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1st June 2020

The Planning Secretary
Department of Planning, Industry & Environment
320 Pitt Street
Sydney, NSW 2000

Attention: Megan Fu
Project: Nihon University Newcastle Campus - SSD 9787
Re: Conditions of Consent B03

Dear Megan,

Reference is made to SSD 9787 Conditions of Consent B03 in relation to the External Walls and Cladding requirements for the development.

Please find attached Architects Design Statement 01 provided to the Certifier addressing the relevant requirements of the National Construction Code [NCC] Building Code of Australia [BCA] 2019, relevant Australian Standards and the conditions of Development Consent. The design statement identified the external wall construction and cladding types to be incorporated into the development and provided the documentary evidence for compliance with the requirements of the BCA. Construction Certificate CC#02 was issued 27th May 2020 confirming acceptance of compliance with Condition of Consent B03.

Should you require further clarification on the design certification please feel free to contact either Katherine Daunt or Edward Clode at dwp Australia Pty.

Yours sincerely,

Edward Clode
Design Director
Registered Architect – NSW ARBN 4100
Email: edward.c@dwp.com
File: 17-0347_A-d01-20_let
Encl.: 17-0347_A-d02-architects-design-statement-01

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Mr. Scott O'Donohue
Dix Gardner Group Newcastle Pty Ltd
PO Box 67
BROADMEADOW NSW 2292

Dear Scott

Re: 17-0347 – Nihon University Newcastle Campus - Architect's Design Statement 01

Revision: 02
Date: 23/04/2020

Subject Premises: 9 Church Street Newcastle NSW
Lot 1 DP 1199904

Development Application: SSD 9787

Development Consent Conditions and Compliance

dwp hereby confirm that the architectural design is in accordance with the relevant requirements of the National Construction Code (NCC) Building Code of Australia (BCA) 2019, relevant Australian Standards and the conditions of Development Consent [dated 11/12/2019]. In particular the design is in accordance with the following:

<table>
<tr><th>Development Consent Condition</th><th>Response</th></tr>
<tr><td>External Walls and Cladding - A17
The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

External Walls and Cladding - B3
Prior to the issue of any Construction Certificate, the Applicant must provide the Certifier with documented evidence that the products and systems proposed for use or used in the construction of external walls, including finishes and claddings such as synthetic or aluminium composite panels, comply with the requirements of the BCA. The Applicant must provide a copy of the documentation given to the Certifier to the Planning Secretary within seven days after the Certifier accepts it.</td><td>dwp confirms that the Condition External Walls and Cladding - A17 and External Walls and Cladding - B3 has been considered and satisfied.

- dwp confirms that the documented and specified external wall systems and their components comply with the relevant requirements of the NCC BCA 2019.
- Refer to 1001 Finishes Schedule and Architectural specification, for all specified external wall claddings and finishes.
- Refer to the architectural drawings for details and locations of all nominated external wall types & finishes - Dimension Floor plans [A231 - A255], Elevations [A400 - A431] and Wall Schedules [A850-A851].
- All External walls, including all components incorporated in them, must be non-combustible [in accordance with AS1530.1 as per NCC Part C1.9 Non-Combustible Building Elements, NCC 2019].
- The following is a summary of the external wall components and their non-combustibility and compliance specifically to NCC C1.9:

WS03a & WS03b [refer to A850] - Fibre Cement Wall
<table>
<tr><th>Layer</th><th>Combustible</th><th>Compliance to NCC C1.9</th></tr>
<tr><td>8mm Fibre Cement - Equitone Tectiva [FC01] or Equitone Linea [FC02]</td><td>No - fibre reinforced cement sheeting DTS

Refer to attached "Equitone facade materials</td><td>Complies</td></tr>
</table>
</td></tr>
</table>

	Non-combustibility Compliance"	
40mm Steel Furring Channel [Nvelope]	No - Steel Refer to attached *"Certificate of Test - Report No: FNC12141"*	Complies
12.5mm Gypsum Sheet [NA - Siniat Weather Defence Gypsum Sheathing Board]	No - Gypsum	Complies
92mm Metal Stud	No - Steel	Complies
90mm Insultaion [INS01]	No- Mineral Fibre Insulation	Complies
13mm Plasterboard	No - Plasterboard	Complies

WM01a, WM01b, WM01c [refer to A850] - Masonry wall

Layer	Combustible	Compliance to NCC C1.9
10mm Skimcoat Render [PT06, PT07] - *WM01b & WM01c only*	No - Refer to attached *"IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]"*	Complies
190mm Concrete Block	No - Masonry	Complies
10mm Skimcoat Render [PT06, PT07] - *WM01c only*	No - Refer to attached *"IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]"*	Complies

WM03 & WM04 [refer to A850] - Masonry veneer wall

Layer	Combustible	Compliance to NCC C1.9
10mm Skimcoat Render [PT06, PT07]	No - Refer to attached *"IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]"*	Complies
90mm Concrete Block	No - Masonry	Complies
50mm Air Gap	No - Air	Complies
Vapour Barrier [M01]	No - less than 1mm thick	Complies

92mm Metal Stud - *WM04 only*	No - Steel	Complies
90mm Insulation [INS01] - *WM04 only*	No- Mineral Fibre Insulation	Complies
13mm Plasterboard - *WM04 only*	No - Plasterboard	Complies

WM05b & WM05c [refer to A850] - Concrete Wall

Layer	Combustible	Compliance to NCC C1.9
10mm Skimcoat Render [PT06, PT07]	No - Refer to attached *"IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]"*	Complies
200mm Reinforced Concrete	No - Concrete	Complies
10mm Skimcoat Render [PT06, PT07] - *WM05c Only*	No - Refer to attached *"IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]"*	Complies

NORTH FACADE FRAMING ELEMENTS - Aluminium Composite Cladding [CL01]

Layer	Combustible	Compliance to NCC C1.9
4mm Vitracore [CL01] Aluminium composite panel honeycomb core	No - Refer to attached *"Certificate of Test FNC12446", "Certificate of Test FNE12445", "Certificate of Conformity CM30110 Rev 1, dated 08/01/2020", "CSIRO - Advisory report regarding Fairview Vitracore G2, dated 16/09/2019", "Red Fire Engineers Letter, dated 03/06/2019"*	Complies
Z-Angle Metal Cassette system	No - Steel	Complies
Vapour Barrier [M01]	No - less than 1mm thick	Complies
Steel or Concrete Structure	No - Steel No - Concrete	Complies

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Operational Waste Storage and Processing - B7 *Prior to the issue of the relevant Construction Certificate, the Applicant must obtain agreement from Council for the design of the operational waste storage area (where waste removal will be undertaken by Council). Where waste removal will be undertaken by a third party, the design of the operational waste storage area must be in accordance with Council's standards. Evidence of the design and Council endorsement (where relevant) must be provided to the Certifier.*	dwp confirms that the Condition *"Operational Waste Storage and Processing - B7"* has been considered and satisfied. Refer to attached *Operational Waste Management Report [Revision B, dated 25/02/2020]*, for all details pertaining to operational waste management. The Operational Waste Management report, and the design of the operational waste storage areas, have been prepared in reference to the following: - *Environmental Impact Statement [EIS] [Rev 04 dated 08/05/2019],* - *Formal Response to Information Request and Submissions [dated 19/09/2019],* - *City of Newcastle (CoN) letter dated 26th June 2019;* - *dwp Memorandum 25, dated 11th July 2019, [prepared by dwp as part of EIS Response to Submission to NSW DPIE];* - *City of Newcastle (CoN) letter dated 10th October 2019;* - *EPA, Better Practice Guide for Waste Management in Multi-unit Dwellings, 2019;* - *City of Newcastle (CoN), DCP - 7.08 Waste Management, version 2 dated 24/10/206;* - *City of Newcastle (CoN), Newcastle Waste Management Technical Manual, June 2012*. Operational waste will be collected by a private Commercial Waste Contractor [third party], to be contracted by Nihon University prior to occupation.
Operational Car Parking and Service Vehicle Layout - B9 *Prior to the issue of the relevant Construction Certificate, compliance with the following requirements must be submitted to the satisfaction of the Certifier:* *(a) all vehicles must enter and leave the Site in a forward direction;* *(b) a minimum of 20 on-site car parking spaces for use during operation of the development and designed in accordance with the latest versions of AS 2890.1 and AS 2890.6;* *(c) the swept path of the longest construction vehicle entering and exiting the Site in association with the new work, as well as manoeuvrability through the Site, must be in accordance with the latest version of AS 2890.2;* *(d) the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, is to be addressed; and* *(e) traffic management devices in the form of 'Stop' and 'Give Way to Pedestrian' signs and line marking must be installed at the entry of proposed driveways within the site and constructed in accordance with AS 2890.1:2004: Parking facilities 0 Off-street car parking.*	dwp confirms that the Condition "*Operational Car Parking and Service Vehicle Layout - B9"* has been considered and satisfied. The Operational carpark and Service Vehicle Layout has been designed as follows: - Refer to drawings A035, A201 and A231; - Refer to attached drawings P1626 SS01 Rev A, P1626 SS02 Rev A, prepared by Seca Solutions; - Refer to 0581 Signage specification; - (a) All vehicles enter and leave the site in a forward direction; - (b) Twenty (20) on-site carparking spaces are provided [inclusive of two (2) accessible carparking spaces] and 1 x motorbike parking space is provided; - (b) The design of the carparking is in accordance with AS/NZS2890.1:2004/Amdt 1:2005 and AS/NZS 2890.6-2009; - (c) The swept path of the longest service vehicle anticipated to enter and exit the site as been accommodated, and enters and exits the site in a single swept path, in accordance with AS2890.2:2018; The "Services Delivery Zone" allows for a maximum 10.5m Rear Loading Waste Vehicle, to enter and exit the site via Church Street in a forward direction at all times. Refer to swept path analysis drawings prepared by Seca Solutions; Design certification of the longest construction vehicle to be supplied by the contractor. - (d) the safety of vehicles and pedestrian accessing adjoining properties has been considered and satisfied through signage and control devices; - (e) traffic management devices (signage) and line markings at the entry of driveways has been designed in accordance with AS/NZS2890.1:2004/Amdt 1:2005.

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Bicycle Parking and End-of-Trip Facilities - B10 *Prior to the issue of the relevant Construction Certificate, compliance with the following requirements for secure bicycle parking and end-of-trip facilities must be submitted to the satisfaction of the Certifier:* *(a) the provision of a minimum 22 bicycle parking spaces;* *(b) the layout, design and security of bicycle facilities must comply with the minimum requirements of the latest version of AS 2890.3:2015 Parking facilities - Bicycle parking, and be located in easy to access, well-lit areas that incorporate passive surveillance;* *(c) the provision of end-of-trip facilities for staff;* *(d) appropriate pedestrian and cyclist advisory signs are to be provided; and* *(e) all works/regulatory signposting associated with the proposed developments shall be at no cost to the relevant roads authority.*	dwp confirms that the Condition *"Bicycle Parking and End-of-Trip Facilities - B10"* has been considered and satisfied. The Bicycle and End-of-Trip Facilities has been designed as follows: - Refer to drawings A201, A231 and A241; - Refer to 0581 Signage specification; - (a) Twenty-four (24) bicycle parking spaces have been provided; - (b) The layout, design and security of the facility complies with AS/NZS 2890.3:2015, including easily access, well-lit and contains passive surveillance [CCTV] system; - (c) The provision of end-of trip facilities for staff have been provided. Amenities, including showers, are located within Level 1 of the Courthouse building. Lockers are provided within Level 1 of the Education Building; - (d) pedestrian and cyclist advisory signs are provided; - (e) all works/regulatory signage are at the cost of the owner.
Operational Noise – Design of Mechanical Plant and Equipment - C16 *Prior to installation of mechanical plant and equipment, the Applicant must incorporate the noise mitigation recommendations in the Noise and Vibration Assessment – Operational and Construction report dated May 2019 and prepared by EMM Consulting, into the detailed design drawings. The Certifier must verify that all noise mitigation measures have been incorporated into the design to ensure the development will not exceed the recommended operational noise levels identified in the Noise and Vibration Assessment – Operational and Construction report dated May 2019 and prepared by EMM Consulting.*	Compliance with this condition is to be reverted to the mechanical engineer for confirmation of compliance. However, dwp confirms that the Condition *"Operational Noise – Design of Mechanical Plant and Equipment - C16"* has been considered and partially satisfied. The buildings have been designed, in accordance with the *Noise and Vibration Assessment – Operational and Construction report dated May 2019 [EMM Consulting]* and *Letter J190015 - Nihon University: response to submission - Noise [EMM, 14/08/2019]* as follows: - 1.5m high glazed balustrades around both rooftop terraces as noted on drawings and 1003 Fixtures, Fittings and Equipment Schedule; - Minimum 4mm glazing [note minimum 10.5mm laminated glass specified], in a well-sealed frame, for all residential sleeping and habitable areas, as noted in the Architectural Specification [0451 Windows and Glazed Doors] - Masonry Veneer wall construction to the most affected rooms, [north facing rooms fronting Church Street] as noted in drawings A252, A253 and A851 [Wall type WM04].
Access for People with Disabilities - AN4 *The works that are the subject of this application must be designed and constructed to provide access and facilities for people with a disability in accordance with the BCA. Prior to the commencement of construction, the Certifier must ensure that evidence of compliance with this condition from an appropriately qualified*	dwp confirms that the Condition *"Access for People with Disabilities - AN4"* has been considered and satisfied for the design. - Refer to Accessibility Compliance Statement [LP_1810, dated 01/04/2020], prepared by Lindsay Perry Access; - Refer to Performance Solution Report [Revision 1, dated 17/09/2019]

person is provided and that the requirements are referenced on any certified plans.	

Consistency of Plans

dwp hereby verify that the plans submitted with the Construction Certificate application are generally in accordance with the Development Consent, with the following minor departures. dwp considers these departures to be minor, and consistent with the meaning of Clause 145 of the Environmental Planning & Assessment Regulation:

Item	**Departure & Reason**
Electrical Padmount Kiosk relocation	- The Electrical Padmount Kiosk located on the northern boundary has shifted eastward by approximately 9m, to be greater than 10m from the existing neighbouring Fire Booster Assembly. Reason: Compliance with Ausgrid's requirements for separation from Fire Booster Assembly
Alterations to fire isolated exit Stair A1 & removal of external fire exit Stair [South-West corner - grids XA1 / YA1]	- The configuration of Stair A1 has been amended to be contained fully within the building footprint, in a fire isolated construction. - The external fire exit stair has been removed. Reason: For compliance with NCC/BCA for fire egress
Alterations to door locations, along the Eastern wall of the Residential Building - Level 1	- As a result of finalising and coordinating building services, such as Hydrant Sprinkler Pumps, Hot Water plant, Laundry/ Linen services requirements. Reason: Services coordination
Minor Internal Planning re-configuration	- Laundry / Linen Level 1 - Residential Building - Kitchen / Staff Room Level 1 - Residential Building - Amenities layouts generally throughout - All levels, all buildings Reason: Services coordination and to comply with relevant Australian Standards and the NCC
Deletion of Bridge Structure on Level 4, between Education Building and Existing Heritage Building	- Due to safety and security concerns, Nihon has determined that access to the existing Heritage Roof top on Level 4 will be controlled to maintenance personnel only, therefore the bridge structure is redundant. - The proposed engineered structure of the bridge, through resolution post DA, was considered intrusive to the Heritage fabric, and rejected by the Architects. - Fire egress compliance remains in accordance with Fire Engineering Report confirms, and maintains that the existing Level 4 room is to be retained as a Store Room. Reason: Bridge no longer required for egress or access and was considered an intrusive element to the Heritage fabric.
Alterations to the Atrium space between Heritage and Residential Buildings	- Glass Roof replaced with metal deck roofing - Minor reconfigurement of stairs and wheelchair platform lift - Removal of lightwell and demolition of existing tunnel - As a result of complying with Section J of the NCC. - Also as a result of consultation with the City of Newcastle, regarding

	Condition C15 Stormwater Management, pertaining to the diversion of the existing Stormwater asset running under the site. Reason: Compliance with Authority requirement and compliance with NCC/BCA.
Alterations to the courtyard between Heritage and Education Building	- Roof removed - Landscaped planter bed added Reason: Internal amenity improvements
New external Windows added:	- W03.A.L3.17 - W01.A.L4.13 - W02.A.L4.13 - W01.C.L2.47 - W01.C.L3.47 - To provide more natural light to floor- plates. These windows are located on non-visible facades, and the introduction is not considered obtrusive or not in keeping with the Development Consent. Reason: Internal amenity improvements

Design Statement

I am an appropriately qualified and competent person in this area and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawings, specifications and schedules:

Document No	Title	Revision
ARCHITECTURAL DRAWINGS		
17-0347-A000	COVER SHEET	6
17-0347-A002	LEGENDS	6
17-0347-A020	EARLY WORKS + PIER LOCATION	8
17-0347-A021	GRID LINE SETOUT PLAN	2
17-0347-A022	EXTERNAL WORKS - EDUCATION	5
17-0347-A023	EXTERNAL WORKS - COURTHOUSE	8
17-0347-A024	EXTERNAL WORKS - RESIDENTIAL	7
17-0347-A030	DEMOLITION PLAN SITE	5
17-0347-A041	DEMOLITION COURT HOUSE LEVEL 1	7
17-0347-A042	DEMOLITION COURT HOUSE LEVEL 2	6
17-0347-A043	DEMOLITION COURT HOUSE LEVEL 3	2
17-0347-A044	DEMOLITION COURT HOUSE LEVEL 4	2
17-0347-A051	DEMOLITION RCP COURT HOUSE LEVEL 1	3
17-0347-A052	DEMOLITION RCP COURT HOUSE LEVEL 2	3
17-0347-A035	GENERAL ARRANGEMENT SITE DEVELOPMENT PLAN	19
17-0347-A101	GENERAL ARRANGEMENT LEVEL 1	13
17-0347-A102	GENERAL ARRANGEMENT LEVEL 2	13
17-0347-A103	GENERAL ARRANGEMENT LEVEL 3	10
17-0347-A104	GENERAL ARRANGEMENT LEVEL 4	8
17-0347-A105	GENERAL ARRANGEMENT ROOF	8
17-0347-A111	FIRE MANAGEMENT PLAN LEVEL 1	9
17-0347-A112	FIRE MANAGEMENT PLAN LEVEL 2	9
17-0347-A113	FIRE MANAGEMENT PLAN LEVEL 3	8
17-0347-A114	FIRE MANAGEMENT PLAN LEVEL 4	8

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17-0347-A201	GENERAL ARRANGEMENT EDUCATION LEVEL 1	17
17-0347-A231	DIMENSION EDUCATION LEVEL 1	11
17-0347-A232	DIMENSION EDUCATION LEVEL 2	12
17-0347-A233	DIMENSION EDUCATION LEVEL 3	10
17-0347-A234	DIMENSION EDUCATION LEVEL 4	10
17-0347-A235	DIMENSION EDUCATION ROOF	9
17-0347-A241	DIMENSION COURT HOUSE LEVEL 1	11
17-0347-A242	DIMENSION COURT HOUSE LEVEL 2	11
17-0347-A243	DIMENSION COURT HOUSE LEVEL 3	8
17-0347-A244	DIMENSION COURT HOUSE LEVEL 4	8
17-0347-A245	DIMENSION COURT HOUSE ROOF	7
17-0347-A251	DIMENSION RESIDENTIAL LEVEL 1	14
17-0347-A252	DIMENSION RESIDENTIAL LEVEL 2	12
17-0347-A253	DIMENSION RESIDENTIAL LEVEL 3	12
17-0347-A254	DIMENSION RESIDENTIAL LEVEL 4	11
17-0347-A255	DIMENSION RESIDENTIAL ROOF	8
17-0347-A351	RCP EDUCATION LEVEL 1	9
17-0347-A352	RCP EDUCATION LEVEL 2	9
17-0347-A353	RCP EDUCATION LEVEL 3	9
17-0347-A354	RCP EDUCATION LEVEL 4	8
17-0347-A361	RCP COURT HOUSE LEVEL 1	11
17-0347-A362	RCP COURT HOUSE LEVEL 2	15
17-0347-A363	RCP COURT HOUSE LEVEL 3	6
17-0347-A364	RCP COURT HOUSE LEVEL 4	7
17-0347-A371	RCP RESIDENTIAL LEVEL 1	9
17-0347-A372	RCP RESIDENTIAL LEVEL 2	8
17-0347-A373	RCP RESIDENTIAL LEVEL 3	8
17-0347-A374	RCP RESIDENTIAL LEVEL 4	8
17-0347-A400	ELEVATION - NORTH & SOUTH	6
17-0347-A401	ELEVATION - INNER EAST, OUTER EAST, & INNER WEST, OUTER WEST	5
17-0347-A410	ELEVATION- EDUCATIONAL - NORTH & SOUTH	6
17-0347-A411	ELEVATION - EDUCATIONAL - EAST & WEST	5
17-0347-A420	ELEVATION - COURT HOUSE - NORTH & SOUTH	4
17-0347-A421	ELEVATION - COURT HOUSE - EAST & WEST	4
17-0347-A430	ELEVATION - RESIDENTIAL - NORTH & SOUTH	5
17-0347-A431	ELEVATION - RESIDENTIAL - EAST & WEST	6
17-0347-A500	SECTION 1 - A-A, B-B, C-C	14
17-0347-A501	SECTION 2 - D-D, E-E	12
17-0347-A502	SECTION 3 - F-F, G-G, H-H	10
17-0347-A510	WEST RETAINING WALL & SLAB DETAIL	9
17-0347-A680	STAIR A1 DETAIL	4
17-0347-A681	STAIR A2 DETAIL	5
17-0347-A682	STAIR B1 DETAIL	6
17-0347-A683	STAIR C1 DETAIL	4
17-0347-A684	STAIR C2 DETAIL	4
17-0347-A685	ATRIUM STAIR DETAIL	5
17-0347-A686	ATRIUM STAIR 02 DETAIL	3
17-0347-A687	STAIR A3 & EXTERNAL STAIR 01 DETAIL	7
17-0347-A688	EXTERNAL STAIR 02 & 03 DETAIL	5
17-0347-A689	EXTERNAL STAIR 04 & 05 DETAIL	4
17-0347-A695	LIFTS - E1	3
17-0347-A696	LIFTS - R2	4
17-0347-A697	LIFTS - R3	4
17-0347-A698	ATRIUM ROOF DETAIL	2

