridging calculation.

JHA recommend the following general construction requirements from Section J of the NCC 2022 be included in the architectural specification and drawings to ensure compliance.

- *Part J5 – Building Sealing*
  - *J5D3 Chimneys and flues*
  - *J5D4 Roof lights*
  - *J5D5 Windows and doors*
  - *J5D6 Exhaust fans*
  - *J5D7 Construction of ceilings, walls and floors*
  - *J5D8 Evaporative coolers*

Full Name of Designer:	Jonathan Saw
Qualifications:	B. Mech Eng
Address of Designer:	JHA Level 20, 2 Market Street SYDNEY NSW 2000
Business Telephone No:	(02) 9437 1000
Name of Employer:	JHA

Yours sincerely,

Jonathan Saw

Sustainability Engineer

Disclaimer

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

Revision History

REV	DATE	Amendment
P1	31/01/2024	Preliminary DTS Assessment
P2	09/02/2024	Draft DA
P3	12/02/2024	95% Schematic Design
P4	26/02/2024	Final Draft DA
P5	12/03/2024	Final DA
A	30/04/2024	SD
B	31/05/2024	30% DD
C	03/12/2024	REF
D	17/01/2025	REF Updates

Attachment A – Facade Calculator:

Project Name	Lepppington Public School - Building E
Project No.	220269
NCC Climate Zone	CZ 6
NCC Building Class	Other
Drawing Azimuth	340

NCC 2022 Volume One - Façade Calculator

by JHA

In accordance with NCC 2022 Volume One *J4D6 Walls and Glazing* and *Specification 37*.

The **total System U-value** of the proposed building is 2.00 , less than the Max. total System U-value of 2.0 .
The **total Representative Air-conditioning Energy Value (Er)** of the proposed building is 29.65 , less than the Max. Er of 29.88 .
Therefore, based on the **Thermal Performance Specifications** used in the tables below, **the proposed building façades comply with Part J4 via *Method 2***.

Results

Aspect	J4D6(4)		Method 1		Method 2	
	Wall R-value		Total System U-value			
	Min. R-Value	Achieved R-Value	Max. U-Value	Achieved U-Value	Max. U-Value	Achieved U-Value
N	1.0	1.40	2.0	2.30	2.0	2.00
E	1.4	1.40	2.0	1.46		
S	1.0	1.40	2.0	2.78		
W	1.4	1.40	2.0	0.71		

Aspect	Method 1		Method 2			
	Solar Admittance		Representative Air-conditioning Energy Value			
	Max SA	Achieved SA	Max Er	Achieved Er	Max Er	Achieved Er
N	0.13	0.10	20.50	15.76	29.88	29.65
E	0.13	0.04	0.00	0.00		
S	0.13	0.19	9.38	13.89		
W	0.13	0.00	0.00	0.00		

Areas Summary

Aspect	Total Wall-Glazing Areas Summary				
	Total W-G Areas [m2]	Total Wall [m2]	Total Glazing [m2]	Wall to Total W-G Ratio	
N	81.4	51.9	29.4	63.8%	70.7%
E	42.9	35.6	7.3	83.1%	
S	72.2	38.1	34.1	52.8%	
W	45.3	45.3	0.0	100.0%	

Aspect	External Wall-Glazing Areas Summary				
	Total Ext. W-G Areas [m2]	Total External Wall [m2]	Total External Glazing [m2]	Ext Wall to Tot. Ext. W-G Ratio	
N	74.4	44.9	29.4	60.4%	64.2%
E	42.9	35.6	7.3	83.1%	
S	72.2	38.1	34.1	52.8%	
W	8.3	8.3	0.0	100.0%	