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17-0347-A704	RLS - EDUCATION L2 - ACC.WC, WC (F), WC (M)	4
17-0347-A708	RLS - EDUCATION L4 - WC (M), ACC.WC, WC (F)	4
17-0347-A735	RLS - COURTHOUSE L1 - ACC.WC, CLEANER, WC (M), WC (F)	3
17-0347-A740	RLS - COURTHOUSE L2 - ACC.WC, WC(M), WC (F)	3
17-0347-A764	RLS - RESIDENTIAL L1 - KITCHEN, COOL ROOM, DRY STORE	6
17-0347-A766	RLS - RESIDENTIAL L1 - SERVICE CORRIDOR, PUMP	2
17-0347-A767	RLS - RESIDENTIAL L1 - LAUNDRY, COMMS	3
17-0347-A768	RLS - RESIDENTIAL L1 - STAFF LOBBY, STAFF BATH, STAFF LIVING, STAFF BED, STAFF KITCHENETTE	2
17-0347-A769	RLS - RESIDENTIAL L1 - SW (F), SW(M), ACC.WC	2
17-0347-A771	RLS - RESIDENTIAL L1 - KITCHEN, STORE, SERVICE ROOM	2
17-0347-A772	RLS - RESIDENTIAL L1 - WC (F), WC (W), ACC.WC	3
17-0347-A776	RLS - RESIDENTIAL L3 - STORE, WC (F), ACC.WC, LAUNDRY	4
17-0347-A777	RLS - RESIDENTIAL L2/L3 - SW, KITCHEN	2
17-0347-A779	RLS - RESIDENTIAL L4 - LAUNDRY, WC (F), T.WC	4
17-0347-A780	RLS - WC (M), COMMS	2
17-0347-A850	WALL SCHEDULE	4
17-0347-A851	WALL SCHEDULE	6
17-0347-A852	DOOR SCHEDULE - BUILDING A	3
17-0347-A853	DOOR SCHEDULE - BUILDING C LEVEL 1	4
17-0347-A854	DOOR SCHEDULE - BUILDING C LEVEL 2	4
17-0347-A855	DOOR SCHEDULE - BUILDING C LEVEL 3	4
17-0347-A856	DOOR SCHEDULE - BUILDING C LEVEL 4	3
17-0347-A857	DOOR SCHEDULE	3
17-0347-A860	WINDOW SCHEDULE	6
17-0347-A861	WINDOW SCHEDULE	3
17-0347-A862	WINDOW SCHEDULE	3
ARCHITECTURAL SPECIFICATION & SCHEDULES		
	0100 Cover	1
	0141 Preliminaries	1
	0160 Quality	1
	0164 Commissioning	1
	0171 General Requirements	1
	0172 Environmental Management	1
	0181 Adhesives	1
	0182 Fire Stopping	1
	0183 Metals and Prefinishes	1
	0184 Termite Management	1
	0185 Timber Products	1
	0193 Building Access	1
	0201 Demolition	1
	0221 Site Preparation	1
	0222 Earthwork	1
	0223 Service Trenching	1
	0224 Stormwater	1
	0250 Landscape	1
	0271 Pavement Base	1
	0274 Concrete Pavement	1
	0301 Piling	1
	0310 Concrete	1
	0331 Brick and Block Construction	1
	0341 Structural Steelwork	1
	0342 Light Steel Framing	1
	0344 Steel Hot Dip Gal	1

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	0345 Steel Protective Paint	1
	0346 Steel Fire Protection	1
	0381 Structural Timber	1
	0411 Waterproofing	1
	0421 Roofing	1
	0431 Cladding	1
	0451 Windows and Glazed Doors	1
	0454 Doors and Access	1
	0454 Overhead Doors	1
	0455 Door Hardware	1
	0457 External Screens	1
	0461 Glazing	1
	0466 Structural Glass	1
	0471 Thermal Insulation	1
	0472 Acoustic Insulation	1
	0511 Lining	1
	0520 Partitions	1
	0525 Cubicle Systems	1
	0527 Dividers	1
	0531 Suspended Ceilings	1
	0541 Access Floors	1
	0551 Joinery	1
	0552 Metal Work	1
	0553 Stainless Steel Benching	1
	0572 Furniture	1
	0573 Fire Extinguishers	1
	0574 Window Coverings	1
	0581 Signage	2
	0611 Rendering and Plastering	1
	0612 Cementitious Toppings	1
	0621 Waterproofing	1
	0631 Ceramic Tiling	1
	0651 Resilient Finishes	1
	0652 Carpets	1
	0671 Painting	2
	0790 Vertical Transport	1
	1000 Heritage Scope of Works	2
	1001 Finishes	3
	1002 Sanitary Fixtures Fittings	4
	1003 Fixtures Fittings	4
	1004 Glazing Window Door	3
REPORTS		
	Operational Waste Management Report	B

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dwp possesses Professional Indemnity Insurance to the satisfaction of the principal.

Full Name of Designer:	Katherine Daunt
Qualifications:	B.Sc (Arch), M.Arch, Registered Architect NSW ARBN 9981
Address of Designer:	16 Telford Street, Newcastle East NSW 2300
Business Telephone No:	+61 8080 7917 ext 61469
Name of Employer:	dwp
Signature:	

Yours sincerely

Katherine Daunt

Design Director | Registered Architect - NSW ARBN 9981
Email: katherine.d@dwp.com
File: 17-0347_A-d02-Design Statement 01_200406
Encl: Attach 01 - FC01 & FC02 - “Equitone facade materials Non-combustibility Compliance”
Attach 02 - PT06 & PT07 “IGNIS ADVISORY NOTE Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]”
Attach 03 - CL01 - “Certificate of Test FNC12446”, “Certificate of Test FNE12445”, “Certificate of Conformity CM30110 Rev 1, dated 08/01/2020”, “CSIRO - Advisory report regarding Fairview Vitracore G2, dated 16/09/2019”, “Red Fire Engineers Letter, dated 03/06/2019”
Attach 04 - NA - “Certificate of Test - Report No: FNC12141”
Attach 05 - M01 - Sisalation Vapawrap
Attach 06 - Operational Waste Management Report [Rev B, 25/02/2020]
Attach 07 - Seca Drawings - P1626 SS01 Rev A, P1626 SS02 Rev A
Attach 08 - Accessibility Compliance Statement [LP_1810, dated 01/04/2020], prepared by Lindsay Perry Access

Non-combustibility compliance of EQUITONE façade materials

- ✓ EQUITONE façade materials are manufactured in compliance with AS/NZS 2908.2:2000, Cellulose-cement products Part 2: Flat sheets, (ISO 8336:2009 Fibre-cement flat sheets).
- ✓ EQUITONE façade materials are classified as fibre-reinforced cement sheeting in accordance with AS/NZS 2908.2 (ISO 8336:2009 Fibre-cement flat sheets).
- ✓ According to Clause C1.12 of the Building Code of Australia, EQUITONE façade materials may be used wherever a non-combustible material is required.
- ✓ In accordance with AS/NZS 3837, EQUITONE façade materials are classified as Group 1, with average specific extinction area of only 7.6 m^2/Kg, significantly lower than 250 m^2/Kg referenced in the specification C1.10 of the Building Code of Australia.
- ✓ EQUITONE facade materials do not contribute to the spread of fire as per AS/NZS 1530.3.
- ✓ The following table provides a summary of the fire hazard properties of EQUITONE façade materials;

Reaction to fire	Value	Standard
Ignitability index Spread of flame index Heat evolved index Smoke developed index	0 0 0 2	AS/NZS 1530.3
Average specific extinction area Classification	7.6 m^2/Kg Group 1	AS/NZS 3837

For further information, please consult with EQUITONE Australia Technical Department.

EQUITONE Australia

www.equitone.com

info.australia@equitone.com

Attach 02 -
PT06 & PT07

A member of LIVE Consulting Group

28 May 2019
Date of Issue

IGNIS ADVISORY NOTE

Evaluation No.IGNS-6295 Issue 01 Revision 02 [2018]

DULUX ACRA-TEX RENDER SYSTEM

1 Executive Summary

The three elements of the Dulux Acra-Tex system includes:

Cement Render Base Coat:

- Dulux Acra-Tex RenderWall

Paint System:

- Dulux Acra-Tex Acrylic Texture
- Dulux Acra-Tex AcraShield / AcraSkin Acrylic topcoat

Each of these elements are not regulated by the BCA for fire hazard properties, are exempt as per BCA Clause C1.10(c). The elements detailed above are permitted for use on buildings of Type A, B and C construction of Class 2 to 9 occupancies and not required to be non-combustible or subjected to fire hazard property testing.

2 Brief

Ignis Solutions has been engaged by Dulux to provide guidance and engineering certification on the Dulux Acra-Tex render and paint materials in relation to compliance with the National Construction Code of Australia Building Code of Australia Volume One 2016 Amendment 1 (BCA).

The Dulux Acra-Tex system includes the following elements:

Cement Render Base Coat:

- Dulux Acra-Tex RenderWall

Paint System:

- Dulux Acra-Tex Acrylic Texture
- Dulux Acra-Tex AcraShield / AcraSkin Acrylic topcoat

This engineering certificate serves as a certificate from professional engineer in accordance with Clause A2.2 (a)(v) of the BCA.

3 BCA Compliance

The BCA sets requirements the fire hazard properties of materials within a Class 2 to 9 building in Clause C1.10. Clause C1.10(c) establishes where the requirements of (a) being the fire hazard properties of materials to comply with Specification 1.10 do not apply. The Guide to the BCA establishes the intent of Clause C1.10 is to stipulate the minimum fire hazard properties of materials inside a building susceptible to the effects of flame or heat. The Guide provide further details that Clause C1.10(c) is a practical recognition that a number of building components and

materials are unlikely to significantly contribute to the spread of fire and smoke, because of their size, construction, location and so on. The listed components and materials need not comply with the requirements of fire hazard properties.

BCA Clause C1.10(c)(i) lists plaster, cement render, concrete, terrazzo, ceramic tile or the like.

BCA Clause C1.10(c)(viii) lists paint, varnish, lacquer or similar finish, other than nitro-cellulose lacquer.

4 Dulux Acra-Tex Render System

The Dulux Acra-Tex Render Wall system is a cement render base coat exempt under BCA Clause C1.10(c)(i).

The two paint layers being the Dulux Acra-Tex Acrylic Texture and Dulux Acra-Tex AcraShield / AcraSkin Acrylic topcoat is exempt under BCA Clause C1.10(c)(viii).

5 Conclusion

The three elements of the Dulux Acra-Tex system includes:

Cement Render Base Coat:

- Dulux Acra-Tex RenderWall

Paint System:

- Dulux Acra-Tex Acrylic Texture
- Dulux Acra-Tex AcraShield / AcraSkin Acrylic topcoat

Each of these elements are not regulated by the BCA for fire hazard properties and therefore their use is permitted and not required to be non-combustible or subjected to fire hazard property testing.

Benjamin Hughes-Brown FIEAust CPEng NER APEC Engineer IntPE(Aus)
Managing Director
Chartered Professional Engineer
CPEng, NER (Fire Safety / Mech) 2590091, RPEQ 11498, BPB-C10-1875, EF-39394
MFireSafety (UWS), BEng (UTS), GradDipBushFire (UWS), DipEngPrac (UTS), DipEng (CIT)

Attach 03 - CL01 & CL02

Certificate of Test

QUOTE No.: NC8163 **REPORT No.: FNC12446**

COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

SPONSOR:
Fairview Architectural Pty Ltd
18 – 20 Donald Street
LITHGOW NSW 2790
AUSTRALIA

DESCRIPTION OF TEST SAMPLE:

The sponsor described the tested specimen as an aluminium material representative of the aluminium used in the aluminium Vitracore G2 cladding panel. The aluminium was tested without any coatings or adhesives. The specimen was comprised of the following layers:

Layer 1: 0.7-mm thick aluminium sheet;
Layer 2: 2.8-mm thick expanded corrugated aluminium core with a 0.3-mm aluminium wall thickness;
Layer 3: 0.5-mm thick aluminium sheet.

The layers were loose laid on top of each other to form 50-mm (± 3mm) thick samples required for testing.

Nominal thickness of top aluminium sheet:	0.7 mm
Nominal thickness of bottom aluminium sheet:	0.5 mm
Nominal thickness of expanded corrugated aluminium core:	2.8 mm
Nominal wall thickness of expanded corrugated aluminium core:	0.3 mm
Nominal total thickness:	50 mm
Nominal density:	2700 kg/m^3
Colour:	silver

Note: The specimen was provided by UL International Singapore Pte Ltd.

TEST PROCEDURE:

Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.

An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

RESULTS:

The following calculated results were obtained, refer also to Summary of measurements:

Arithmetic mean	$= \frac{\Sigma\, results}{5}$
Mean furnace thermocouple temperature rise **(ºC)**	4.22
Mean specimen centre thermocouple temperature rise **(ºC)**	7.76
Mean specimen surface thermocouple temperature rise **(ºC)**	10.58
Mean duration of sustained flaming (s)	0
Mean mass loss (%)	0.08

DESIGNATION:

The material is **NOT** deemed combustible according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

DATE OF TEST: 29 August 2019

Issued on the 18th day of September 2019 without alterations or additions.

Faustin Molina
Testing Officer

Brett Roddy
Group Leader, Fire Testing and Assessments

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 - Testing.

CSIRO INFRASTRUCTURE TECHNOLOGIES
14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au

SUMMARY OF MEASUREMENTS AND OBSERVATIONS OF SAMPLES UNDER TEST C12446

Parameters	Symbol or expression	Unit symbol	Sample Number				
			1	2	3	4	5
Initial specimen mass	m_{si}	g	89.66	78.73	79.26	81.73	78.65
Final specimen mass	m_{sf}	g	89.63	78.65	79.10	81.68	78.64
Mass loss	$\Delta m = \frac{Msi - Msf}{Msi} \times 100$	%	0.03	0.10	0.20	0.06	0.01
Total duration of sustained flaming	Cumulative total of duration of flaming*	s	0	0	0	0	0
Initial furnace thermocouple temperature	T_{fi}	°C	754	751	752	747	755
Maximum furnace thermocouple temperature	T_{fm}	°C	776	793	779	786	783
Final furnace thermocouple temperature	T_{ff}	°C	773	790	774	782	777
Furnace thermocouple temperature rise	$\Delta Tf = Tfm - Tff$	°C	3	3	5	4	6
Maximum specimen centre thermocouple temperature	T_{cm}	°C	724	745	731	737	738
Final specimen centre thermocouple temperature	T_{cf}	°C	717	737	726	729	727
Specimen centre thermocouple temperature rise	$\Delta Tc = Tcm - Tcf$	°C	7	8	5	8	11
Maximum specimen surface thermocouple temperature	T_{cm}	°C	750	764	753	754	757
Final specimen surface thermocouple temperature	T_{sf}	°C	739	752	742	743	748
Specimen surface thermocouple temperature rise	$\Delta Ts = Tcm - Tsf$	°C	11	12	11	11	9
Test duration	-	min	65	85	65	85	70

* Any individual duration flaming less than 5 seconds was discarded

End of Test Certificate

CSIRO INFRASTRUCTURE TECHNOLOGIES

14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au

Attach 03 - CL01 & CL02

Certificate of Test

QUOTE No.: NE8164 **REPORT No.: FNE12445**

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Vitracore G2

SPONSOR: Fairview Architectural Pty Ltd
18-20 Donald Street
LITHGOW NSW 2790
AUSTRALIA

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as an aluminium composite panel comprised of the following layers:

Layer 1:	30-µm thick PVDF coating (face);
Layer 2:	0.7-mm thick aluminium sheeting;
Layer 3:	2.8-mm expanded aluminium core comprised of 0.3-mm thick aluminium wall;
Layer 4:	0.5-mm thick aluminium sheeting;
Layer 5:	5-µm to 10-µm polyester coating.

The core and the face were adhered together using EVA resin with a total thickness of < 0.2-mm.

Nominal thickness:	4 mm
Nominal mass:	4.6 kg/m^2
Colour:	red or black

Note: The specimen was provided by UL International Singapore Pte Ltd.

TEST PROCEDURE: Six (6) samples were tested in accordance with AS/NZS 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	n/a	n/a
Flame Spread Time (s)	n/a	n/a
Heat Release Integral (kJ/m^2)	n/a	n/a
Smoke Release ($\log_{10}$D)	-2.046	0.063

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 29 August 2019

Issued on the 19th day of September 2019 without alterations or additions.

Shaw Tran
Testing Officer

Brett Roddy
Group Leader, Fire Testing and Assessments

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 – Testing.

CSIRO INFRASTRUCTURE TECHNOLOGIES
14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au

Certificate of Conformity

Attach 03 - CL01 & CL02

Certification Body:

global-mark

Global-Mark Pty Ltd,
Suite 4.07,
32 Delhi Road,
North Ryde NSW
2113, Australia
Ph: +61 2 9886 0222
www.global-mark.com.au

Certificate Holder:

Fairview Architectural Pty Ltd
18-20 Donald St
Lithgow NSW 2790
Ph: +61 2 6352 2355
www.fv.com.au

Certificate number: CM30110 Rev 1

THIS TO CERTIFY THAT

VITRACORE G2

Type and/or use of product:	**Description of product:**
VITRACORE G2 panels are used in external cladding applications, in all building types (NCC Volume 1 & 2)	VITRACORE G2 panels are 4mm thick laminated Aluminium panels installed with metal fixing system. Standard panel sizes include width of 1,250mm & 1,500m and length of 2,500mm, 3,200mm & 4,000mm. Custom panel sizes up to 1,500mm x 4,000mm. Refer to Product Technical Manual & Installation Guide (refer appendix A3).

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S) — **NCC 2019**

	Volume One		**Volume Two**	
Performance Requirement(s)	**BP1.1**	Structural Provisions	**P2.1.1**	Structural stability and resistance to actions
	BP1.2	Structural Provisions		
	FP1.4	Damp and Weatherproofing	**P2.2.2**	Weatherproofing
Deemed-to-Satisfy Provision(s):	**B1.4 (e)**	Structural Resistance	**3.0.4 (j)**	Structural Resistance
	C1.9	Non-Combustible Material		
	G5.2	Construction in Bushfire Prone Areas	**3.10.5.0 (c)**	Construction in Bushfire Prone Areas
State or territory variation(s):	**NSW G5.2**	Construction in Bushfire Prone Areas	**NSW 3.10.5.0 (c)**	Construction in Bushfire Prone Areas

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the certificate holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.
Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.
The purpose of Global-Mark **construction site audits** is to confirm the practicability of installing the product; and to confirm the appropriateness and accuracy of installation instructions
In placing **the CodeMark mark** on the product/system, the certificate holder makes a declaration of compliance with the certification standard(s) and confirms that the product is identical to the product certified herein. In issuing this Certificate of Approval Global-Mark has relied on the **expertise of external bodies** (laboratories, and technical experts).

Herve Michoux
Global-Mark Managing Director

Peter Gardner
Unrestricted Building Certifier

Date of issue: 08/01/2020

Date of expiry: 07/01/2023

ABCB JAS-ANZ

				QLD 3.10.5.0	Construction in Bushfire Prone Areas

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:	**Building classification/s:**
Vol 1 – BP1.1 & Vol 2 – P2.1.1 Vitracore G2 panel system as described has maximum design wind load limits documented within the Vitracore G2 Technical Manual, version 2.2. Wind load limits, construction detail and fixing must follow the relevant details contained within the Vitracore G2 Technical Manual, version 2.2 and the Vitracore G2 Cassette Fix Installation Guide version 2.1.	**1, 2, 3, 4, 5, 6, 7, 8, 9 & 10**
Vol 1 – BP1.1 (b) (v) (vi) and (ix) & Vol 2 – P2.1.1 (b) (v) (vi) and (ix) Snow, liquid pressure and earth pressure actions are excluded.	**1, 2, 3, 4, 5, 6, 7, 8, 9 & 10**
Vol 1 – BP1.4 & Vol 2 – P2.1.2 Compliance for flood hazard areas is excluded.	**1, 2, 3, 4, 5, 6, 7, 8, 9 & 10**
Vol 1 FP1.4 & Vol 2 P2.2.2 The system remains weatherproof up to Serviceability wind loads of ±1.8 kPa at stud locations or ±1.5 kPa at mid panel, when: 1. Design & installation complies fully with Vitracore G2 Technical Manual version 2.2 & Vitracore G2 Cassette Fix Installation Guide version 2.1. 2. Design accommodates deflection movements due to all design loads & temperature variations. 3. Installation Contractor complies with manufacturer's instructions for sealants, shop drawings & project specifications. 4. Fixings are installed in accordance with manufacturer's instructions & procedures, fixings to be weathertight and not restrict thermal or wind movements of the facade.	**1, 2, 3, 4, 5, 6 & 9**
Vol 1 – G5.2 & Vol 2 – 3.10.5.0 (c) Construction in Bushfire Prone Areas, when the building is constructed in accordance with AS3959, and subject to: • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-12.5, BAL-19, BAL-29 & BAL-40. • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-FZ, only if the wall achieves FRL 30/30/30 behind the external cladding.	**1, 2, 3 & 10**
Vol 1 – NSW G5.2 & Vol 2 – NSW 3.10.5.0 (c) Construction in Bushfire Prone Areas, when the building is constructed in accordance with AS3959, and subject to: • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-12.5, BAL-19, BAL-29 & BAL-40. • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-FZ, only if the wall achieves FRL 30/30/30 behind the external cladding.	**1, 2, 3 &10**

Vol 1 – QLD G5.1 & Vol 2 – QLD 3.10.5.0 Construction in Bushfire Prone Areas, when the building is constructed in accordance with AS3959, and subject to: • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-12.5, BAL-19, BAL-29 & BAL-40. • Vitracore G2 permitted for use as external wall cladding in buildings subject to Bushfire Attack Level BAL-FZ, only if the wall achieves FRL 30/30/30 between the external cladding and the wall structure. This applies to buildings located in a designated Bushfire Prone area but does not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high.	**1, 2, 3 & 10**
General Wall structures and internal linings to be designed & specified in accordance with manufacturer guidelines, by a suitably qualified building professional.	**1, 2, 3, 4, 5, 6, 7, 8, 9 & 10**
General The wall system shall be designed & specified by a suitably qualified design professional and installed by suitably qualified and trained building professionals, in accordance with VitraCore G2 Technical Manual version 2.2 & Vitracore G2 Cassette Fix Installation Guide version 2.1.	**1, 2, 3, 4, 5, 6, 7, 8, 9 & 10**

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

Refer to page 1 of this certificate.