Façade Inputs & Walls Thermal Specifications

Aspect	Envelope Areas						Walls Thermal Performance	
	Wall Type Reference	External Envelope Areas [m2]	Internal Envelope Areas [m2]	External excluded Areas [m2]	Internal excluded Areas [m2]	Total W-G Areas [m2]	Total R-Value	Area x (1/R-value)
North	1	*74.4*	*7.0*	*0.0*	*0.0*	81.4	*1.40*	37.1
	2					0.0	*1.00*	0.0
	3					0.0	*1.00*	0.0
	4					0.0	*1.00*	0.0
East	5	*42.9*	*0.0*	*0.0*	*0.0*	42.9	*1.40*	25.4
	6					0.0	*1.00*	0.0
	7					0.0	*1.00*	0.0
	8					0.0	*1.00*	0.0
South	9	*72.2*	*0.0*	*0.0*	*0.0*	72.2	*1.40*	27.2
	10					0.0	*1.00*	0.0
	11					0.0	*1.00*	0.0
	12					0.0	*1.00*	0.0
West	13	*8.3*	*37.0*	*0.0*	*0.0*	45.3	*1.40*	32.4
	14					0.0	*1.00*	0.0
	15					0.0	*1.00*	0.0
	16					0.0	*1.00*	0.0

Glazing Thermal Specifications

Aspect	Glazing Thermal Performance			
	Glazing Type Reference	Total U-Value	Total SHGC	Area x U-Value
North	N1	*5.1*	*0.69*	150.1
	N2			0.0
	N3			0.0
	N4			0.0
East	E1	*5.1*	*0.69*	37.0
	E2			0.0
	E3			0.0
	E4			0.0
South	S1	*5.1*	*0.69*	173.7
	S2			0.0
	S3			0.0
	S4			0.0
West	W1	*5.1*	*0.69*	0.0
	W2			0.0
	W3			0.0
	W4			0.0

Glazing Details

Glazing Identification	External / Internal	Level	Glazing Type Reference	Wall Type Reference	Window			Shading				Shading Multiplier [SM]	Area x SM x SHGC
					Height [m]	Width [m]	Area [m^2]	P [m]	H [m]	P/H	G/H		
N1	External	Ground	N1	1	3.00	3.70	11.1	3.90	1.87	2.09	0.00	0.35	2.68
N2	External	Ground	N1	1	2.35	4.00	9.4	1.80	1.87	0.96	0.00	0.38	2.46
N3	External	Ground	N1	1	1.10	2.40	2.6	1.80	0.96	1.88	0.00	0.35	0.64
N4	External	Ground	N1	1	2.10	3.00	6.3	1.80	1.87	0.96	0.00	0.38	1.65
							0.0			-	-	1.00	-
E1	External	Ground	E1	5	2.10	1.20	2.5	1.80	1.87	0.96	0.00	0.38	0.66
E2	External	Ground	E1	5	1.10	4.30	4.7	1.80	0.96	1.88	0.00	0.35	1.14
							0.0			-	-	1.00	-
S1	External	Ground	S1	9	2.35	6.00	14.1	1.80	1.87	0.96	0.00	0.60	5.84
S2	External	Ground	S1	9	2.70	2.85	7.7	2.68	1.87	1.43	0.00	0.58	3.08
S3	External	Ground	S1	9	2.35	1.85	4.3	1.80	1.87	0.96	0.00	0.60	1.80
S4	External	Ground	S1	9	1.10	3.60	4.0	1.80	0.96	1.88	0.00	0.58	1.58
S5	External	Ground	S1	9	1.10	3.60	4.0	1.80	0.96	1.88	0.00	0.58	1.58
							0.0			-	-	1.00	-
							0.0			-	-	1.00	-
							0.0			-	-	1.00	-
							0.0			-	-	1.00	-
							0.0			-	-	1.00	-
							0.0			-	-	1.00	-

Attachment B – Building Fabric Requirements Markups

EXISTING PEDESTRIAN GATE

FUTURE PROPOSED ROAD WIDENING AND BOUNDARY ADJUSTMENTS BY COUNCIL (TBC)

NEW FIRE SPRINKLER BOOSTER ASSEMBLY

CONCRETE HARDSTAND FOR FRNSW

NEW FIRE HYDRANT BOOSTER ASSEMBLY

NEW FIRE HYDRANT & SPRINKLER PUMPSET (SEPARATE) IN COMBINED ENCLOSURE

NEW 1000kVA SUBSTATION

NEW SUBSTATION WITH NEW HARDSTAND & EASEMENT
NEW FENCE OUSIDE EASEMENT
WITH TIMBER POSTS

03 REF: 3886

RICKARD ROAD

COMBINED FIRE HYDRANT AND SPRINKLER MAINS CONNECTION

EXISTING SCHOOL SIGN

PROPOSED AREA FOR FUTURE FIRE TANKS, IF REQUIRED

WORKS TO SEPARATE PLANNING PATHWAY (FOR REFERENCE ONLY)