A2 Description of product

Refer to page 1 of this certificate.

A3 Product specification

Refer to items 1 & 2 listed in Appendix B2:

- VITRACORE G2 Technical Manual, version 2.2.
- VITRACORE G2 Cassette Fix Installation Guide, version 2.1.

A4 Manufacturer and manufacturing plant(s)

Fairview Architectural Pty Ltd
18-20 Donald Street
Lithgow NSW 2790
Ph: + 61 2 6352 2355
www.fv.com.au

A5 Installation requirements

Refer to items 1 & 2 listed in Appendix B2:

- VITRACORE G2 Technical Manual, version 2.2.
- VITRACORE G2 Cassette Fix Installation Guide, version 2.1.

A6 Other relevant technical data

Refer to items 1 & 2 listed in Appendix B2:

- VITRACORE G2 Technical Manual, version 2.2.
- VITRACORE G2 Cassette Fix Installation Guide, version 2.1.

And any referenced documents within the technical literature identified in Appendices A3 & A5.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

The following assessment methods have been used to determine compliance with NCC 2019:

Code Clause	Assessment Method(s)	Evidence of suitability	Evidence reference in B2
NCC Volume One BP1.1	Combination of A2.2 (2) (a), (b) & (c)	Combination of A5.2 (1) (d), (e) & (f) – Test Report, Expert judgement & Other documentary evidence	Items 1, 2, 3, 5, 6 & 7
NCC Volume Two P2.1.1	Combination of A2.2 (2) (a), (b) & (c)	Combination of A5.2 (1) (d), (e) & (f) – Test Report, Expert judgement & Other documentary evidence	Items 1, 2, 3, 5, 6 & 7
NCC Volume One BP1.2	Combination of A2.2 (2) (a), (b) & (c)	Combination of A5.2 (1) (d), (e) & (f) – Test Report, Expert judgement & Other documentary evidence	Items 1, 2, 3, 5, 6 & 7
NCC Volume One FP1.4	Combination of A2.2 (2) (a), (b) & (c)	Combination of A5.2 (1) (d) & (e) – Test Report & Expert judgement	Items 27 & 28
NCC Volume Two P2.2.2	Combination of A2.2 (2) (a), (b) & (c)	Combination of A5.2 (1) (d) & (e) – Test Report & Expert judgement	Items 27 & 28
NCC Volume One B1.4 (e)	Combination of A2.3 (2) (a) & (b)	Combination of A5.2 (1) (e) & (f) – Expert judgement & Other documentary evidence	Items 1, 2, 3, 5, 6 & 7
NCC Volume Two 3.0.4 (j)	Combination of A2.3 (2) (a) & (b)	Combination of A5.2 (1) (e) & (f) – Expert judgement & Other documentary evidence	Items 1, 2, 3, 5, 6 & 7
NCC Volume One C1.9	Combination of A2.3 (2) (a) & (b)	Combination of A5.2 (1) (d) & (e) – Test Report & Expert judgement	Items 4, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
NCC Volume One G5.2	Combination of A2.3 (2) (a) & (b)	Combination of A5.2 (1) (d) & (e) – Test report & Expert judgement	Items 9, 10 & 16
NCC Volume Two 3.10.5.0 (c)	Combination of A2.3 (2) (a) & (b)	Combination of A5.2 (1) (d) & (e) – Test report & Expert judgement	Items 9, 10 & 16

B2 Reports

The following reports have been used as evidence to determine compliance with NCC 2019:

Ref	Author	Reference	Date / Rev	Description	NATA Registration
1	Fairview Architectural	Vitracore G2 Cassette Fix Install Guide	Version 2.1	Client published installation manual	-
2	Fairview Architectural	Vitracore G2 Technical Manual	Version 2.2	Client published technical manual	-
3	Fairview Architectural	Vitracore G2 Specification	Nov 2018	Client published technical specification	-
4	Fairview Architectural	Vitracore approval Timeline	Oct 2019	Client published approval record	-
5	Building Products Certification	0320B-R1B	24 Jan 2018	Structural Design Report	-
6	Intertek Testing Services	181015007SHF-001-R1	8 Nov 2018	Component Testing Report	CNAS – L11949
7	Health & Safety Laboratories	ES/2018/35	28 Sep 2018	Component Analysis Report	UKAS – 1751
8	UL International NZ Ltd	4788967555 AU	26 Sep 2019	Fire assessment report	-
9	CSIRO	FNC11476B	4 Nov 2015	Fire test report	165
10	CSIRO	FNC12446	18 Sep 2019	Fire test report	165
11	CSIRO	FNE11459C	19 Oct 2015	Fire test report	165
12	CSIRO	FNE12445	19 Sep 2019	Fire test report	165
13	CSIRO	FCO3166 Rev D	7 May 2019	Fire assessment report	165
14	IGNIS Solutions	IGNS-6081	5 May 2019	Fire compliance report	-
15	RED Fire Consultants	JV19-00103-1.0	3 Jun 2019	Fire compliance report	-

16	IGNIS Solutions	IGNS-5200.02_Rev0	5 May 2019	Fire compliance report	-
17	WarringtonFire UK	418244	4 Sep 2019	Fire classification report	UKAS – 0249
18	WarringtonFire UK	418243	4 Sep 2019	Fire classification report	UKAS – 0249
19	WarringtonFire UK	417795	4 Sep 2019	Fire test report	UKAS – 0249
20	WarringtonFire UK	417796	4 Sep 2019	Fire test report	UKAS – 0249
21	WarringtonFire UK	417798	4 Sep 2019	Fire test report	UKAS – 0249
22	WarringtonFire UK	417747	4 Sep 2019	Fire test report	UKAS – 0249
23	WarringtonFire UK	417750	4 Sep 2019	Fire test report	UKAS – 0249
24	WarringtonFire UK	417748	4 Sep 2019	Fire test report	UKAS – 0249
25	WarringtonFire UK	417749	4 Sep 2019	Fire test report	UKAS – 0249
26	WarringtonFire UK	418236	4 Sep 2019	Fire test report	UKAS – 0249
27	BG&E Facades	Fairview Cladding Products – Vitracore G2 (Install Manual Version 2)	27 Aug 2018	Weathertightness assessment report	-
28	FacadeLab	18-02	20 Apr 2018	Weathertightness test report	IANZ – 1091

The Certificate Holder has chosen not to make the above identified evidence of compliance publicly available, due to the documents being considered commercial in confidence.

End of Certificate.

Attach 03 - CL01 & CL02

INFRASTRUCTURE TECHNOLOGIES
www.csiro.au

Advisory report regarding Fairview Vitracore G2 bonded aluminium panel with respect to NCC 2019 volume 1 clause C1.9

Advisory Report

Author: Keith Nicholls

Report Number: FCO-3166 Revision E

Quote Number: CO4924

Date: 16th September 2019

Client: Fairview Architectural Pty Limited

Enquiries should be addressed to:

Fire Testing and Assessments	Author	The Client
NATA Registered Laboratory 14 Julius Avenue North Ryde, NSW 2113 Australia Telephone +61 2 94905444	Infrastructure Technologies 14 Julius Avenue North Ryde, NSW 2113 Australia Telephone +61 2 94905445	Fairview Architectural Pty Limited 18-20 Donald St Lithgow NSW 2790 Australia Telephone +61 2 63522355

Report Details

Report CSIRO Reference number: FCO-3266/CO48924

Report Status and Revision History

VERSION	STATUS	DATE	DISTRIBUTION	ISSUE NUMBER
Revision A	Final for issue	23/11/2017	CSIRO; Fairview Architectural Pty Limited	FCO-3166 A
Revision B	Final for issue	18/5/2018	CSIRO; Fairview Architectural Pty Limited	FCO-3166 B
Revision C	Final for issue	1/5/2019	CSIRO; Fairview Architectural Pty Limited	FCO3166 C
Revision D	Final for issue	7/5/2019	CSIRO; Fairview Architectural Pty Limited	FCO3166 D
Revision E	Final for issue	16/9/2019	CSIRO; Fairview Architectural Pty Limited	FCO3166 E

Test Report Authorisation

AUTHOR	REVIEWED BY	AUTHORISED BY
Keith Nicholls	Brett Roddy	Brett Roddy
		
16th September 2019	16th September 2019	16th September 2019

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Contents

1 Introduction

This report confirms the extent the available test evidence can be used for the determination of the compliance of Vitracore G2 with respect to NCC 2019 Volume 1 clause C1.9 Part e (vii).

Product	Vitracore G2
Layer 1 - (exposed face)	30-µm thick surface finish
Layer 2	0.7-mm aluminium sheet
Layer 3	0.1-mm thick adhesive film
Layer 4	0.3-mm thick corrugated profiled aluminium core, expanded to 2.6 mm
Layer 5	0.1-mm thick adhesive film
Layer 6	0.5-mm thick aluminium face finished with 10-µm thick surface finish

2 Supporting Data

2.1 CSIRO Certificate of Test numbered FNE11459C

On 12 August 2015, this Division conducted a fire test on "Vitracore G2" to AS/NZS 1530.3-1999. Certificate of Test numbered FNE11459C, issued 31 October 2015 by CSIRO and details the test results. The results of this test were:

Ignitability Index: 0
Spread of Flame Index: 0
Heat Release Index: 0
Smoke Developed Index: 1

"Vitracore G2" is an aluminium bonded panel comprising of 5 layers:
Layer 1: 0.7-mm thick aluminium face finished with a 30-µm thick surface finish;
Layer 2: 0.1-mm thick adhesive film;
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6 mm;
Layer 4: 0.1-mm thick adhesive film;
Layer 5: 0.5-mm thick aluminium face finished with a 10-µm thick surface finish.

2.2 CSIRO Certificate of Test numbered FNC11476B

On 3 September 2015, this Division conducted a fire test on Vitracore G2 panel incorporating a corrugated profiled aluminium core with aluminium outer skins" to AS 1530.1-1994. Certificate of Test numbered FNC11476B, issued 12 September 2015 by CSIRO and details the test results. The maximum furnace temperature rise was 11.0°C for all specimens, the maximum temperature rise for the specimen surface thermocouple was 5.4°C for all specimens and the duration of sustained flaming was 0 seconds. The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

The Vitracore G2 – is an aluminium bonded incorporating a corrugated profiled aluminium core with aluminium outer skins. It comprises of 3 layers:
Layer 1: 0.7-mm thick aluminium face;
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6 mm;
Layer 5: 0.5-mm thick aluminium face.

3 Analysis of Test Evidence

3.1 AS/NZS 1530.3-1999 Performance

Material as a Whole

With reference to Certificate of Test in accordance with AS/NZS 1530.3-1999 numbered FNE11459C issued by CSIRO. The report details the test result for Vitracore G2 as a whole. When tested, the Spread-of-Flame Index and the Smoke-Developed Index of the panel did not exceed 0 and 3 respectively.

3.2 AS 1530.1-1994 Performance

Non-Combustibility of layers other than adhesive

CSIRO Certificate of Test FNC11476B shows that the aluminium layers of the "Vitracore G2" are not deemed combustible when tested to the requirements of AS 1530.1-1994. Clause 1.4 of AS 1530.1-1994 states that that "…The test method is not applicable to products which are coated, faced or laminated. In such cases, tests may be carried out separately on the individual materials from which the product is formed...". The face, core and reverse face aluminium layers were not tested separately to AS 1530.1. However, these layers all comprise the same aluminium material, therefore testing them in one test meets the requirement to test the materials that form this panel.

3.3 NCC 2019 Volume 1 clause C1.9

The relevant part of this clause is part (e) (vii)

C1.9 Non-combustible building elements

e) The following materials may be used wherever a *non-combustible* material is *required*:

i) Plasterboard.

ii) Perforated gypsum lath with a normal paper finish.

iii) Fibrous-plaster sheet.

iv) Fibre-reinforced cement sheeting.

v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.

vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.

vii) Bonded laminated materials where—

A) each lamina, including any core, is *non-combustible*; and

B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and

C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

4 The relevance of test data to NCC Clause C1.9

4.1 Each Laminate is Non-Combustible – Clause C1.9 (e)(vii)(A)

With reference to the discussion in Section 3.2 of this report it is confirmed that when the aluminium facing and the core of Vitracore G2 when tested in isolation in accordance with AS 1530.1 1994, they meet the requirements of AS 1530.1 1994 Clause 3.4 for non-combustibility.

Based on the above it is confirmed each lamina is non-combustible.

4.2 Each adhesive layer does not exceed 1mm in thickness and a total of 2mm – Clause C1.9 (e)(vii)(B)

With reference to the proposed construction specification in Section 1 of this report, it is confirmed the product includes adhesive layers that are less than 1mm thick and less than 2mm in total thickness.

4.3 The Spread-of-Flame Index and the Smoke-Developed Index of the laminated material as a whole does not exceed 0 and 3 respectively - Clause C1.9 (e)(vii)(C)

With reference to the discussion in Section 3.1, it is confirmed that the Spread-of-Flame Index and the Smoke-Developed Index of the material do not exceed 0 and 3 respectively.

5 Conclusion

Considering the discussion in Section 4 of this report, it is confirmed there is sufficient evidence for a determination of compliance with NCC 2019 Volume 1 clause C1.9 Part e (vii), and consequently, according to Part C1.9 confirm the products may be used where non-combustible materials are required.

It is understood by CSIRO that determination of compliance with NCC 2019 Volume 1 clause C1.9 Part e (vii) is to be undertaken by the Authority Having Jurisdiction.

6 Term of validity

This report will lapse on 31st May 2024. Should you wish us to re-examine this report with a view to the possible extension of its term of validity, would you please apply to us three to four months before the date of expiry. This Division reserves the right at any time to amend or withdraw this report in the light of new knowledge.

7 Limitations

This report is prepared for the report client listed on page 1 and applies to the nominated materials and forms of construction. Any modifications, changes or amendments to the referenced standards or Building Regulations may invalidate the findings of this report.

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Ref: 190603_JV19-00103_Fairview NCC 2019_Vitracore G2_v1.docx

3 June 2019

Fairview Architectural
18-20 Donald St
Lithgow NSW 2790

Attention: Ashley How

Re: **Vitracore G2 Review Against NCC 2019**
Project: **JV19-00103**
Version: **1.0**

1. Introduction

1.1 RED Fire Engineers has been engaged by Fairview Architectural to provide a review to help determine if its aluminium composite cladding product Vitracore G2 is suitable for use in facades in Australia.

1.2 The following is provided for information only. It is not a comprehensive review of BCA requirements for all projects – reference should be made to the Building Surveyor/Certifier and the fire safety engineer for each project.

1.3 References to the BCA means either the National Construction Code Series 2019 Volume One: Building Code of Australia – Class 2 to 9 Buildings (Australian Building Codes Board, 2019a), or Volume Two: Building Code of Australia – Class 1 and 10 Buildings (Australian Building Codes Board, 2019b).

1.4 This document mainly applies to buildings that adopt the Deemed-to-Satisfy (DtS) Provisions of the BCA. The DtS Provisions describe one way of meeting the

Performance Requirements of the BCA. Buildings that are subjected to a fire engineering Performance (Alternative) Solution is another way of meeting the Performance Requirements.

2. Definitions: External walls and ancillary element for external walls

2.1 An external cladding such as Vitracore G2 may be used as either an external wall or an ancillary element to an external wall.

2.2 The BCA defines external wall as an outer wall of a building which is not a common wall (for NCC Volume One) or not a separating wall (for NCC Volume Two).

2.3 The BCA defines a wall as loadbearing if it carries the gravity loads of anything attached to it (including but not limited to floors, roofs, beams, columns, signs, cladding etc.).

2.4 BCA Clause C1.14 lists the ancillary elements that can be used on external walls.

3. Vitracore G2 Analysis

3.1 Vitracore G2 has undergone AS 1530 part 1 and part 3 tests. We have reviewed the results of these tests and have produced the following summary:

- AS 1530 Part 1 - Tests the lamina (layers) separately: the results of the testing showed that the profiled aluminium core of the material and the aluminium skins were deemed non-combustible. This is as expected because all three materials are aluminium, with the profiled aluminium core filling the 2.8 mm gap between the aluminium sheets (CSIRO, 2015a).
- AS 1530 part 3 – Tests the complete cladding panel: the test determined the 4 mm thick Vitracore G2 aluminium composite panel had the following indices (CSIRO, 2015b)
    - Ignitability: 0 (0-20)
    - Spread of Flame: 0 (0-20)
    - Heat evolved: 0 (0-10)
    - Smoke Developed: 1 (0-10)

3.2 Vitracore G2 is consisted of three non-combustible layers of aluminium; a face skin, a profiled aluminium core and a rear skin. Between these layers is a film of VE-998 polymer adhesive which is applied as a continuous film during manufacturing resulting in a continuous thickness of 0.101 mm, therefore the total thickness of the adhesive layers is approximately 0.2 mm.

3.3 An assessment by CSIRO (CSIRO, 2019) states:

> The face, core and reverse face aluminium layers were not tested separately to AS 1530.1. However, these layers all comprise the same aluminium material, therefore testing them in one test meets the requirement to test the materials that form this panel.

3.4 BCA Clause C1.9 (e)(vii) states that bonded laminated materials containing combustible fibres, may be used wherever a non-combustible material is required, providing that:

- Each lamina, including any core, is non-combustible; and
- Each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
- The spread of flame index and the smoke development index of the laminated material as a whole does not exceed 0 and 3 respectively.

3.5 Vitracore G2 is an aluminium composite panel with a nominal thickness of 4 mm meets all the above requirements, as demonstrated in the various tests, hence can be used wherever a non-combustible material is required.

3.6 According to DtS Provisions in the BCA for Type A and Type B construction, external walls need to be non-combustible. As Vitracore G2 can be used where non-combustible materials are required it can be used both as part of an external wall or as an ancillary element to an external wall.

3.7 Vitracore G2 can be used as part of an external wall without requiring a special layer of non-combustible material behind it. The exception to this is when material is required to achieve an FRL, which is covered in more detail in Section 6.

4. Testing in accordance with AS 5113:2016

4.1 Vitracore G2 is a Deemed-to-Satisfy Solution and there is no NCC requirement to test it using AS 5113:2016. To provide information for the use of Vitracore G2 as part of a Performance Solution, Vitracore G2 was tested on 24 November 2017 in accordance with the test protocols of AS 5113:2016 and BS 8414-2:2005 by Exova Warrington Aus Pty Ltd in their facility in Dandenong VIC.

4.2 The tested specimen was a 160 mm thick external wall system consisting of a steel frame clad with 4 mm thick Vitracore G2. The test results indicated that the tested assembly did not exhibit external flame spread more than that permitted by the external wall classification criteria in AS 5113:2016. However, as expected for any aluminium panel, the falling debris criterion in AS 5113:2016 was not met. This test data is suitable for use by a fire safety engineer developing a building specific Performance Solution.

5. Group Number of Vitracore G2

5.1 Vitracore G2 has not been tested for a material group number but it may be used wherever a non-combustible material is required, in accordance with BCA Clause C1.9(e)(vii).

5.2 As such Vitracore G2 can also be used as a wall and ceiling lining because its reaction of fire performance is considered, on the basis of BCA Clause C1.9(e)(vii), to be equivalent to or better than a material with a material group number 1. This is because a group 1 material is defined in AS 5637.1:2015 as a material that does not reach flashover when exposed to 100 kW for 600 s followed by exposure to 300 kW for 600 s only, in a test to AS ISO 9705-2003, but the material could be

combustible, just that its heat release rate plus that of the test burner output did not reach 1,000 kW (Clause 5.2.2 of AS 5637.1:2015).

6. Use of Vitracore G2 as part of walls requiring an FRL

6.1 Vitracore G2 does not have an FRL but will not adversely affect the FRL of a wall because it is non-combustible. When a wall requires a specific FRL, Vitracore G2 can be used as part of that wall or as an ancillary element to that wall providing the wall itself has the required FRL.

6.2 Most manufacturers of lightweight fire rated wall systems will provide confirmation that the application of cladding to external fire rated wall systems does not impair the fire resistance level. For instance, CSR (manufacturers of 'Gyprock' fire rated wall systems) state in their 'Red Book' [1] that "The Fire Resistance Level (FRL) of the systems detailed in this section will not be detrimentally affected by… the addition of an exterior cladding." The same statement is provided by CSR for their steel and timber stud wall systems.

6.3 Individual wall manufacturers other than CSR should be approached for confirmation if their products are used.

7. Penetrations through Vitracore G2

7.1 If a service penetration is through a wall at a location that requires protection under clause C3.4 of the BCA, then the penetration must be appropriately fire stopped in accordance with Clause C3.15 of the BCA.

7.2 If the penetration is through a wall at a location required to be fire-resisting under clause 3.7.2.4(a) and (b) of the NCC Volume Two, then the penetration must be appropriately protected in accordance with the provisions prescribed under clause 3.7.2.4(c) of NCC Volume Two.

8. Conclusion

8.1 As discussed Vitracore G2 complies with the DtS Provisions when used where non-combustible materials are required as specified in the BCA. This means that Vitracore G2 can be used both as part of an external wall or as an ancillary element to an external wall. Vitracore G2 can be used on walls requiring an FRL without adversely impacting the FRL of the wall.

[1] CSR Gyprock, 'The Red Book™ Fire, Acoustic & Thermal Design Guide', February 2017.

8.2 If you have any queries in regard to the above, please do not hesitate to contact the undersigned.

Yours sincerely,

M.C. Hui
MEng (Building Fire Safety & Risk Engineering), BSc (Eng)(Hons), CPEng, CEng, NER (Fire Safety & Mechanical) 90181, RBP EF 1005, C10 BPB 1721, RPEQ (Fire Safety & Mechanical) 21104, FRM-024 (Fire Safety Engineer and Auditor), FIEAust, FIFireE, MSFPE, MSFS

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Appendix A: References

Australian Building Codes Board, 2019a. *National Construction Code 2019 Volume One: Building Code of Australia - Class 2 to 9 Buildings.* Canberra: Australian Building Codes Board.

Australian Building Codes Board, 2019b. *National Construction Code 2019 Volume Two: Building Code of Australia - Class 1 and 10 Buildings.* Canberra: Australian Building Codes Board.

CSIRO, 2015a. *Combustibility test for materials in accordance with AS 1530.1-1994, Vitracore G2 - Corrugated honecomb aluminium core, Report No. FNC11476B,* North Ryde, NSW: CSIRO.

CSIRO, 2015b. *AS 1530.3:1999 Simultaneous determination of ignitability, flame propagation, heat release and smoke release, Vitracore G2, Report No. FNE11459C,* North Ryde, NSW: CSIRO.

CSIRO, 2019. *Advisory report regarding Fairview Vitracore G2 aluminium composite panel with respect to NCC 2019 volume 1 clause C1.9, FCO-3166 Revision D,* North Ryde, NSW: CSIRO.

Certificate of Test

Quote No.: NC7929 **REPORT No.: FNC12141**

COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

TRADE NAME: Dctech Nvelope Façade Back Framing

SPONSOR: Dynamic Composite Technologies Pty Ltd
Unit 8, 171-175 Newton Rd
WETHERILL PARK NSW 2164
AUSTRALIA

DESCRIPTION OF TEST SAMPLE: The sponsor described the tested specimen as a 6005A grade aluminium cylindrical ingot representative of the aluminium used in façade back framing extrusions.

Nominal thickness:	50 mm
Nominal density:	2710 kg/m^3
Colour:	silver

TEST PROCEDURE: Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.

An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

RESULTS:

Mean furnace thermocouple temperature rise	7.2°C
Mean specimen centre thermocouple temperature rise	12°C
Mean specimen surface thermocouple temperature rise	12.6°C
Mean duration of sustained flaming	0 seconds
Mean mass loss	0.04%

DESIGNATION: The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

DATE OF TEST: 27 March 2018

Issued on the 12th day of April 2018 without alterations or additions.

Faustin Molina
Testing Officer

Brett Roddy
Team Leader, Fire Testing and Assessments

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 - Testing.

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Attach 05
M01

TECHNICAL DATA SHEET

SISALATION®

VAPAWRAP™ WALL

Product description and typical applications

Sisalation® Vapawrap™ Wall is designed for use in Australia's cold regions where a water vapour permeable membrane may be required. It is suitable for use behind lightweight cladding such as fibre cement sheets, weather board and timber; and may also be used in brick veneer constructions. It is important that the cladding manufacturer's requirements are referred to when determining the suitability of Sisalation® Vapawrap™ Wall for a given system.

Sisalation® Vapawrap™ Wall is designed to comply with the requirements of AS/NZS 4200.1:1994. It features a water proofing, highly permeable membrane which is laminated and reinforced to a spun-bonded polymer fabric.

Typically used as a wall wrap building membrane for residential timber and steel framed walls and gables, Sisalation® Vapawrap™ Wall assists in minimising draughts which enables bulk insulation to perform more effectively.

When overlapped and sealed with a suitable tape, Sisalation® Vapawrap™ Wall provides a secondary skin against moisture, vapour, wind and dust penetration. The effective barrier also protects the building frame by minimising the amount of rain and dust that penetrates the wall.

With a Flammability Index of ≤5 in accordance with AS 1530.2:1993, Sisalation® Vapawrap™ Wall is suitable for use in Bushfire Areas with a Bushfire Attack Level (BAL) of 0 - FZ in accordance with AS 3959-2009.

SISALATION
The Original and The Best

GUARANTEE

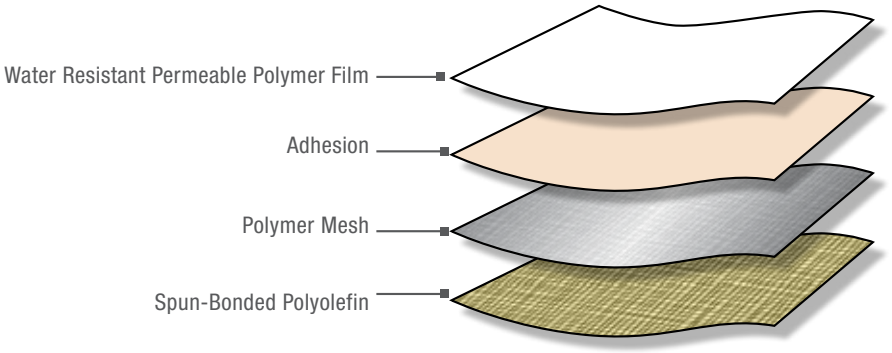
ZERO OZONE DEPLETING POTENTIAL

BUSHFIRE CODE COMPLIANT*
ROOFS: BAL 0 - 40
WALLS: BAL 0 - FZ
*In accordance with AS 3959-2009 Construction of Buildings, Alterations and Additions in Bushfire Prone Areas

Physical characteristics

Product	Width mm	Length m	Area per roll m²	Weight per roll kg	Product code
Sisalation® Vapawrap™ Wall	1350	30	40.50	4.80	395356

Product composition



FletcherSpec™

Fletcher Insulation
Building Better, Together.

Technical specifications

Sisalation® Vapawrap™ Wall achieves the following classifications in accordance with AS/NZS 4200.1:1994:

Duty rating	Light
Burst strength (N)	500
Vapour barrier	Low
Water vapour permeability	3601g/m²/24h
Water Barrier	High
Emittance	Non-reflective
Flammability index (in accordance with AS 1530.2)	≤5
Tensile strength - machine direction (kN/m)	Min. 7.5
Tensile strength - lateral direction (kN/m)	Min. 4.5
Edge tear resistance - machine direction (N)	Min. 45
Edge tear resistance - lateral direction (N)	Min. 45

Compliance

Sisalation® Vapawrap™ Wall complies with the National Construction Code (NCC) for sarking type materials and satisfies the following requirements:

- AS/NZS4200.1: 1994 for 'Pliable Building Membranes' - Deemed to Satisfy Standard - recognised by NCC Volumes 1 and 2.
- Achieves a low Flammability Index (≤5) in accordance with AS1530.2:1993.
- NCC Volume 2 Part 3.7.1.9 Fire Hazard Properties (Class 1 & 10 Buildings).
- NCC Volume 1 Specification C1.10 Fire Hazard Properties (Class 2 to 9 Buildings). Suitable for use as a sarking type material in locations other than fire control rooms subject to Specification E1.8.

Bushfire Attack Level (BAL)

Wall applications	BAL LOW - FZ*
*In accordance with AS 3959-2009 "Construction of Buildings, Alterations and Additions in Bushfire Prone Areas".	

Thermal performance

For complete Total R-value guidance visit www.insulation.com.au/fletcherspecpro

Important notes

- Sisalation® Vapawrap™ Wall is not designed to withstand prolonged direct exposure to weather elements. Following installation of Sisalation® Vapawrap™ Wall, the external cladding must be fixed within two months.
- Sisalation® Vapawrap™ Wall shall be installed in accordance with AS/NZS 4200.2:1994 "Pliable Building Membranes and Underlays - Installation Requirements for Metal Roofs, Tile Roofs and Walls".
- Ensure to install Sisalation® Vapawrap™ Wall with the spun-bonded side facing outwards.
- Building Designer to consider the suitability of this product based on the project design requirements.

Green Star compliant

Ozone Depleting Potential (ODP) substances are not used in the manufacture or composition of Sisalation® Vapawrap™ Wall.

The use of Sisalation® Vapawrap™ Wall guarantees the use of zero ODP product while also ensuring that no harmful levels of Volatile Organic Compounds (VOC's) are released. This allows the incorporation of environmentally preferable products whilst also maintaining indoor air quality.

Specification notes

The wall wrap material shall be Fletcher Insulation Sisalation® Vapawrap™ Wall installed in accordance with AS/NZS 4200.2:1994.

FTDS14_Revision_1_ Issue Date 21072016

Fletcher® Insulation

Building Better, Together.

Attach 06

design worldwide partnership

Operational Waste Management Report

FOR CONSTRUCTION CERTIFICATE APPROVAL

Nihon University
9 Church Street, Newcastle

Katherine Daunt
katherine.d@dwp.com

Date	25.02.2020
Project No.	17-0347
Issue	B
Form	A400

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Contents

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Introduction

On behalf of Nihon University, dwp have revised the following Operational Waste Management Report in relation to the redevelopment of 9 Church Street Newcastle. This report pertains to the on-site operational waste management requirements of the development. This Operational Waste Management Report will assist in identifying and understanding the type and quantity of waste that will be generated during the operation of the facility, and will inform the operator of the building on how to reuse, recycle and dispose of waste from the site.

Waste management for demolition and during construction has been specifically excluded from this report.

Operational waste will be collected by a private Commercial Waste Contractor, to be contracted by Nihon University prior to occupation.

This updated Operational Waste Management plan has been prepared in reference to the following:

- Environmental Impact Statement [EIS] [Rev 04 dated 08/05/2019],
- Formal Response to Information Request and Submissions [dated 19/09/2019],
- City of Newcastle (CoN) letter dated 26th June 2019;
- dwp Memorandum 25, dated 11th July 2019, [prepared by dwp as part of EIS Response to Submission to NSW DPIE];
- City of Newcastle (CoN) letter dated 10th October 2019;
- EPA, Better Practice Guide for Waste Management in Multi-unit Dwellings, 2019;
- City of Newcastle (CoN), DCP - 7.08 Waste Management, version 2 dated 24/10/206;
- City of Newcastle (CoN), Newcastle Waste Management Technical Manual, June 2012.

1. Operational Waste Calculations

The following calculations for both Garbage and Recycling waste have been calculated in accordance with EPA's publication *"Better Practice Guide for Resource Recovery in Residential Developments" (2019)*. It is acknowledged that this document is more recent than City of Newcastle's Waste Technical manual (June 2012) and likely to be more relevant to current day waste generation rates.

Therefore, operational waste calculations have been revised in accordance with EPA's publication "*Better Practice Guide for Resource Recovery in Residential Developments"* (2019), as per the following table:

Operational Waste Calculations (amended):

Number of Occupants / Area	**Garbage Waste (L)**	**Comingled Recycling Waste (L)**
108 x Residential Occupants	70L/room/week = 7560	35L/room/week = 3780
Kitchen Net Area = 224m² + 72m² = 296m²	400L per 100m²/day Operating 7 x days per week = 8288	280L per 100m²/day Operating 7 x days per week = 5801.6
Public Building Net floor Area = 1210m²	10L per 100m²/day Operating 5 x days per week = 605	15L per 100m²/day Operating 5 x days per week = 907.5
Education Building Net floor area = 1754m²	10L per 100m²/day Operating 5 x days per week	15L per 100m²/day Operating 5 x days per week

	= 877	= 1315.5
TOTAL WASTE PER WEEK (L) – (rounded up to nearest Litre)	**= 17330**	**= 11805**
Quantity of 1100L MGB bins (rounded up)	**16**	**11**
Quantity of 1100L MGB bins based upon collection 3 x times per week (rounded up)	**6**	**4**

- Overall, based upon collection frequency of three (3) times per week, the required General Waste bins are 6 x 1100L MGBs, and the Comingled Recycling Waste are 5 x 1100L MGBs.
- The waste storage rooms are separated into two separate rooms. One for the cafeteria and kitchen facilities and the other for the education and residential facilities.
- Note: these calculations include an over allowance for bins. There is zero allowance for compaction of general waste & recycling.

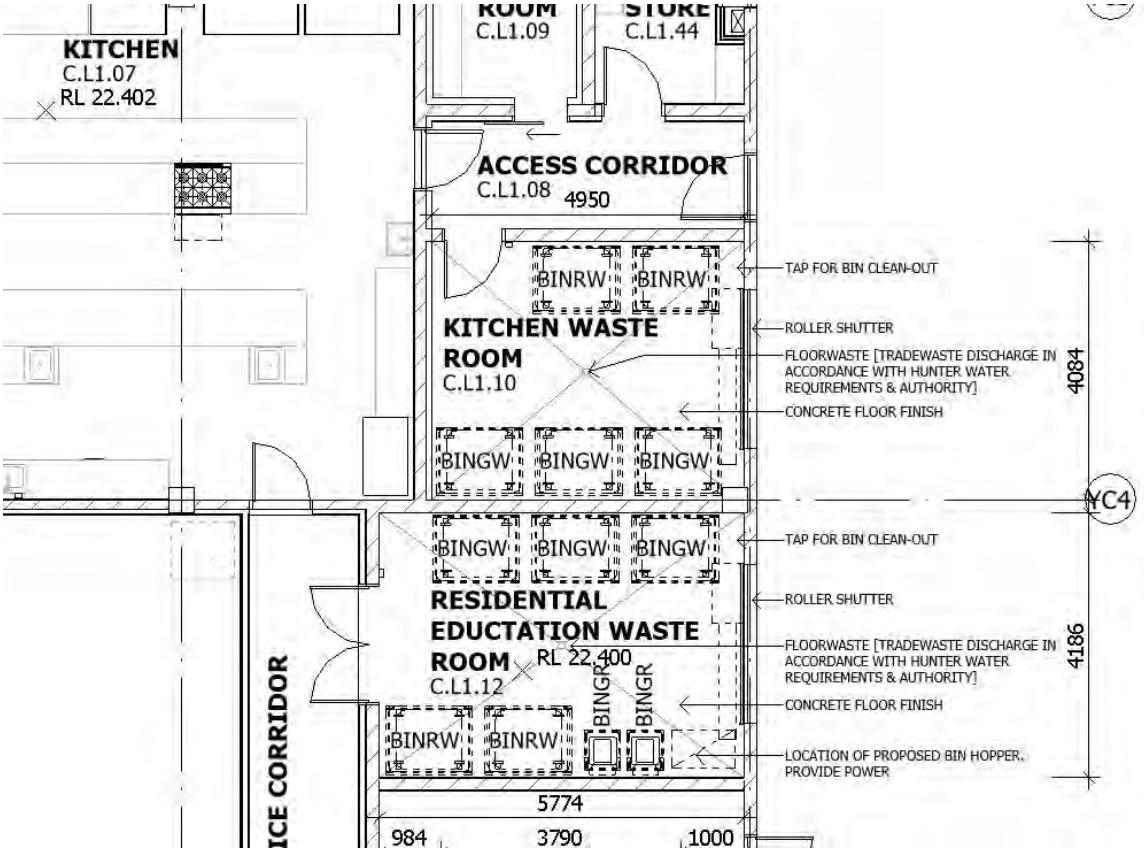
2. On-site Waste Storage Facilities

2.1 Centralised Waste Rooms

- Located on Level 1 of the residential building are two (2) Waste Rooms. These rooms have been sized to house the required minimum quantity of Mobile Garbage Bins (MGBs), and are to be used for the entire development.
- Bin locations have been nominated on the floor plan, and clearly illustrate that the rooms have sufficient size to house the minimum required bins.
- The two Garbage Rooms are sized to accommodate the required fleet of bins, as follows:
    - **Kitchen Waste Room [C.L1.10]**
      Size = 4.7mL x 4.1W approx,
      3 x Garbage Waste 1100L MGBs
      2 x Recycling Waste 1100L MGBs;
    - **Residential Education Waste Room [C.L1.12]**
      Size = 5.8mL x 4.1W approx,
      3 x Garbage Waste 1100L MGBs
      2 x Recycling Waste 1100L MGBs
      2 x Organic Waste 240L Mobile Wheelie Bins;
- Typical 1100L MGB sizes:1373w x 1073d x 1354h (equal to Otto);
- A clear 1800mm unobstructed zone between the stored bins to permit access and manoeuvrability;
- A minimum of 200mm between MGB bins to permit access and manoeuvrability;
- Each waste storage room is co-located, with easy access to the adjacent hardstand, with access to the Service Vehicle Delivery zone at the front of the buildings [adjacent to the street];
- Each room is fully enclosed and walled, and does not permit access to other areas of the building;
- Each of the Waste Rooms have been designed as follows:
    - Compliant ventilation systems in accordance with the BCA and AS1668.4-2012;
    - Well lit spaces with artificial lighting in accordance with the BCA and Australian Standards;
    - Bin washing facilities, including taps for hot and cold water, provided through a centralised mixing valve
    - A graded floor so that any water is directed to a sewer authority approved drainage connection. Wastewater will be discharged to the sewer via floorwastes located centrally within each room.
    - Floor is constructed of concrete at least 75mm thick
    - Smooth, cleanable and durable floor and wall surfaces

- Ceilings are concrete - a smooth-faced non-absorbent material capable of being cleaned.

Level 1 Floor Plan - Refer to A221 [Extract Below]



LEGEND:

BINGR GREEN WASTE BINS
BINGW GENERAL WASTE BINS
BINRW RECYCLING BINS

2.2 Residential Building

- Within the Lobby to each occupant room, there will be the provision for individual waste bins for separated recycling and garbage waste. It will be the responsibility of each occupant to place their own waste in the bins in the Lobbies. These individual bins will be collected on a daily basis by a cleaner/building manager and taken to the centralised waste room on the 1st floor.
- Within the common areas of the residential building, such as the communal kitchens and resident lounge, individual bins for separated recycling and garbage waste will be provided for occupants to dispose of their waste. These individual bins will be collected on a daily basis by a cleaner/building manager and taken to the centralised waste room on the 1st floor.

2.3 Public & Education Building

- Within the Public and Education building, individual bins for separated recycling and garbage waste will be provided throughout the facility for users to dispose of their waste.

- These individual bins will be collected on a daily basis by a cleaner/building manager and taken to the centralised waste room on the 1st floor.

2.4 Bulky Goods Storage Areas

- CoN have requested (refer to letter dated 26/06/2019) consideration for provision of bulky goods storage area, for residents to store their unwanted bulky goods. It is considered that a bulky goods storage room is not required for this type of facility and as such will not be provided, for the following reasons:
    - Student residents will be residing at the facility on average for only a couple of months duration;
    - All furniture, bulky goods and equipment will be directly provided for the students by Nihon University. Students will not be responsible for supplying their own furniture, bulky goods or equipment and as such there will be no bulk waste generation.
- CoN subsequently agreed to this approach (refer to letter dated 10/10/2019).

2.5 Organic Green Waste Management

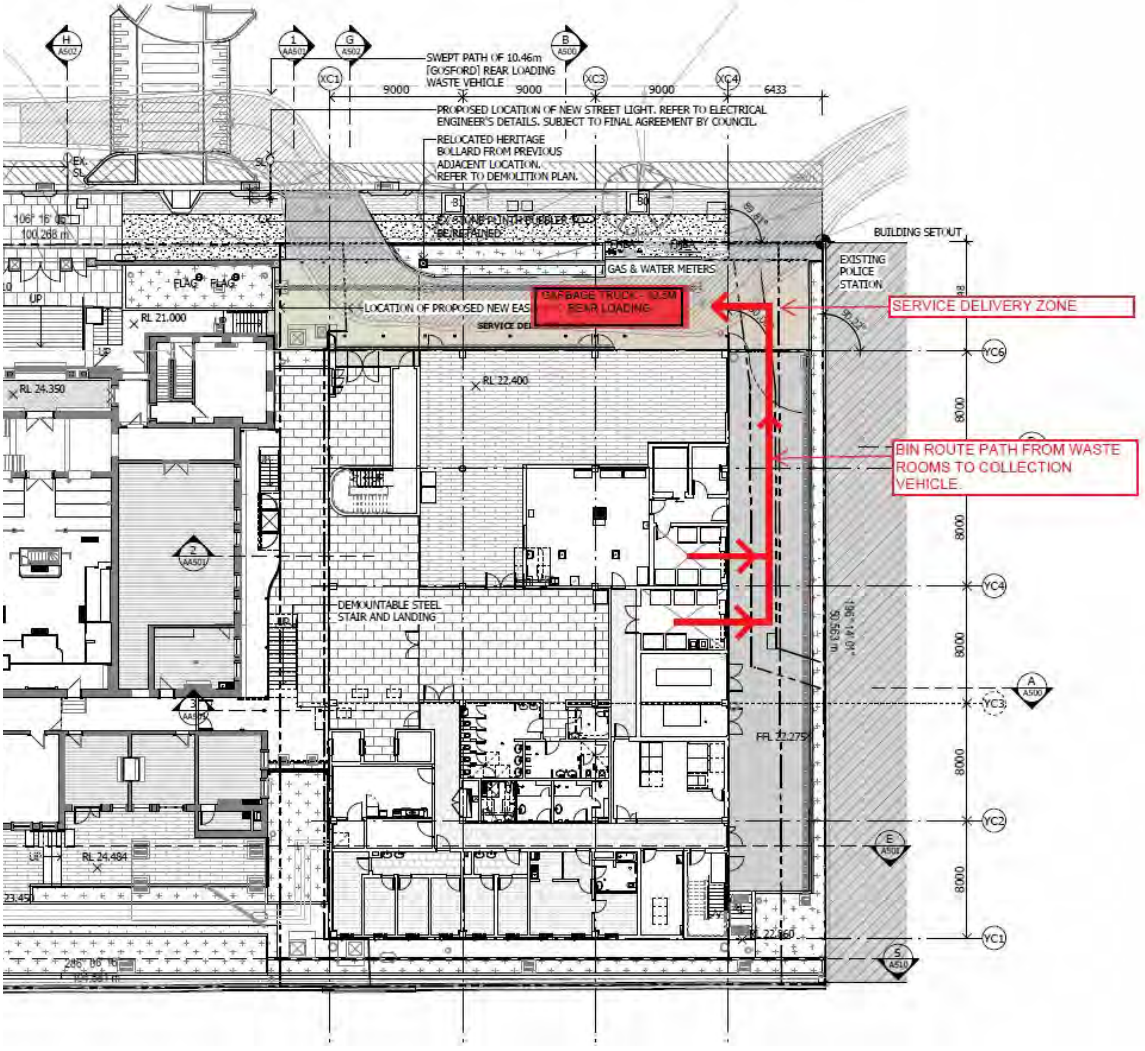
- CoN have requested (refer to letter dated 26/06/2019) that the development is required to provide provision for organic green waste management. It should be noted that neither the Newcastle DCP 2012 – Waste Technical Manual (June 2012) or the EPA's publication "Better Practice Guide for Resource Recovery in Residential Developments" (2019), dictate waste generation rates for organic green/garden waste for this type of development.
- The type of landscaping on the site will only generate small amounts of organic garden waste, in the form of minor pruning, weeds and dropped leaves. Species of selected plants that require pruning are minimal, and these are very slow growing. There are no areas of grass or lawn, and as such there will not be any grass clippings produced.
- It can be assumed that landscaped areas will produce only small quantities of organic garden waste, and provision shall be provided for a maximum of 2 x 240L organic green waste movable wheelie bins. These can be positioned within the Residential & Education waste room. Collection of the organic green waste will be managed by the Private Waste contractor.
- CoN subsequently agreed to this approach (refer to letter dated 10/10/2019).