04 REF: 3886

ADJACENT NEIGHBOURS

BLOCK B STAFF & ADMIN

NEW STAFF

ANZAC

FHBA FSBA

RL 96.00 x

BLOCK A

NEW DEMOUNTABLES (BY OTHERS)

NEW RAINWATER TANK

x RL 95.00

SITE BOUNDARY

MECH. CONDENSER

SPORT COURT / ASSEMBLY / COLA

NEW FLAGPOLES

BLOCK D STAFF & ADMIN

BLOCK D HB

NEW ADMIN

HB

HB

1:14

SUPPORT HUB

GLS HUB

5730 - COS

x RL 94.00

x RL 93.00

SERVICES

AMENITIES

AMENITIES

LIFT

DEMOLISH EXISTING CONCRETE PATHWAY AND PROVIDE NEW CONCRETE SLAB/ PATHWAY TO COMPLY WITH AS 1428.1

OSD 18x7m

BIKE PARKING

(40 SPACES)

WORKS TO SEPARATE PLANNING PATHWAY (FOR REFERENCE ONLY)

DEMOLISH EXISTING CONCRETE PATHWAY AND PROVIDE NEW CONCRETE RAMP TO COMPLY WITH AS 1428.1

NEW KLA

BLOCK E

EXT. LIBRARY

NEW LIBRARY

NEW COVERED WALKWAY

EXTENT OF EXISTING CARPARK SHOWN DASHED RED

ENTRY

OSD 24.5x12m

FOUNDERS MEMORIAL

RL 95.00 x

SITE BOUNDARY

CARPARK

BLOCK F

FIELD

EXISTING DEMOUNTABLES RETAINED

BULK WASTE

EXIT

BLOCK R

COLA

16/01/2025 2:44:28 PM

JHA
MARKUP / SKETCH

DOCUMENT No.: 220269
DOCUMENT TITLE: ESD Fabric Markup
DOCUMENT REV: D
DOCUMENT BY: JB DATE: 17/01/2025

Preliminary J1 fabric mark-up

Roof & Ceiling	- Rt 3.2 (Downward) (SA<0.45)
Envelope Floors	- Rt 2.0 (Downward)
Envelope Walls	- Rt 1.4
Existing wall to show extent of thermal envelope	

Note:
1) All R-values must account for the impact of Thermal Bridging.
2) The R-value is a total system performance value and NOT insulation. Slab on ground floors are considered to achieve Rt2.0.
3) Slab on ground floors are considered to achieve R2.0 as per Section J - no additional insulation is required
4) All requirements only applies to proposed **NEW WORKS**. No requirement to update the existing elements.

Glazing (Glass + Frame) requirements:
Library - U-value 5.1 & SHGC 0.69

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	CP	04/12/2024	ISSUE FOR REF
B	CP	16/01/2025	REISSUED FOR REF

Admin & Staff
Amenities
Canteen
Circulation
Existing
GLS & Homebase
Hall
Library
OSHC
Sport
Storage & Services
DEMOLISHED
NEW 2100 PALISADE FENCE
EXISTING 2100 PALISADE FENCE
NEW DEMOUNTABLES

NSW GOVERNMENT

STRUCTURAL & CIVIL
Name: Stantec
Number: (02) 8484 7000
MECHANICAL, ELECTRICAL & HYDRAULIC
Name: JHA
Number: (02) 9437 1000
LANDSCAPE ARCHITECT
Name: Taylor Brammer
Number: (02) 9387 8855
ACCESSIBILITY AND BCA
Name: Mckenzie Group Consulting
Number: (02) 8298 6800

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NOMINATED ARCHITECT:
VINCE PEDAVOLI
NSW ARB No. 5045

LEPPINGTON PUBLIC SCHOOL UPGRADE
144 Rickard Rd, Leppington NSW 2179
DRAWING NAME
SITE PLAN - GROUND FLOOR COMPOSITE PLANS - SHEET 01

PROJECT NORTH

0 2000 4000 6000 8000 10000 20000
SCALE 1 : 200 @ A1

PROJECT NUMBER 3321
ISSUE DATE 16 JANUARY 2025
DRAWING NUMBER LPS-PA-00-GF-DR-A-REF_101
REVISION B