3. Collection

- Collection of all waste (garbage, recycling and organic green waste) will occur up to 3 times per week.
- Collection will be undertaken by a Private Commercial Waste contractor, engaged and managed directly by the building owner.
- Collection of all waste will occur fully within the site within the nominated "Services Delivery Zone", and limited to the following [Note: these hours have been agreed upon by the consent authority as part of the Development Consent conditions dated 11/12/2019]:
    - Between the hours of 7am to 8am and 7pm to 8pm Monday to Friday
    - Between 7am to 8am Saturday
    - No use on Sundays or Public Holidays
- The "Services Delivery Zone" allows for a maximum 10.5m Rear Loading Waste Vehicle, to enter and exit the site via Church Street in a forward direction at all times. Refer to swept path analysis drawings prepared by Seca Solutions drawings [P1626 SS01 Rev A and P1626 SS02 Rev A] and dwp drawings [17-0347 A035 Rev 12 and 17-0347 AA036 Rev 2].
- The "Services Delivery Zone" is designed to be controlled with removable vehicle bollards at both the entry and exit driveways, to prevent unauthorised vehicle entries outside of the designated operation days and times. The onsite building manager will be responsible for managing all vehicle movements within the zone, to ensure pedestrian and vehicular access is managed appropriately.

- The “Services Delivery Zone” and access driveways are designed in accordance with “Australian Standard 2890.2 Parking Facilities – Off-Street Commercial Vehicle Facilities – 2002”.
- The “Services Delivery Zone” has an unobstructed head clearance, suitable for the 10.5m Rear Loading Waste Vehicle.
- At time of collection, the bins will be wheeled from the Waste rooms, along the adjacent hardstand to the “Services Delivery Zone”, at the front of the building, by either the building manager or Private Commercial Waste contractor.
- The path of travel from the bin room to the point of collection is a step free access and a suitable gradient for the maneuverability of the bins.
- CoN have requested an engagement agreement or statement of intent from a Private Commercial Waste Collection Provider, regarding the waste management services. At this stage of the development, undertaking such negotiations and entering into any contractual engagement is premature. The proponent will be undertaking discussions with all relevant Private Commercial Waste contractors at the appropriate time, prior to occupation. Some of these contractors will likely be:
    - Cleanaway
    - JJ Richards and Sons
    - Solo
    - Veolia
    - Suez

Site Plan illustrating proposed collection point and bin route path - Refer to A035 [Extract Below]



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4. Ongoing Management and Maintenance

- All waste rooms and waste collection procedures will be managed in accordance with the future Operational Management Plan and Operational Transport and Access Management Plan [OTAMP], to be finalised prior to occupation. These management plans will dictate the following:
    - Delivery and services vehicle management arrangements;
    - Use of the *"Services Delivery Zone";*
    - Cleaning and Caretaker responsibilities for ongoing monitoring and maintenance of waste management services and equipment

Conclusion

The waste storage and collection methods proposed for the redevelopment of 9 Church Street Newcastle, allows for the safe and manageable storage and collection of operational waste from the site during occupation, in reference with the following:

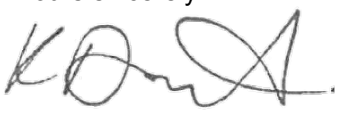
- Environmental Impact Statement [EIS] [Rev 04 dated 08/05/2019];
- Formal Response to Information Request and Submissions [dated 19/09/2019];
- dwp Memorandum 25, dated 11th July 2019, [prepared by dwp as part of EIS Response to Submission to NSW DPIE];
- EPA, Better Practice Guide for Waste Management in Multi-unit Dwellings, 2019;
- City of Newcastle (CoN), DCP - 7.08 Waste Management, version 2 dated 24/10/206;
- City of Newcastle (CoN), Newcastle Waste Management Technical Manual, June 2012.

It is recommended that a qualified Waste Auditor be engaged to review this Operational Waste Management Plan prior to occupation. Particular attention and commentary is required to meet the Development Consent condition E29, specifically

> *(c) describe the handling, storage and disposal of all waste streams generated on site, consistent with the Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classification Guideline (Department of Environment, Climate Change and Water, 2009)*;

If there are any queries in relation to the content of this report, please contact the undersigned.

Yours sincerely



Katherine Daunt

Design Director | Registered Architect - NSW ARBN 9981
Email: katherine.d@dwp.com
File: 17-0347_A400_Operational Waste Management Report_B_200225
Encl: Attach 01 - City of Newcastle (CoN) letter dated 26th June 2019
Attach 02 - dwp Memorandum 25, dated 11th July 2019, [prepared by dwp as part of EIS Response to Submission to NSW DPIE]
Attach 03 - City of Newcastle (CoN) letter dated 10th October 2019
Attach 04 - Drawings:
17-0347 AA036 Rev 2, 17-0347 A035 Rev 12, 17-0347 A221 Rev 12,
P1626 SS01 Rev A, P1626 SS02 Rev A,

ATTACH 01

Governance G. Mansfield
Reference:PB2019/05489

City of Newcastle

26 June 2019

David Gibson
Team Leader
Social Infrastructure Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2305

Reply by email: Megan.Fu@planning.nsw.gov.au

Dear David

NIHON UNIVERSITY NEWCASTLE CAMPUS 9 CHURCH STREET NEWCASTLE (SSD 9787)

I refer to your letter of 20 May 2018 notifying that the above State significant development application submitted by Nihon Daigaku Australia Newcastle Pty Ltd was on public exhibition and inviting City of Newcastle (CN) to comment on the proposal.

The submitted application and Environmental Impact Statement (EIS) have been reviewed by CN officers and the following comments are offered for your consideration:

1. Urban Design

Prior to submitting the development application, the applicant sought the advice of CN's Urban design Consultative Group (UDCG) regarding the compliance of a preliminary design for the development with the design quality principles set out in State Environmental Planning Policy 65- Design Quality of Residential Apartment Development.

According to the minutes of the UDCG meeting of 17 October 2018, the summary recommendation of the Group was as follows:

> *'The proposed use for the site and the design concept and massing are generally supported. The above comments relating to planning, amenity and aesthetics should be addressed and resolved before the proposal is submitted for approval.'*

While the UDCG generally supported the massing strategy proposed, and the modern façade expressions of the new buildings on either side of the former courthouse, concerns were raised regarding the aesthetic expression of the new buildings.

The following extracts from the minutes is relevant:

1. *'The proposed buildings have a strong horizontal massing which is not in keeping with the character of the courthouse, or the urban fabric of this part of the city (look at the proportions of the terraces on Church Street).*
   A combination of horizontal and vertical massing is needed in the façade to be a better fit with the area.'

2. *'The façade expression is relatively similar for both the dormitory and the teaching buildings. While the two should (as the architects propose) have a similar language of texture, colour and materiality, the UDCG suggests that the next stage the different functions of the two could be expressed.*
As such, a smaller scale, richer façade might be found in the dormitory building, while a slightly larger scale, more commercially expressed version of the façade might be developed for the teaching building.'

The applicants were encouraged to continue developing the façade design (in materiality, detail, texture of colour) to present the impression of an important educational building in an urban setting.

Based on an examination of the submitted plans it would appear that the design of the development has been modified in response to some of the above comments. However, it would be helpful if the applicant could provide a written narrative which provides specific details of the design changes made in this regard.

2. Traffic Parking and Access

2.1 The Proposal

The EIS indicates the development will accommodate on site 100 students and approximately 8 staff, it is noted, however, that students from the University of Newcastle will have the opportunity to learn Japanese culture and language at the campus. In order to ascertain the traffic related impacts of this development further information is sought in relation to the total maximum number of students that will be studying on the campus including those from the University of Newcastle.

2.2 Traffic Generation

The Traffic and Parking Assessment Report (TPAR) submitted in support of the application has argued that vehicle activity associated with the campus is confined to staff and service vehicles. On this basis a quite conservative approach has been used assuming that all vehicle activity will occur in the peak periods and modelled nearby intersections with an allowance for future traffic growth. This modelling has confirmed that the intersections continue to operate at acceptable levels of service post development with minimal delay for the motorist.

While the adoption of a conservative approach is supported in principle it is considered that the results should be reviewed and updated in light of the total maximum number of students and the percentage of University of Newcastle students utilising the campus.

2.3 Vehicular Access, Driveway Design and Crossing Location

The development retains the existing driveways at the eastern and western ends of the site. The western driveway provides access to the basement car park and caters for opposing vehicle movements while the eastern driveway is intended to be used for service vehicle activity and only caters for single vehicle movement.

Concern is raised in relation the potential for on-street queueing associated with the operation of the eastern service vehicle driveway, considering the many and varied service activity that would typically be associated with the operation of a University campus. It is also noted that this driveway is adjacent to the police station driveway. To address this concern, it is recommended that the driveway be widened to accommodate opposing vehicle movements in accordance with AS 2890.2 – Off Street Commercial Vehicles Facilities, and turning facility provided within the site.

The driveways are to comply with AS 2890.1 – Parking Facilities having regard for the need to maintain driver sight lines to pedestrians for a vehicle exiting the site.

2.4 Servicing

The eastern driveway is intended to be used by service vehicles with the maximum size vehicle being small rigid truck, reversing into the site and exiting in a forward direction onto Church Street. It is stated in the TPAR that this access arrangement, in particular the reversing movement, is consistent with the practice utilised by the former courthouse. An inspection of the site would suggest otherwise, with vehicles entering and exiting the site in a forward direction. Under the Roads & Maritime Services publication 'Guide to Traffic Generating Development' and AS 2890.1 – 'Parking Facilities' vehicular movements associated with loading facilities should be forward entry and exit. Considering the increase in pedestrian activity in the area associated with this development it is recommended that all vehicles are required to enter and exit the site in a forward direction.

2.5 Parking Demand

While the transient nature of the international students and the teaching staff is recognised, further clarification is required on other aspects of the development in respect of parking generation.

The site currently has a total of 34 parking spaces on-site comprising 16 spaces in a basement carpark and 18 spaces outdoors at the rear of the site.

The TPAR argues that the parking rate for the Newcastle City Centre under the Newcastle Development Control Plan (DCP) 2012 should be applied to the site, being 1 space per 60m^2 GFA for all non-residential land uses. The argument is primarily on the basis that the Newcastle City Centre boundary is directly adjacent to the site and the land uses proposed are consistent with those of the city centre.

Having regard to the site being in a B4 Mixed Use zone under the Newcastle Local Environmental Plan 2012 applying the Newcastle City Centre parking is considered reasonable. Based on this rate, the TPAR calculates a parking demand for 111 spaces.

The development proposes a total of 20 car spaces inclusive of 2 disabled persons parking spaces, 1 motorcycle space and 22 bicycle spaces. Having regard to an historic parking deficiency for the site of 31 spaces and the 20 spaces proposed the TIA identifies a parking shortfall of 60 spaces. The methodology for these calculations is considered sound.

The TPAR argues that 'strict application' of the Newcastle City Centre parking rate is not appropriate for the following reasons:

- The Nihon students will not have Australian or International Drivers licences.
- The existing NeW Space building and the proposed Honeysuckle Campus of the University of Newcastle *'provide a parking ratio of around 1 space per 500 m^2 or no parking at all.'* The justification for such rates being the application of Travel Demand Management and Green Travel Plan principles encourage alternative modes of travel, such as public transport, cycling and walking.
- The range of parking ratios of between zero and 1 space for more than 750 m^2 GFA for other university campuses across Australia.

Consequently, the TPAR argues that the provision of parking should be limited to staff and not the general student cohort, with the wider transport needs of the student population accommodated by alternative means of travel and Green Travel Plan.

It is noted that the TPAR sourced its comparative data on other universities campus from the EIS of the NeW Space development. As explained in the CN's submission of 6 September 2018 to the Department concerning the Newcastle Honeysuckle City Campus Concept Proposal (SSD 9262) caution needs to be given to applying the New Space parking transport strategy to other university campus in the Newcastle City Centre until such time as hard evidence is available that the key points and assumptions that underpin

the strategy have been proven. To date, the University have not submitted a Response to Submissions report which addresses the issues raised in the CN submission.

Concern is raised in relation to the general adequacy of the provision of parking considering that the EIS identifies a maximum of 12 teaching staff, 8 administration staff and 4 hospitality staff will be on-site and possibly residing at the campus. However, there appears to be a need to also cater for other associated uses such as visitor vehicles, service and maintenance vehicles, or other university related vehicles (e.g. shuttle buses).

2.6 Green Travel Plan

As discussed above, the TPAR promotes the use of alternate means of transport to motor vehicle and has recommended that a Green Travel Plan (GTP) be prepared and implemented with the university as a means to address the on-site parking deficient.

In accordance with Clause 7.03.03 of DCP 2012 a GTP is required to be submitted in support of any major development application identifying the measures to be utilised and the facilities provided to promote and facilitate the use of alternate transport. The GTP should identify and analyse the suitability of existing alternate transport options available to students and any proposed upgrades to existing infrastructure in addition to measures and facilities proposed within the university campus.

Given the reliance on a GTP to justify the parking deficient this should be prepared and considered prior to the determination of the subject application.

2.7 Public Domain

The following public domain works are required in connection with the development, and will be subject to separate approval under Section 138 of *Roads Act 1993.*

Works	Reason
Reconstruct new pedestrian foot path across site frontage.	To enhance pedestrian amenity and safety due to increased pedestrian demand from development.
Reconstruct kerb and gutter	To improve street drainage, streetscape and facilitate compliant footway grades.
Road shoulder	Complement kerb works.
Kerb blisters and raised pedestrian crossings at the intersection of Bolton and Church Streets	To enhance pedestrian amenity and safety due to increased pedestrian demand from development.

3. Stormwater management

As acknowledged in the EIS, an existing easement for drainage 3m wide affects the subject land under DP1199904. The easement contains a 900mm stormwater pipe that forms part of the broader public street drainage system.

It is noted that the existing easement is limited in height to RL21m Australian Height Datum. However, it is considered that this limitation was to account for an existing situation where an existing building was already located over the pipe at the time DP1199904 was registered. This current situation is considered problematic in that there is limited provision for future maintenance of the asset within the easement.

As part of the development the existing building over the pipe is proposed to be demolished. Therefore, any new improvements on the site need to address the requirements of Section 7.06 Stormwater of the DCP 2012, which states:

'(h) Existing drainage systems

Where a drainage system serving other lands is located on the development site, that system is to be protected by an easement in favour of the beneficiary of the drainage system in order to permit the continued use of the drain. At the same time, a drainage easement gives the beneficiary the right to maintain the pipes contained in the easement. Where necessary, upstream lots are to be given a legal right to drain through a development site.

New buildings are not to be constructed over or compromise the integrity of drainage lines or easements including those originating from outside the site.

Where an existing drainage line runs under a proposed building, the drainage line and any associated easement is to be diverted around the building. Redundant easements are to be extinguished and new easements are to be created. Where an existing drainage system across the site is retained, access to the existing system is not to be affected by the proposed development. The development is to be designed so as not to degrade the structural integrity of the system.'

The associated 'Stormwater and Water Efficiency for Development' Technical Manual (April 2019), supports the DCP and provides further details in relation to existing infrastructure.

The application has not addressed the above requirements of the DCP and consideration should be given to amending the design of the development such that the proposed buildings are located clear of the existing easement or alternatively the existing pipe asset and easement is relocated clear of the building footprint. A minimum 3m wide easement will ultimately need to be maintained across the site providing access for future maintenance of the pipe asset and provision of an overland flow path.

It is noted that there may be opportunity to still construct over such an easement provided that sufficient clearance can be maintained overhead to enable reasonable and viable future maintenance, including machinery. Therefore, such an arrangement could possibly be accommodated between the Courthouse building to remain and the new eastern building adjacent (subject to amended design). It is recommended that further consultation be undertaken with CN Development Engineers and CN's Asset Section should this option be pursued, but as a guide overhead clearance in the order of 4.5m will likely be required.

4. Noise

The acoustic and vibration assessment has focused on potential noise impacts on surrounding receivers emitted during construction and from activities, vehicles and plant and equipment on site, but has not addressed noise from existing noise sources which may impact upon the proposed development. In this respect, it is noted the Grand Hotel is located opposite proposed student accommodation rooms. The acoustic assessment should address potential noise impacts on the proposal to confirm whether any acoustic attenuation is required to help ensure internal noise levels will meet appropriate guidelines such as: Internal Noise Levels. AS/NZ 2107:2000 Acoustics - *Recommended design sound levels and reverberation times for building interiors.*

5 Contamination

The subject land has been subject to two contamination investigation reports; a preliminary investigation (Coffey 2012) and detailed investigation report (Presna 2016) which included limited sampling of the small areas of site not occupied by buildings. These reports were not undertaken in relation to confirming whether the subject site is specifically suitable for the proposed development. The documents identified potential contamination sources arising from fill and hazardous building materials as well as potential use of pesticides/insecticides. The limited sampling of available areas identified Total Recoverable Hydrocarbon, benzo(a)pyrene and lead contamination in excess of nominated health and environmental criteria for High Density Residential Land Use and Industrial/commercial land use.

The detailed investigation report prepared by Prensa concluded that:

'existing concentrations of TRH, benzo(a)pyrene and lead do not preclude ongoing commercial use of the site; should the site be redeveloped for a more sensitive land, further assessment, management and/or remediation of fill material across the site is recommended in open areas and beneath slabs following any proposed demolition.'

To address contamination specifically in relation to the proposed development, two documents from Cardno (NSW/ACT) Pty Ltd were submitted with this application:

- Phase 1 Environmental Site Assessment – A Technical Note (29 April 2019).
- Remediation Action Plan – A Technical Note (6 May 2019).

The Phase 1 Environmental Assessment technical note recommends:

1) The additional detailed investigations as recommended by both Coffey (2012) and Prensa (2016) be undertaken following demolition of the two (2) buildings to the east and west of the former 1892 Newcastle Court house building. This approach is advised as approximately 90% of the site is currently covered by either buildings or hardstand limiting access to soils. Any conclusions drawn from the results of sampling such a small portion of the site would not be representative of the site as a whole and therefore conclusions as to the Site's suitability would be unable to drawn. In particular, as the exact location and status of the former engine workshop and fuel/oil storage facilities reportedly located at 1 Church Street (Police Station) is unknown; investigations along the eastern boundary are currently hindered by the existing infrastructure.

2) If necessary, a Remediation Action Plan be prepared by a suitably qualified land contamination consultant and implemented following the post demolition DSI and prior to the proposed development.'

The Remediation Action Plan technical note states:

'The objective of this Technical Note is to provide the NSW Department of Planning and Environment, clear guidance in relation to the site-specific Remediation Action Plan (RAP), which is to be prepared and implemented to allow the site to be made suitable for the proposed land use.'

It goes on to summarise the findings of the two investigation reports and then advises that prior to demolition a conceptual Remediation Action Plan (cRAP) describing the works required to make the site suitable for the proposed use will be prepared.

'The cRAP will include the following:
> Definition of the Site, including features, history and areas of environmental concern;
> Identify the need for further investigations to address data gaps;
> An updated Conceptual Site Model providing an evaluation of the potential risks to human health and the environment from identified contamination, if present;
> revision and finalisation of the cRAP following data gap investigations;
> A detailed plan outlining the implementation of the remediation strategy, including data gap investigations and unexpected finds protocol to manage unanticipated events during the demolition works;
> Detail environmental, site, occupational health and safety (OHS) control measures and community consultation requirements associated with implementation of the preferred remedial strategy; and
> Outline legislative, planning, and permitting requirements.

Following implementation of the RAP, a validation report will be required detailing the results of the data gap investigation and remediation works and confirming that the site is suitable for the proposed use.'

It is considered the information submitted does not clearly allow the consent authority to conclude whether the site is suitable for the proposed use (or can be made suitable following remediation) in accordance with the assessment requirements of State Environmental Planning Policy No 55 - Remediation of Land. This is largely due to insufficient information and considered expert advice and recommendations.

The site has not been subject to a detailed investigation in accordance with appropriate guidelines and this issue is compounded by the fact the former investigation reports which have been undertaken were not undertaken with respect to the proposed development and did not provide conclusions or recommendations in respect to the proposal. The sampling data that is available has indicated exceedances of nominated criteria, however the appropriate investigation criteria has not been specifically determined or justified in respect to the proposed development. Land use specific risk considerations may include the level of soil exposure for future site uses, specific ground floor land uses and considerations as to how removal of existing fill material may potentially reduce risks from historic fill material. It is noted bulk excavations, in the range of 0.8 to 1.2m below existing ground level are proposed to form the new building design levels following demolition.

Cardno's RAP technical note (6 May 2019) appears to outline the following intended process to address contamination:

- An assumption has been made that some form of remediation is likely pending further detailed investigations to be undertaken after demolition.
- A cRAP will be drafted prior to demolition detailing further investigations required. (It is not clear what a 'conceptual' RAP is in accordance with NSW EPA contaminated land guidelines and whether this essentially is proposed to be a draft document).
- It appears the cRAP is intended to be submitted/approved by the department however this is not clear and does not appear to have occurred at this stage.
- Following demolition further investigations will be undertaken (it is not clear what investigation levels would be used)
- A decision will be made whether remediation is necessary, and if so, a specific RAP will be developed based on further detailed information (it is not known whether this would be category 1 or 2 remediation or whether long term management of contamination will be required)
- The RAP will be implemented (this could involve any remedial technique from excavation off site to long term onsite capping and management and be subject to a Long-Term Environmental Management Plan).
- Following remediation (if required) a validation report would be prepared.

Concern is raised that the above process involves a significant amount of uncertainty for both the proponent and consent authority.

It is recommended a more detailed expert assessment and consideration of existing data in accordance with appropriate guidelines be carried out in respect to the proposed development to more accurately determine data gaps, levels of risk and appropriate land use criteria to (if possible) confirm whether there is sufficient information to determine whether the site is suitable for the proposed land use prior to determination.

If the land use suitability can be determined and remediation is required, then a RAP which clearly complies with NSW EPA guidelines should be developed and submitted for assessment. If further investigations are recommended to inform whether the site is suitable and/or remediation is necessary, then this may require consideration of a separate application for demolition only to allow for further investigations or potentially a staged approval process. Also, utilisation of an NSW accredited site auditor may be warranted to address uncertainties in the site investigation, remediation and validation process.

6. Section 94A Development Contributions Plan 2009

According to Section 4.4.12 of the EIS, the estimated Section 94A (now known as Section 7.12) development contribution for the proposed development is provided in the *Section 94A Estimate* at Appendix 7. It is stated the estimate was prepared having regard to the Clause 7.12 (now Clause 25J) of the Regulation. It is noted, however, that in the certification section of the *Estimate*, the reference to the estimate being calculated in accordance Clause 25J has been deleted. Clarification should be sought from the applicant regarding this matter.

7. State Environmental Planning Policy (SEPP) No 64 – Advertising and Signage

According to Section 7.3.2 of the EIS, SEPP 64 does not apply to the development because the proposed signage is exempt development pursuant to Division 4 and Schedule 1 of SEPP (Educational Establishments and Child Care Facilities) 2017. An examination of these policy suggests otherwise. The exempt development provisions of the above schedule apply to development *'carried out by or on behalf of a public authority in connection with an existing educational establishment'*. These circumstances do not apply in this case.

8. Waste Management

The following comments are provided regarding the 'Waste Management Report – Building Operation'(WMP) prepared by dwp Australia Pty Ltd:

- The 2019 revision of the Environmental Protect Authority's publication 'Better Practice Guide for Resource Recovery in Residential Developments' suggests that, allowing for variances and increases in waste generation, as a general guide, the allowance for waste and recycling storage for accommodation non-hotel / motel is:
    - General waste: 10 lts per room, per day (70 lts per week)
    - Comingled recycling: 5 lts per room, per day (35 lts per week)

  Based on 109 'rooms', the following weekly allowances should be made for the residential component:
    - General waste: 7,630 lts / week
    - Comingled recycling: 3,815 lts / week

  These allowances exceed those stated in the WMP.

- Café / Kitchen allowance under the revised guidelines is as follows:
    - General waste: 400 lts per 100m2, per day
    - Comingled recycling: 280 lts per 100m2, per day

  Based on 384m2 of floor space (224m2 of cafeteria plus 160m2 of kitchen), the following daily allowances should be made for the café / kitchen component:
    - General waste: 1,536 lts day / 7,680 lts / week (based on 5 days)
    - Comingled recycling: 1,075 lts day / 5,376 lts / week (based on 5 days)

  This allowance is based on five days per week, as per the submitted WMP, although it not clear where the residents will eat and prepare meals on the other two days per week considering they reside in the premises 7 days per week.

- Public building (Offices) allowance under the revised guidelines is as follows:
    - General waste: 10 lts per 100m2
    - Comingled recycling: 15 lts per 100m2

  Based on 1,210m2 of floor space (as proposed), the following daily allowances should be made for the public building component:
    - General waste: 121 lts day / 605 lts / week (based on 5 days)

- Comingled recycling: 182 lts / 908 lts / week (based on 5 days)

This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other two days per week. An additional allowance may need to be made.

- Education building (Offices) allowance under the revised guidelines is as follows:
  - General waste: 10 lts per 100m2
  - Comingled recycling: 15 lts per 100m2

  Based on 1,754m2 of Education Building floor space, the following daily allowances should be made for the education building component:
  - General waste: 175 lts day / 877 lts / week (based on 5 days)
  - Comingled recycling: 263 lts day / 1,316 lts / week (based on 5 days)

  This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other 2 days per week. An additional allowance may need to be made.

- Total Estimated Volumes Per week:
  - General waste: 16,792 lts / week
  - Comingled recycling: 11,415 lts / week

- Potential Collection Methodology:
  - General waste: 16 x 1,100 lt bins / week (provision for waste room/s to hold at least 6 x 1,100 lt bins, with the potential for 5 bins serviced 3 x per week)
  - Comingled recycling: 11 x 1,100 lt bins / week (provision for waste room/s to hold at least 4 x 1,100 lt bins, with the potential for 3 bins serviced most days)

The design of the two waste bin storage rooms is:

- To be large enough to accommodate the entire fleet of bins plus 0.2m between bins to allow adequate maneuverability space.
- To provide a 1.8m unobstructed clearance zone between the stored bins and the entrance to permit access and maneuverability.
- To provide suitable dual door access for the service of bins with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be located within proximity to the on-site loading bay.
- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

It is noted no provision has been made for bulky goods storage There should be suitably sized room/s made available for residents to store their unwanted bulky goods, prior to dispatch by the nominated contractor. Such room/s should be located adjacent to the loading bay/s.

The size of the bulky household goods area for developments of 20 or more dwellings is based upon the following calculation:

- Bulky Goods Area (m2) = [number of units x 4] / 26

Note: All calculations are rounded up to next whole number. Based on the above, bulky goods storage of at least 17m2 should be allowed for.

The design of the bulky goods storage room/s are:

- To provide a minimum unobstructed width of 1.8m.
- To provide suitable dual door access for the service of bulky goods with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be near the on-site loading bay.

- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

There is no provision in the WMP for green waste management. The Plan needs to outline how green waste generated at the site will be managed.

A satisfactory engagement agreement / statement of intent from a commercial waste collection provider regarding the waste management services as detailed in the approved WMP should be confirmed prior to approval of the development.

If you have any questions in relation to the various matters raised in the letter, please contact Geof Mansfield, Principal Planner (Development) on 4974 2767 or by return email.

Yours faithfully

Michelle Bisson
MANAGER REGULATORY PLANNING AND ASSESSMENT

ATTACH 02

dwp

A103 Memorandum

Date:	11th July 2019
Project Name:	Newcastle Courthouse Redevelopment | Nihon University
Project No:	auncl-17-0347
Reference:	17-0347 memo 25 – 11.07.2019
Page	1 of 5

To:	*Copy*	*Company*	*Attention*	*Circulation*
✓		NSW Department of Planning & Environment	Megan Fu	Megan.Fu@planning.nsw.gov.au
	✓	City Plan	Murray Blackburn-Smith	murraybs@cityplan.com.au
	✓	Azusa Sekkei Co Ltd	Jun Yokobori	yokobori1482@azusasekkei.co.jp
	✓	dwp Australia Pty Ltd	Ed Clode	edward.c@dwp.com
	✓	dwp Australia Pty Ltd	Katherine Daunt	Katherine.d@dwp.com

25 SSD-9787 Nihon University Newcastle Campus – Waste Management Response

On behalf of Nihon University, dwp are supplying this memorandum to respond to the agency correspondence received from City of Newcastle (CoN), dated 26th June 2019, in relation to the exhibition of the development application for SSD-9787 Nihon University Newcastle Campus.

This correspondence specifically relates to *8. Waste Management,* in particular the following extracts:

8. Waste Management

The following comments are provided regarding the 'Waste Management Report – Building Operation'(WMP) prepared by dwp Australia Pty Ltd:

- The 2019 revision of the Environmental Protect Authority's publication 'Better Practice Guide for Resource Recovery in Residential Developments' suggests that, allowing for variances and increases in waste generation, as a general guide, the allowance for waste and recycling storage for accommodation non-hotel / motel is:
  - General waste: 10 lts per room, per day (70 lts per week)
  - Comingled recycling: 5 lts per room, per day (35 lts per week)

  Based on 109 'rooms', the following weekly allowances should be made for the residential component:
  - General waste: 7,630 lts / week
  - Comingled recycling: 3,815 lts / week

  These allowances exceed those stated in the WMP.

- Café / Kitchen allowance under the revised guidelines is as follows:
  - General waste: 400 lts per 100m2, per day
  - Comingled recycling: 280 lts per 100m2, per day

  Based on 384m2 of floor space (224m2 of cafeteria plus 160m2 of kitchen), the following daily allowances should be made for the café / kitchen component:
  - General waste: 1,536 lts day / 7,680 lts / week (based on 5 days)
  - Comingled recycling: 1,075 lts day / 5,376 lts / week (based on 5 days)

  This allowance is based on five days per week, as per the submitted WMP, although it not clear where the residents will eat and prepare meals on the other two days per week considering they reside in the premises 7 days per week.

- Public building (Offices) allowance under the revised guidelines is as follows:
  - General waste: 10 lts per 100m2
  - Comingled recycling: 15 lts per 100m2

  Based on 1,210m2 of floor space (as proposed), the following daily allowances should be made for the public building component:
  - General waste: 121 lts day / 605 lts / week (based on 5 days)
  - Comingled recycling: 182 lts / 908 lts / week (based on 5 days)

  This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other two days per week. An additional allowance may need to be made.

- Education building (Offices) allowance under the revised guidelines is as follows:
  - General waste: 10 lts per 100m2
  - Comingled recycling: 15 lts per 100m2

  Based on 1,754m2 of Education Building floor space, the following daily allowances should be made for the education building component:
  - General waste: 175 lts day / 877 lts / week (based on 5 days)
  - Comingled recycling: 263 lts day / 1,316 lts / week (based on 5 days)

  This allowance is based on five days per week, as per the submitted WMP, although it is not clear whether these areas shall also be used on the other 2 days per week. An additional allowance may need to be made.

- Total Estimated Volumes Per week:
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  - Comingled recycling: 11 x 1,100 lt bins / week (provision for waste room/s to hold at least 4 x 1,100 lt bins, with the potential for 3 bins serviced most days)

The design of the two waste bin storage rooms is:
- To be large enough to accommodate the entire fleet of bins plus 0.2m between bins to allow adequate maneuverability space.
- To provide a 1.8m unobstructed clearance zone between the stored bins and the entrance to permit access and maneuverability.
- To provide suitable dual door access for the service of bins with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be located within proximity to the on-site loading bay.
- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

It is noted no provision has been made for bulky goods storage There should be suitably sized room/s made available for residents to store their unwanted bulky goods, prior to dispatch by the nominated contractor. Such room/s should be located adjacent to the loading bay/s.

The size of the bulky household goods area for developments of 20 or more dwellings is based upon the following calculation:
- Bulky Goods Area (m2) = [number of units x 4] / 26

Note: All calculations are rounded up to next whole number. Based on the above, bulky goods storage of at least 17m2 should be allowed for.

The design of the bulky goods storage room/s are:
- To provide a minimum unobstructed width of 1.8m.
- To provide suitable dual door access for the service of bulky goods with a minimum width of 1.8m and accessed by a 1.8m unobstructed access corridor.
- To be near the on-site loading bay.

- To be fully enclosed, walled and not permit through access to other on-site waste infrastructure. Separate unobstructed access is required.

There is no provision in the WMP for green waste management. The Plan needs to outline how green waste generated at the site will be managed.

A satisfactory engagement agreement / statement of intent from a commercial waste collection provider regarding the waste management services as detailed in the approved WMP should be confirmed prior to approval of the development.

25.01 Revised Operational Waste Calculations

The original operational waste calculations, as detailed in the Waste Management Report – Building Operation [Rev A 10.12.2018], were calculated in accordance with the generation rates set out in the *Newcastle DCP 2012 – Waste Technical Manual (June 2012)*. Whilst the CoN Waste Technical Manual does not specifically suggest that waste generation is to be calculated in accordance with EPA's publication *"Better Practice Guide for Resource Recovery in Residential Developments" (2019)*, it is appreciated that this document is more recent than CoN's Waste Technical manual and likely to be more relevant to current day waste generation rates.

Therefore, operational waste calculations have been revised in accordance with EPA's publication "*Better Practice Guide for Resource Recovery in Residential Developments"* (2019), as per the following table:

Amended Operational Waste Calculations:

Number of Occupants / Area	**Garbage Waste (L)**	**Comingled Recycling Waste (L)**
108 x Residential Occupants	70L/room/week = 7560	35L/room/week = 3780
Cafeteria & Kitchen Net Area = 224m² + 72m² = 296m²	400L per 100m²/day Operating 7 x days per week = 8288	280L per 100m²/day Operating 7 x days per week = 5801.6
Public Building Net floor Area = 1210m²	10L per 100m²/day Operating 5 x days per week = 605	15L per 100m²/day Operating 5 x days per week = 907.5
Education Building Net floor area = 1754m²	10L per 100m²/day Operating 5 x days per week = 877	15L per 100m²/day Operating 5 x days per week = 1315.5
TOTAL WASTE PER WEEK (L) – (rounded up to nearest Litre)	**= 17330**	**= 11805**
Quantity of 1100L MGB bins (rounded up)	**16**	**11**
Quantity of 1100L MGB bins based upon collection 3 x times per week (rounded up)	**6**	**4**

Overall, based upon collection frequency of three (3) times per week, the required General Waste bins have increased from 5 x 1100L MGBs to 6 x 1100L MGBs, and the Comingled Recycling Waste increased from 3 x 1100L MGBs to 5 x 1100L MGBs, requiring a slight replanning of the spaces to accommodate the additional bins.

The waste storage rooms are separated into two separate rooms. One for the cafeteria and kitchen facilities and the other for the education and residential facilities.

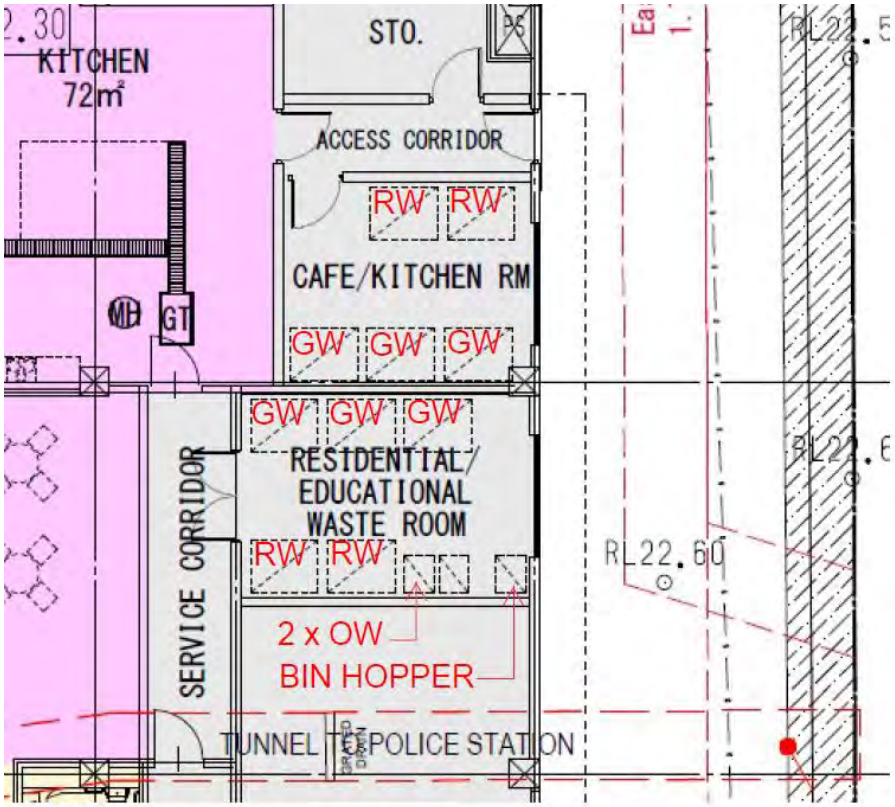
25.02 Design of Waste Storage Rooms

The design of each of the Waste Storage rooms have been amended as follows:

- Increased room sizes to accommodate increased fleet of bins:
  - Cafeteria & Kitchen Garbage Room size = 4.7mL x 4.1W approx,
    3 x Garbage Waste 1100L MGBs
    2 x Recycling Waste 1100L MGBs;
  - Residential & Education Waste Room size = 5.8mL x 4.1W approx,
    3 x Garbage Waste 1100L MGBs
    2 x Recycling Waste 1100L MGBs
    2 x Organic Waste 240L Mobile Wheelie Bins;
- Bin size to remain as typical 1100L MGB sizes:1373w x 1073d x 1354h (equal to Otto);
- A clear 1800mm unobstructed zone between the stored bins to permit access and manoeuvrability;
- A minimum of 200mm between MGB bins to permit access and manoeuvrability;
- Each waste storage room co-located, with easy access to the adjacent hardstand to access the street;
- Each room is fully enclosed and walled, and does not permit access to other areas of the building.

Please refer to updated drawing A-108, Rev 1 with amendments to the layout and configuration of the waste rooms as indicated above.

Extract from amended drawing A-108:



LEGEND:
GW - Green Waste
OW - Organic Waste
RW - Recycling Waste

25.03 Bulky Goods Storage Areas

CoN have requested consideration for provision of bulky goods storage area, for residents to store their unwanted bulky goods. It is considered that a bulky goods storage room is not required for this type of facility and as such will not be provided, for the following reasons:

- Student residents will be residing at the facility on average for only a couple of months duration;
- All furniture, bulky goods and equipment will be directly provided for the students by Nihon University. Students will not be responsible for supplying their own furniture, bulky goods or equipment and as such there will be no bulk waste generation.

25.04 Organic Green/Garden Waste Management

CoN have indicated that the development does not provide provision for organic green waste management. It should be noted that neither the *Newcastle DCP 2012 – Waste Technical Manual (June 2012)* or the EPA's publication *"Better Practice Guide for Resource Recovery in Residential Developments" (2019),* dictate waste generation rates for organic green/garden waste for this type of development.

The type of landscaping on the site will only generate small amounts of organic garden waste, in the form of minor pruning, weeds and dropped leaves. Species of selected plants that require pruning are minimal, and these are very slow growing. There are no areas of grass or lawn, and as such there will not be any grass clippings produced.

It can be assumed that landscaped areas will produce only small quantities of organic garden waste, and provision shall be provided for a maximum of 2 x 240L organic green waste movable wheelie bins. These can be positioned within the Residential & Education waste room. Collection of these can be by City of Newcastle green waste collection service, and will be collected kerb-side on a fortnightly basis.

25.05 Commercial Waste Contractor Provider

CoN have requested an engagement agreement or statement of intent from a commercial waste collection provider, regarding the waste management services.

At this early stage of the development, undertaking such negotiations and entering into any contractual engagement is premature. The proponent will be undertaking discussions with all relevant waste contractors at the appropriate time, prior to occupation. Some of these contractors will likely be:

- Cleanaway
- JJ Richards and Sons
- Solo
- Veolia
- Suez

We trust the above satisfactorily responds to the issues raised by City of Newcastle, in relation to waste management. If there are any questions regarding the above information, please don't hesitate to contact the undersigned.

Katherine Daunt

Design Director | Registered Architect - NSW ARBN 9981
Email: katherine.d@dwp.com
File: 17-0347_A-a04memo_ejc-dwp
Encl: Drawing: A-108, Rev 1

ATTACH 03

Governance G. Mansfield
Reference: PB2019/10434

City of Newcastle

10 October 2019

Megan Fu
Principal Planner
Social and Infrastructure Assessments
Department of Planning, Industry and Environment
GPO Box 39
SYDNEY NSW 2305

Reply by Email: megan.fu@planning.nsw.gov.au

Dear Megan

NIHON UNIVERSITY NEWCASTLE CAMPUS 9 CHURCH STREET NEWCASTLE (SSD 9787)

I refer to your email of 24 September 2019 advising that the applicant Nihon Daigaku Australia Newcastle Pty Ltd has submitted a Response to Submissions (RtS) Report and inviting the City of Newcastle (CN) to comment on the proposal.

The RtS has been reviewed by CN officers and the following advice is offered for your consideration:

1. Urban Design

The RtS satisfactorily addresses CN's previous advice on this matter.

2. Traffic Parking and Access

2.1 The Proposal

The Traffic Consultant's report indicates that 'extra-curricular' student numbers are anticipated to be in the order of six additional local students per day, or 30 per week participating in predominantly after-hours tuition. On this basis, it is considered that the small number of additional local students should not create a demand for additional on-site parking over and above the proposed 20 spaces. Accordingly, the RtS satisfactorily addresses CN's previous advice on this matter.

2.2 Traffic Generation and Parking Demand

The Traffic Consultant's report has reviewed traffic generation and the associated parking demand for the proposed development. It has been demonstrated that the nature of the proposal and the occupancy by predominantly oversees students would result in limited vehicle usage in the order of 19 vehicles per day. Consequently, there will be a greater reliance on the availability of alternate transport modes and the implementation of a Green Travel Plan.

It is concluded that the 20 parking spaces proposed for this development should be adequate. Furthermore, the traffic generated by this development is minimal and therefore

should not adversely impact on the operation of the local road network. Accordingly, the RtS satisfactorily addresses CN's previous advice on these matters.

2.3 Vehicular Access, Driveway Design and Crossing Location
2.4 Servicing

The amended proposal includes the deletion of on-site servicing and the installation of a Loading Zone in Church Street across the frontage of the site. This matter was discussed with CN's Manager Transport & Compliance and Transport & Traffic Coordinator and it was advised that the proposed kerbside loading zone in Church Street is not supported and all service activity associated with this development is to occur onsite.

It is recommended the design of the development be amended to provide the following:

- A minimum 6.5m wide two-way service road
- On-site service bay (loading dock) area complying with Australian Standard AS 2890.2
- All service vehicles entering and exiting the site in a forward direction
- Garbage collection (servicing of bins) occurring from within the site. Garbage bins are not to be presented to the street for collection.

The issue of potential queuing associated with service vehicle activity should be minimised with compliance of the above.

2.6 Green Travel Plan

The applicant is proposing to defer the preparation / implementation of the Green Travel Plan (GTP) until occupation to allow for a better understanding of likely student travel patterns.

The delaying of the GTP is considered reasonable in this case. On this basis, an appropriate condition of consent has been recommended (See attached schedule) requiring the preparation and implementation of the GTP prior to the issue of a Final Occupation Certificate.

2.7 Public Domain

CN's previous advice regarding public domain works was for the information of the applicant and the Department. Accordingly, no response is necessary.

3. Stormwater management

In principle the option to redivert the existing stormwater asset between the two buildings could be a viable option subject to, prior to determination of the application, the applicant submitting an updated stormwater plan with typical sections that clearly defines the following:

- The location of the proposed 3 metre (minimum) wide easement. The easement is to be centered over new pipeline.
- Building and footing extents (both existing and proposed).
- The vertical clearances within the easement to proposed roof/eaves or any other overhanging structures. It appears that a staircase would be located within the easement. Can this be relocated or otherwise constructed in a manner to be easily dismantled if required for access.
- The horizontal clearances in the easement caused by any proposed structures.
- Indicates how access along the easement can be achieved. It appears the front of the courtyard area is a glass wall (e.g. could this wall be designed to provide opening access)

In addition, the proposed stormwater works as identified in the Cardno report (Pg4) are to be amended in accordance with the notations on the attached copy.

4. Noise

The RtS satisfactorily addresses CN's previous advice on this matter.

5 Contamination

The response from Cardno (NSW/ACT) Pty Ltd (9 July 2019) does not fully address CN's previous advice regarding site contamination.

Concern is raised that consent is being sought for a substantial development without the consent authority being provided the opportunity to consider standard information outlined in NSW Environmental Protection Authority endorsed guidelines for the assessment and remediation of contaminated land. Specifically, the site has not been subject to a detailed contamination investigation in respect to the proposed development and because of this there is no detailed conceptual site model and there is no detailed Remedial Action Plan (RAP) which clearly outlines a specific remediation strategy which can be assessed.

Furthermore, it is not known if the proposed future RAP to be developed (as may be required) after further detailed assessment would be category 1 or 2 remediation. If category 1 remediation is required (such as onsite capping and management) then this would appear to require a separate development approval for assessment. Specific conditions of consent would be required to be placed on that consent to identify, and ensure compliance with, a long-term environmental management plan to ensure it is effectively implemented into the future.

It is acknowledged that available information would indicate significant contamination risks are potentially low and that involvement of a site auditor would help ensure appropriate standards of assessment and reporting are complied with. However, a potential low risk and use of an auditor does not absolve a determining authority from the need to properly consider contamination in accordance with Clause 7 of State Environmental Planning Policy (SEPP) 55. Also, it is noted planning complexities may arise if onsite capping of contamination (and separate approvals with appropriate conditions of consent) are required. The contaminated land planning guidelines indicate a determining authority may be reasonably satisfied in respect to Clause 7 of SEPP 55 via the assessment of appropriate development specific contaminated land investigation reports and remedial action plans (and where appropriate site auditor advice) which comply with appropriate guidelines and standards of reporting.

Having regard to the above considerations it is considered appropriate for the applicant to be required, prior to determination of the application, to provide interim site auditor advice confirming the adequacy of the submitted contaminated land information and confirming land use suitability. It is also recommended that consideration be made in respect to the option of a staged approval process to provide the consent authority an opportunity to assess further detailed contaminated land information and a specific remedial action plan once this can be developed by the applicant.

6. Newcastle Local Infrastructure Contributions Plan

The RtS satisfactorily addresses CN's previous advice on this matter.

City of Newcastle's Section 7.12 Newcastle Local Infrastructure Contributions Plan 2019 became operational on 9 September 2019 and repeals the Section 94A Development Contribution Plan 2009 (Updated 2017) referred to in the EIS regarding this development. However, the savings and transitional provisions of the Plan provide that a development application which has been submitted prior to the adoption of this Plan but not determined shall be determined in accordance with the provisions of the Plan which applied at the date

of lodgement of the application. Therefore, the levies applicable under Part B-City Centre of the above s94A Plan apply to the development. Based on a levy of 1% and a cost of development of $28,899,200 (incl.GST) the required monetary contribution is **$288,992.** An appropriate condition of consent has been recommended in this regard.

7. State Environmental Planning Policy (SEPP) No 64 – Advertising and Signage

The RtS satisfactorily addresses CN's previous advice on this matter. While acknowledging that the assessment of the proposed sign in terms of SEPP 64 is a matter for the Department, it is noted a smaller sign would have a reduced visual impact in the streetscape and have less overshadowing impact on the adjoining outdoor terrace of the cafeteria.

8. Waste Management

The RtS satisfactorily addresses CN's previous advice on this matter.

If you have any questions in relation to the various matters raised in the letter, please contact Geof Mansfield, Principal Planner (Development) on 4974 2767 or by return email.

Yours faithfully

Michelle Bisson
MANAGER REGULATORY PLANNING AND ASSESSMENT

Attachments:
1. Schedule of Recommended Conditions
2. Notations on extract from Cardno Report

B CONDITIONS WHICH MUST BE SATISFIED PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION WORK

B1 A Construction Traffic Management Plan is to be prepared by a Roads & Maritime Services accredited person with a Design and Audit Traffic Control Plans Certificate in accordance with Australian Standard 1742.3:2009 - *Manual of uniform traffic devices - traffic control for works on roads*. The plan is to ensure the provision for safe, continuous movement of traffic and pedestrians within the road reserve. The plan is to be submitted to the City of Newcastle for approval prior to the commencement of works and is to be implemented during the construction phase.

C CONDITIONS WHICH MUST BE SATISFIED PRIOR TO THE ISSUE OF ANY CONSTRUCTION CERTIFICATE

C1 A total monetary contribution of $288,992. is to be paid to the City of Newcastle, pursuant to Section 7.12 of the *Environmental Planning and Assessment Act 1979,* such contribution to be payable prior to the issue of a Construction Certificate in respect of the proposed development.

Note:

a) This condition is imposed in accordance with the provisions of the City of Newcastle's *Section 7.12 Newcastle Local Infrastructure Contributions Plan 2019*.

b) The City of Newcastle's *Section 7.12 Newcastle Local Infrastructure Contributions Plan 2019* permits deferred or periodic payment of levies in certain circumstances. A formal modification of this condition will be required to enter into a deferred or periodic payment arrangement.

c) The amount of contribution payable under this condition has been calculated based on the current rate as at the date of consent and is based on the most recent quarterly Consumer Price Index (CPI) release made available by the Australian Bureau of Statistics (ABS). The CPI index rate is expected to rise at regular intervals and therefore the actual contribution payable is indexed and recalculated at the CPI rate applicable on the day of payment.

CPI quarterly figures are released by the ABS on a date after the indexation quarter and, as a guide, these approximate dates are as follows:

Indexation quarters	Approx. release date
September	Late October
December	Late January
March	Late April
June	Late July

Any party intending to act on this consent should contact City of Newcastle's Customer Enquiry Centre for determination of the indexed amount of contribution on the date of payment.

C2 On-site parking accommodation is to be provided for a minimum of << >> car spaces (including << >> disabled parking spaces) and << >> motorbike spaces and << >> secured bicycle spaces (Class 2). A minimum of << >> car spaces are to be allocated for the commercial premises. A minimum of << >> spaces are to be allocated and delineated as visitor car parking. This parking is to be set out generally in accordance with the minimum parking layout standards indicated in Section 7.03 'Traffic, Parking and Access' of the Newcastle Development Control Plan 2012 and the plans submitted with the development

application. Full details are to be included in documentation for a Construction Certificate application.

C3 The car park is to be designed to comply with AS/NZS 2890.1:2004: *Parking facilities – Off-street car parking* and AS/NZS 2890.6:2009: *Parking facilities – Off-street parking for people with disabilities*. Full details are to be included in documentation for a Construction Certificate application.

C4 Traffic management devices in the form of Stop and 'Give way to pedestrian' signs and line marking are to be installed at the entry of the proposed driveways within the property, such devices are to be constructed in accordance with AS/NZS 2890.1:2004: *Parking facilities – Off-street car parking*. Full details are to be included in documentation for a Construction Certificate application.

C5 The applicant is to comply with all requirements of the Hunter Water Corporation regarding the connection of water supply, sewerage services and any drainage connections, including the payment of any required cash contribution towards necessary amplification of service mains in the locality as a result of the increased intensity of land use proposed. A copy of the Corporation's certificate of compliance (Refer s50 *Hunter Water Act 1991*) is to be included in documentation for a Construction Certificate application.

C6 All onsite stormwater retention/detention and water quality treatment systems are to be individually identified and sign posted in accordance with City of Newcastle's Stormwater and Water Efficiency for Development Technical Manual (Updated 2017). Full details are to be included in documentation for a Construction Certificate application.

C7 All stormwater runoff from the proposed development being managed in accordance with the requirements of Section 7.06 'Stormwater' of Newcastle Development Control Plan 2012, as indicated on the stormwater management concept plans and stormwater management report and stormwater plans prepared by <.....>. Full details are to be included in documentation for any Construction Certificate application.

C8 All new impervious surfaces, including driveways and paved areas are to be drained to the nominated discharge controls, full details are to be provided with the Construction Certificate application.

C9 A dilapidation report prepared by a suitability qualified person shall be submitted to the Certifying Authority prior to the issue of the Construction Certificate. The dilapidation report shall document and photograph the current structural condition of the City of Newcastle infrastructure and roads. An electronic copy of the dilapidation report is to be provided to City of Newcastle.

C10 The developer is to design the following public domain works within Church Street frontage of the site at no cost to City of Newcastle and in accordance with the Newcastle City Centre Public Domain Manual guidelines, design specifications and Australian Standards:

i. New footpath and streetscape works and driveway.
ii. Reconstruct kerb and gutter if deemed necessary by City of Newcastle.
iii. New street trees and verge areas in accordance with City of Newcastle's requirements and adjust service pit levels to match new footpath level.
iv. Road shoulder
v. Kerb blisters and raised pedestrian crossings at the intersection of Bolton and Church Streets.
vi. New street furniture including bicycle racks or rings and new seats and bins.
vii. Street lighting along the frontage and under awning lighting.

Universal Design principles are to be applied to the development to allow for entries to be designed for universal access and levels to be adjusted within the site.

These engineering design plans and specifications for the works being undertaken in the public road reserve are required to be prepared by a suitably qualified practising civil, hydraulic, geotechnical engineers with experience and competence in the related field.

The separate approval of City of Newcastle must be obtained for all works within the public road reserve, pursuant to Section 138 of the *Roads Act 1993* prior to any construction certificate (excluding bulk excavation and demolition works within the site).

D. CONDITIONS WHICH MUST BE SATISFIED PRIOR TO THE COMMENCEMENT OF ANY DEVELOPMENT WORK

D1 A commercial/industrial type vehicular crossing having a width of << metres >> is to be constructed across the road reserve, in accordance with the following criteria:

a) Constructed in accordance with City of Newcastle A374 – Driveway Crossings Standard Design Details.
b) Letterboxes, landscaping and any other obstructions to visibility should be kept clear of or limited in height to 1.2 metre, in the 2 metre by 2.5 metre splay within the property boundary each side of the driveway entrance.
c) The proposed driveway shall be a minimum of 3 metres clear of the trunk of any tree within the public reserve.
d) The proposed driveway shall be a minimum of 750mm clear of the centre of any pole or obstruction within the public reserve and 1 metre clear of any drainage pit.
e) Driveway cross-fall over the footpath is to be maximum of 2.5%.

These works are not approved until consent under Section 138 of the *Roads Act 1993 (NSW)* has been granted by City of Newcastle. An application under Section 138 must be applied for and approved before the commencement of works.

D2 Erosion and sediment control measures are to be implemented prior to the commencement of works and maintained during the period of construction in accordance with the details set out on an Erosion and Sediment Control Plan that is to be submitted for approval with the Construction Certificate application. The Erosion and Sediment Control Plan shall satisfy the requirements of *Managing Urban Stormwater: Soils and Construction 4th Edition - Vol. 1* (the "Blue Book") published by Landcom, 2004 and City of Newcastle's *Technical Manual: Stormwater and Water Efficiency for Development (Updated April 2019)*. Controls are not to be removed until the site is stable with all bare areas supporting an established vegetative cover.

E CONDITIONS WHICH MUST BE SATISFIED PRIOR TO THE ISSUE OF ANY OCCUPATION CERTIFICATE SUBDIVISION CERTIFICATE OR A STRATA CERTIFICATE

E1 The construction works in the road reserve are to be implemented and completed to satisfaction of City of Newcastle prior to the issue of any Occupation Certificate.

E2 All public footways, foot paving, kerbs, gutters and road pavement damaged during the works are to be immediately repaired following the damage, to a satisfactory state that provides for safe use by pedestrians and vehicles. Full restoration of the damage is to be carried out to the satisfaction of City of Newcastle prior to the completion of the demolition works or prior to the issue of any Occupation Certificate in respect of the development involving building work.

E3 A Green Travel Plan with Public Transport Routes and Bicycle Network is to be prepared and made available to the students and teaching staff. The Public Transport and Bicycle Network Plans are to be installed in common areas prior to the issue of the Final Occupation Certificate. Use of alternative modes of transport is to be encouraged.

E4 Any redundant existing vehicular crossing (or section of) is to be removed at no cost to City of Newcastle and the public footway and kerb being restored to match the existing infrastructure and be completed prior to the issuing of an Occupation Certificate for the proposed development.

E5 A copy of the stormwater drainage design plans approved with the Construction Certificate with 'work as executed' levels indicated, shall be submitted to the Principal Certifying Authority prior to the issue of any Occupation Certificate. The plans shall be prepared by a Practicing Professional Engineer or Registered Surveyor experienced in the design of stormwater drainage systems.

F CONDITIONS WHICH MUST BE SATISFIED PRIOR TO ANY OCCUPATIONS OR USE OF THE BUILDING

F1 A Maintenance Manual for all water quality devices is to be prepared in accordance with City of Newcastle's *Technical Manual: Stormwater and Water Efficiency for Development (Updated April 2019)*. The manual is to address maintenance issues concerning the water quality devices including routine monitoring and regular maintenance and be kept on site at all times. Establishment and maintenance of the water quality devices in accordance with the manual prepared by the applicant is to be completed prior to occupation of this site for the intended use.

F2 The vehicular entrance and exit driveways and the direction of traffic movement within the site are to be clearly indicated by means of reflectorised signs and pavement markings. The traffic and parking signs, line markings and required traffic and safety devices as indicated in the approved architectural plans and traffic report is to be completed prior to occupation of the site.

F3 All parking and loading bays are to be permanently marked out on the pavement surface, with loading bays and visitor parking facilities being clearly indicated by signs prior to occupation of the building.

G CONDITIONS TO BE SATISFIED DURING THE OPERATION AND USE OF THE DEVELOPMENT

G1 Proposed parking areas, vehicle bays, driveways and turning areas are to be maintained clear of obstruction and be used exclusively for purposes of car parking, loading and unloading, and vehicle access, respectively. Under no circumstances are such areas to be used for the storage of goods or waste materials.

8. Proposed Stormwater Works

With consideration to the above we propose the following works be undertaken at the applicant's cost to address Council's requirements while taking into consideration the site constraints and proposed development outcomes:

a. The stormwater system running through the site will be reconstructed generally by replacing the existing pits at the north and south, providing offset junction pits set at an angle from each of the existing pits to realign the main pipe to a location running north south and to the west of the existing easement.

b. The north junction pit will be located approximately 3m west and 2m south of the existing pit.

c. The south junction pit will be located 5m west and 2m north of the existing pit.

d. Reconstruct the existing Council 900mm diameter concrete pipe within the site and between the 4 new pits. Reconstruction to consist of new 900mm diameter rubber ring joint (RRJ) reinforced concrete pipes (RCPs), Class ~~2~~ 4 to meet ~~the requirements of AS3725~~. City of Newcastle minimum standards.

e. Locate the reconstructed 900mm diameter pipe in approximately in the same line as the existing pipe but located to the west.

f. Construct new ~~precast or~~ insitu concrete stormwater pits to replace the existing main pits at the north and south.

g. Construct new ~~precast or~~ insitu concrete junction stormwater pits at changes of direction of the new 900mm diameter concrete pipe.

h. Retain the brick oviform within the site near the southern and northern site boundaries. Pre and post construction dilapidation surveys required

i. Pier and locate proposed building foundations below the zone of influence of the proposed stormwater and clear of the proposed Easement for Drainage. All structures, including the RWT.

j. The new building over the proposed stormwater easement will consist of a stair and lightweight roof at Level 4. Are the stairs located on the ground or are they suspended? Either way, this does not conform to the DCP.

k. Provide Council suitable access to the building for maintenance and inspection operations. The area over the proposed stormwater is double height and thus provides suitable vertical clearance. What height in metre

l. Extinguish the existing Easement for Drainage and create a new 3m wide Easement for Drainage to suit the proposed stormwater position. Centred over the pipeline.

The proposed works as described above meet the intent of Council's requirements as it:

a. Achieves a 100yr design life for the stormwater network and removes existing pipe deficiencies.

b. Ensure structures are clear of the drainage easement. But roof and stairs are over the easement.

c. Replaces bends with junction pits.

d. Provides access with suitable vertical clearance to the stormwater network for Council maintenance and inspection operations. What height?

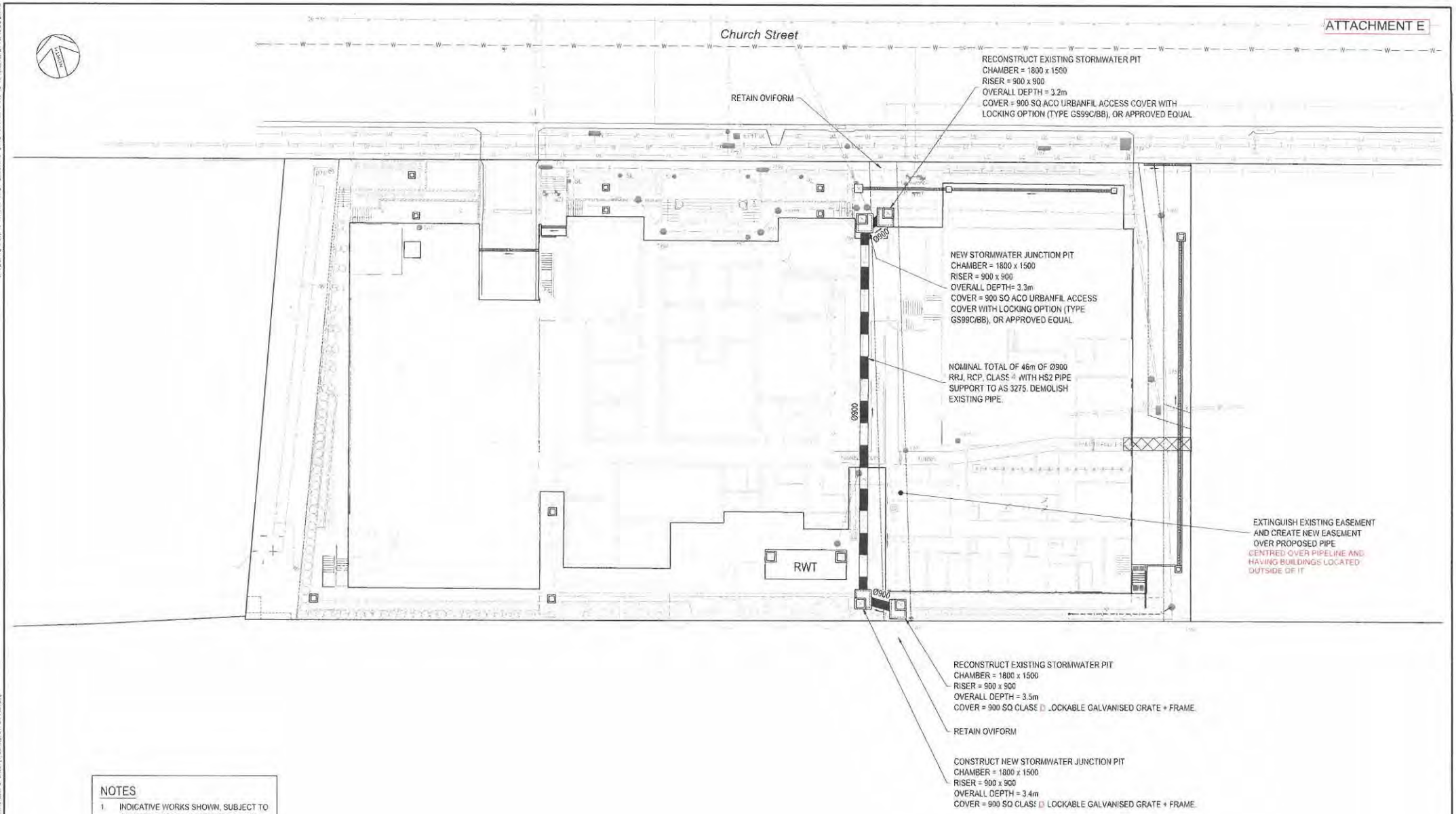
The proposed works will provide better access to the pipe, junction pits at changes in direction and minimal obstructive works above the easement.

A concept plan showing the proposed arrangement as described above is included as Attachment E.

9. Agreement with Council

With consideration to the above we will continue to work with Council's Development Engineer and Asset Management teams to refine the requirements of the proposed works.

ATTACHMENT E



PLAN
SCALE 1:200

NOTES
1. INDICATIVE WORKS SHOWN, SUBJECT TO CONFIRMATION AND DETAILED DESIGN.

Rev.	Date	Description	Drn	Verif.	Appd.
1	05/09/19	INITIAL ISSUE	JK	SGB	SGB

0 5 10 15 20m
SCALE 1:200 @A1

Cardno
Shaping the Future
Cardno (NSW/ACT) Pty Ltd ABN 95 001 145 035
3A/205-207 Albany Street North
Gosford, NSW 2250
Tel: 02 4323 2558 Fax: 02 4324 3251
Web: www.cardno.com.au

Drawn	JLJ	Date JUNE 2019
Checked	JK	Date JULY 2019
Designed	KE	Date JUNE 2019
Verified	SGB	Date JULY 2019
Approved		Date

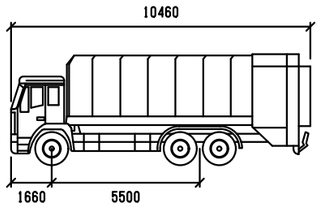
Client: AZUSA SEKKEI
Project: NIHON UNIVERSITY AUSTRALIA NEWCASTLE CAMPUS PROJECT
9 CHURCH STREET, NEWCASTLE
Title: CONCEPT STORMWATER DIVERSION PLAN

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Register	Scale	Size
AHD	-	1:200	A1

Drawing Number: 81019007-CI-SK001
Revision: 1

ATTACH 04



Garbage 10.46 (Gosford)

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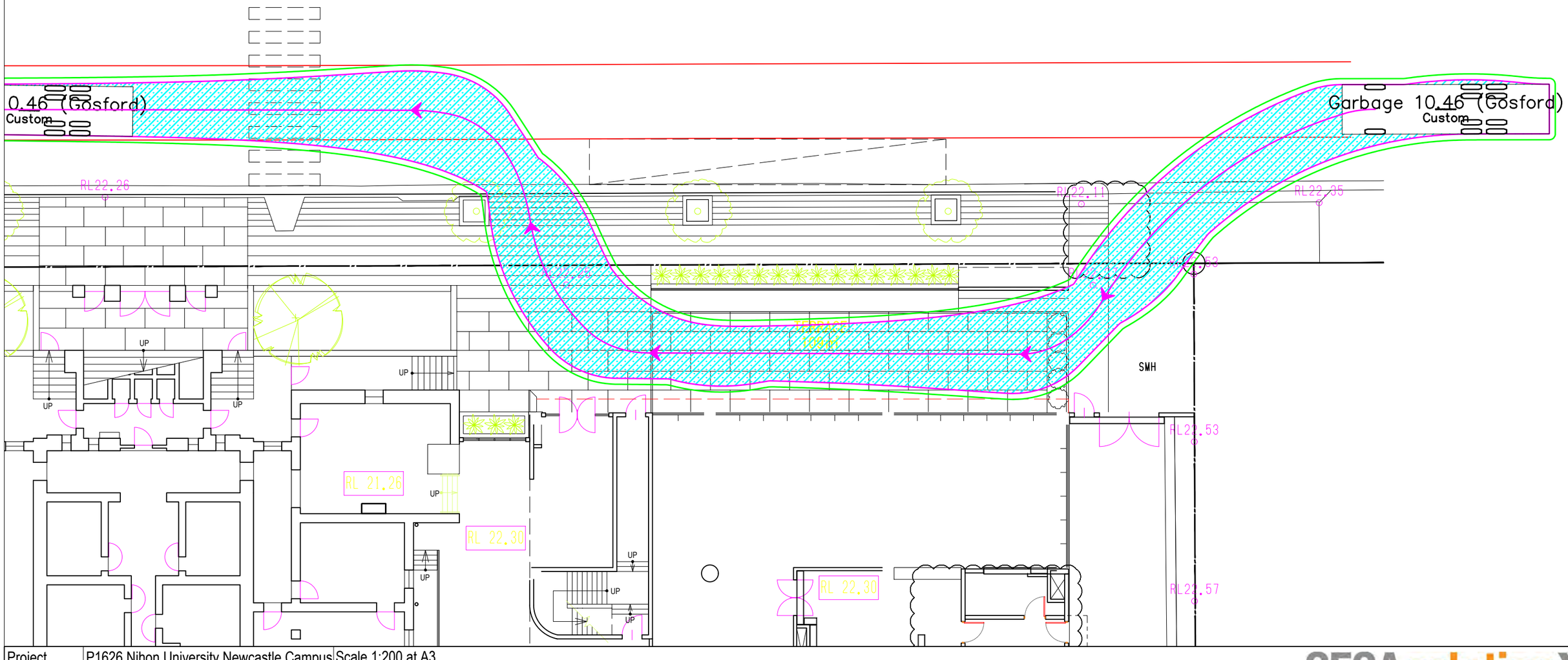
Steering Angle	: 40.0

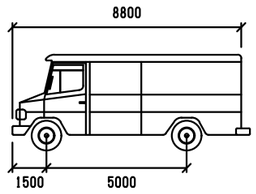


Project	P1626 Nihon University Newcastle Campus		Scale 1:200 at A3
Date	23/10/2019	Prepared By	SL
Drawing No.	SS01	Revision	A

10.5m Rear Loading Waste Vehicle - Enter / Exit via Church Street

SECAsolution
161 Scott Street, Newcastle NSW 2300
Ph (02) 4032 7979

ATTACH 04



SERVICE VEHICLE

	mm
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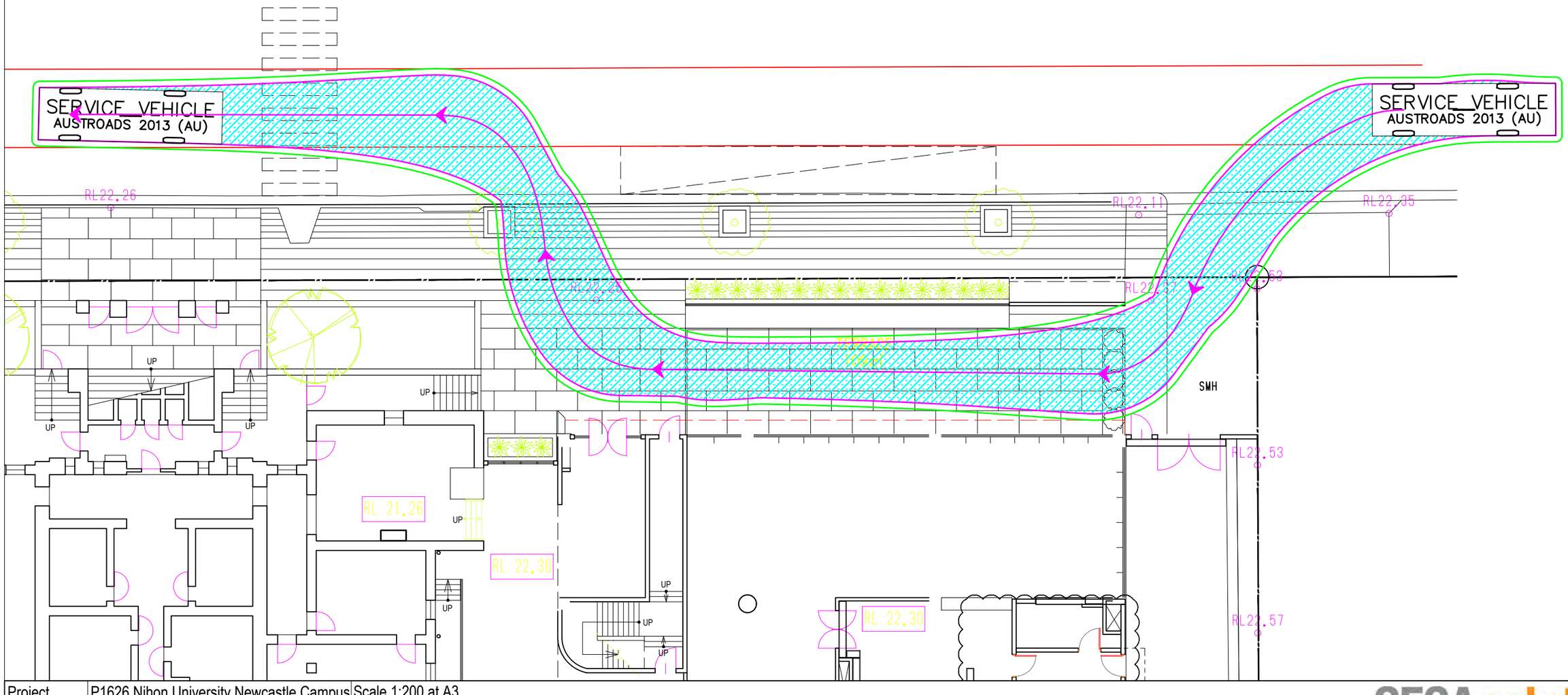
Steering Angle	: 38.7

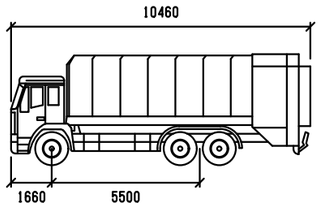


Project	P1626 Nihon University Newcastle Campus		Scale 1:200 at A3
Date	23/10/2019	Prepared By	SL
Drawing No.	SS02	Revision	A

8.8m Medium Rigid Truck - Enter / Exit via Church Street

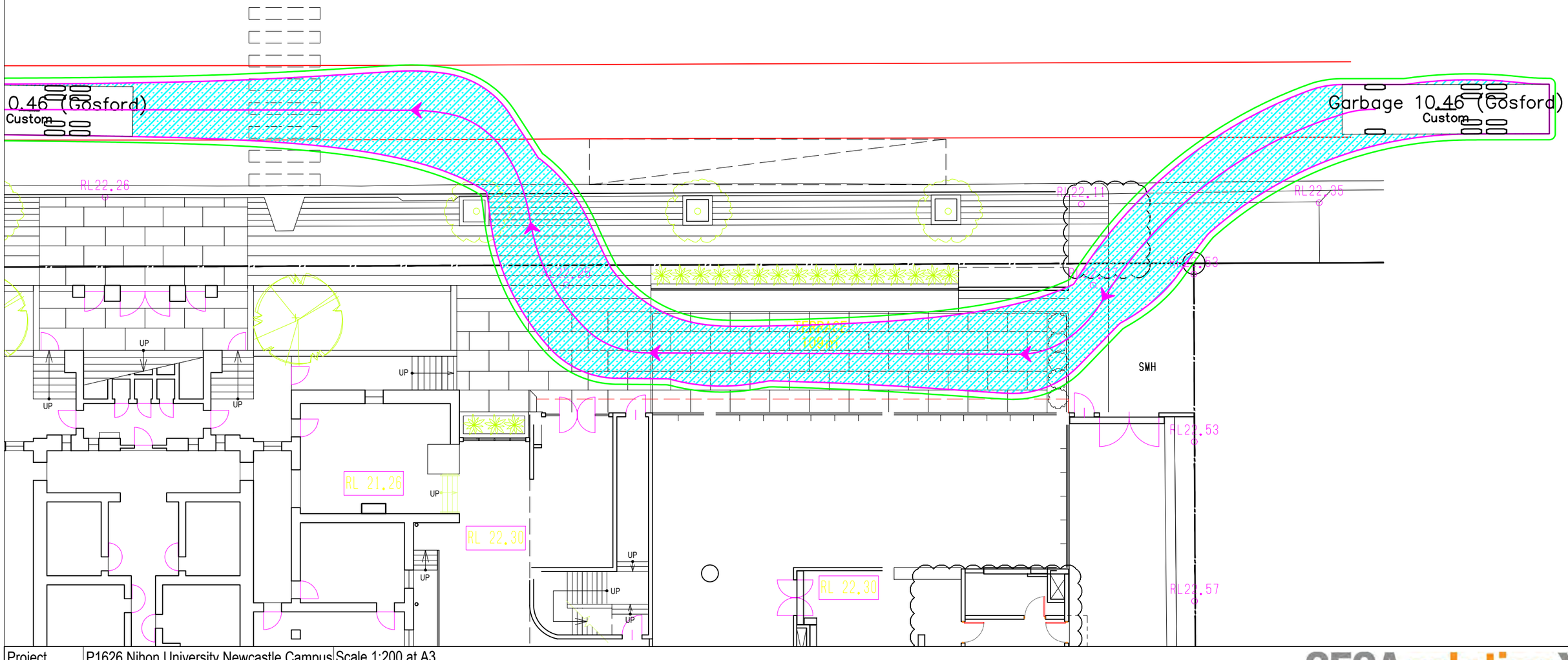
SECAsolution
161 Scott Street, Newcastle NSW 2300
Ph (02) 4032 7979

Attach 07 - Seca Drawings



Garbage 10.46 (Gosford)

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

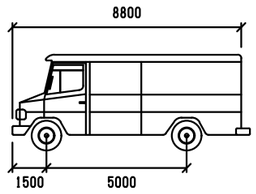


Project	P1626 Nihon University Newcastle Campus		Scale 1:200 at A3
Date	23/10/2019	Prepared By	SL
Drawing No.	SS01	Revision	A

10.5m Rear Loading Waste Vehicle - Enter / Exit via Church Street

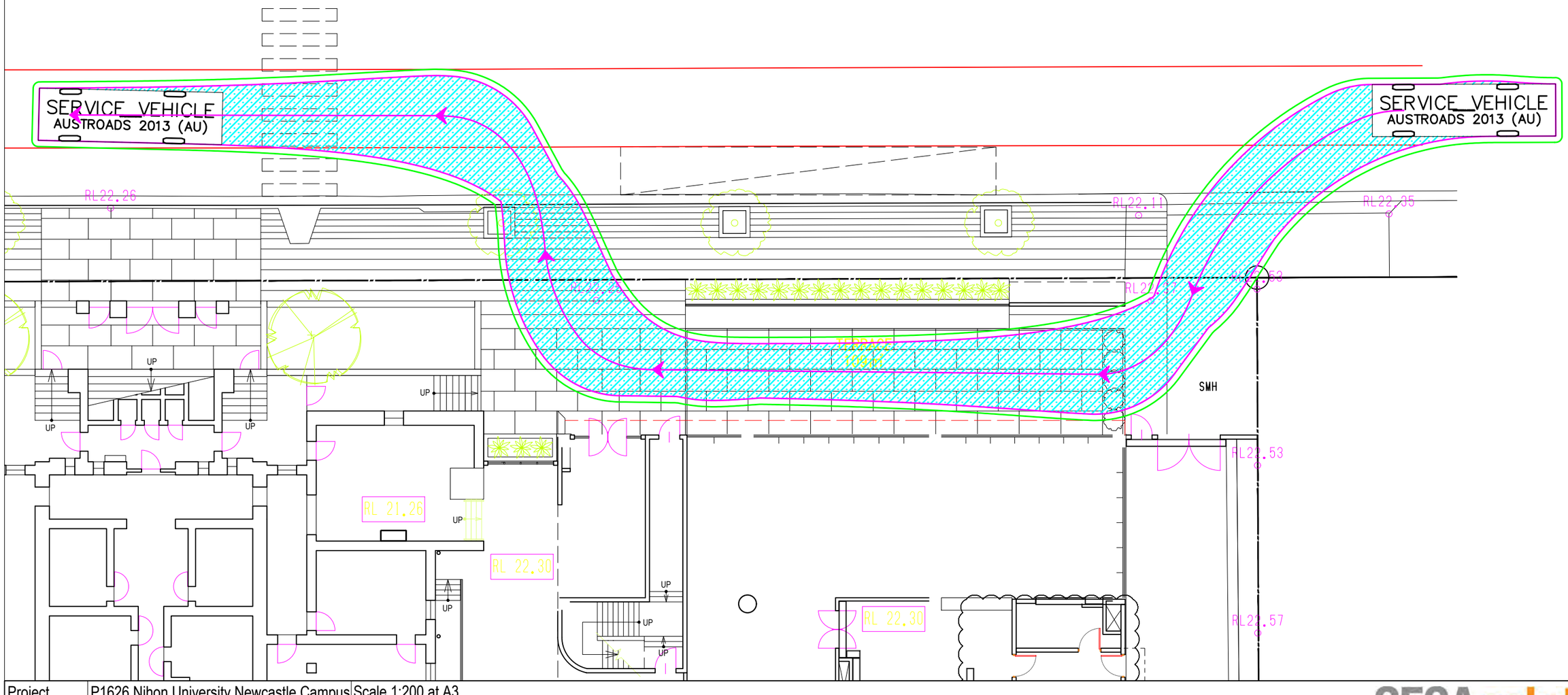
SECAsolution
161 Scott Street, Newcastle NSW 2300
Ph (02) 4032 7979

Attach 07 - Seca Drawings



SERVICE VEHICLE

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 38.7



Project	P1626 Nihon University Newcastle Campus		Scale 1:200 at A3
Date	23/10/2019	Prepared By	SL
Drawing No.	SS02	Revision	A

8.8m Medium Rigid Truck - Enter / Exit via Church Street

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Attach 08 - Accessibility Compliance Statement

lindsay perry access

Lindsay Perry
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Registered Architect NSW 7021

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New Lambton NSW 2305
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ACCESSIBILITY COMPLIANCE STATEMENT

Construction Certificate Review

Our ref:	LP_18101
Project:	**Nihon Newcastle University** – Former Newcastle Courthouse Church Street NEWCASTLE NSW
Client:	DWP 16 Telford Street NEWCASTLE 2300 **Attention: Katherine Daunt**
Documentation Review Date:	3 July 2019 23 March 2020 1 April 2020
Compliance Status:	**Compliant as Documented** Some items to be addressed during construction.
Applicable Legislation:	The following legislation has been considered in the preparation of this Accessibility Compliance Statement: — The Commonwealth Disability Discrimination Act 1992 (DDA) — Disability (Access to Premises (Buildings)) Standards 2010 — Access Code for Buildings 2010 — The Building Code of Australia 2019 (BCA) Section D3 – Access for People with Disabilities — The Building Code of Australia 2019 (BCA) Section D2 (in part) – thresholds and slip resistant — The Building Code of Australia 2019 (BCA) Section E3.6 – Lifts — Australian Standards AS1428.1(2009) Amendment 1, AS1428.2(1992), AS1428.4(2009) – Design for Access and Mobility — Australian Standard AS2890.6 (2009) – Parking Facilities – Off street carparking For People with Disabilities. — Australian Standard AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability
BCA Classification:	Class 3 | Class 7a | Class 9b
Appendix 1:	Accessibility Guidelines.
Appendix 2:	Reviewed Documentation – prepared by DWP.
Appendix 3:	Performance Solution

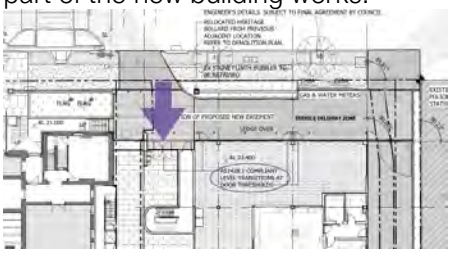
1. Project Description:

The project sees the refurbishment of the former Newcastle Courthouse to provide a university building with teaching facilities and associated student accommodation. The original Courthouse building will remain, flanked on both sides by an educational building to the west and an accommodation building to the east. Connections will be available between the three buildings.

A performance-based approach to accessibility has been adopted within the existing Courthouse Building due to heritage constraints and the existing building fabric. Performance Solutions have been prepared to address items such as the existing stairs; existing doorways and hardware; and access for people with disabilities to certain areas of the building where a lift cannot be provided.

2. Compliance Summary:

The following summarises compliance of the documentation. Where items are to be addressed during construction, refer to following Accessibility Requirements – Guidelines for Construction that forms Appendix 1 of this report.

Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
Access and Approach / External Areas					
1. Approach from Boundary	D3.2	Y	N	TBC	Level access is provided form the footpath along Church Street to the main entrance at Level 1 (street level). This new entrance comprises part of the new building works. 
2. Approach from Carparking	D3.2	Y	N	TBC	A lift is provided for access to the main floor level from the accessible carparking which is located in the new building at the western end of the site.
3. Pathways Generally	D3.2	Y	N	TBC	New pathways at the front of the building facilitate an accessible path of travel within the meaning of AS1428.1 (2009).
4. Accessible Carparking	D3.5	Y	N	TBC	Configuration offers compliance with AS2890.6 including location of bollard.

Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
5. Stairs	D3.3	Y	N	TBC	Stairs form part of the pedestrian approach to the building from Church Street. They do not form the main entrance to the building which is at grade with the footpath level. **New Stairs** New external stairs are documented per AS1428.1 requirements including provision of handrails with extensions both sides, contrasting nosing strips. and tactile indicators. Refer to Appendix 1 for construction requirements. **Existing Stairs** A performance-based approach has been adopted to the provision of accessible features to existing stairs due to heritage constraints and the existing building fabric. This is detailed within the Performance Solution Report that accompanies this report.
6. Entrances	D3.2	Y	N	TBC	Double swinging doors are provided at the main entrance to the building and from the carparking area. Door schedule nominates 920mm leaf that will achieve the required 850mm clear opening. This is achieved for at least one leaf to enable single-leaf operation. Drawings note level threshold per AS1428.1.

Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
Interior					
7. Extent of Access	D3.1	Y	N	TBC	Access for people with disabilities has generally been provided to and within all areas as per BCA requirements. Accessible sole occupancy units are provided within the accommodation areas – 6 off. An accessible path of travel is provided to the doorway of individual sole occupancy units and all residential common areas. A performance-based approach has been adopted within the existing Courthouse Building due to heritage constraints and the existing building fabric. This is detailed within the Performance Solution Report that accompanies this report.
8. Accessible Counters	n/a	Y	N	TBC	Best practice recommendation only. We note provision of an accessible area at the reception desk per , AS1428.2.
9. Hearing Augmentation	D3.7	Y	N	TBC	Accessibility notes state that hearing augmentation will be installed where an inbuilt amplification system is installed per BCA.
10. Circulation Areas	D3.3	Y	N	TBC	Adequate width is provided to corridors areas for wheelchair turning areas as required by BCA.
11. Doorways Generally	D3.1	Y	N	TBC	Door schedule nominates 920mm leaf that will achieve the required 850mm clear opening for doorways within the accessible path of travel. **New doorways** achieve compliant circulation areas. **Existing doorways** will be subject to a Performance Solution due to heritage constraints and the existing building fabric.

Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
12. Exempt Areas	D3.4	Y	N	TBC	Exempt areas include service and plant areas.
13. Floor Finishes	D3.3	Y	N	TBC	Slab set-downs will enable flush finishes of floor surfaces.
14. Carpet	D3.3	Y	N	TBC	Accessibility notes state max. pile height of 4mm.
15. Tactile Indicators	D3.8	Y	N	TBC	Provided to stairs per BCA requirements.
16. Visual Indication to Glazing	D3.12	Y	N	TBC	Door schedule shows "decals" to full height glazing that can be mistaken for a doorway in the height zone specified in AS1428.1 (2009).
17. Signage	D3.6	Y	N	TBC	Signage specification indicates signage provided per BCA D3.6 and Specification D3.6 including signage to sanitary facilities and to required exits.
18. Thresholds	D2.15	Y	N	TBC	Thresholds to doorways generally do not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.
19. Slip Resistance	D2.14	Y	N	TBC	Stair notes state that nosing strips achieve BCA slip resistance requirements.

Accessible Sanitary Facilities

Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
20. Distribution	F2.4	Y	N	TBC	Unisex accessible sanitary facilities with accompanying ambulant facilities for male and female use are provided at each level.
21. Unisex Accessible Sanitary Compartments	F2.4	Y	N	TBC	Internal elevations indicate compliance with AS1428.1 (2009).
22. Unisex Accessible Showers	F2.4	Y	N	TBC	Internal elevations indicate compliance with AS1428.1 (2009).
23. Ambulant Cubicles	F2.4	Y	N	TBC	Internal elevations indicate compliance with AS1428.1 (2009).

Vertical Circulation					
Item:	BCA Ref:	Compliance Status			Comments / Recommendations:
		Y	N	TBC	
24. Lifts	E3.6	Y	N	TBC	Lift details indicate compliance. Door opening is 1100mm and lift lobby buttons are shown at 1050mm affl. Dimensions of lift shaft will accommodate a complying internal lift car size. Refer to Appendix 1 for construction requirements.
25. Platform Lift	E3.6	Y	N	TBC	Platform lift at Level 1 provides a compliant platform size for compliance. Refer to Appendix 1 for construction requirements.
26. Stairs	D3.3	Y	N	TBC	Stair details indicate compliance with AS1428.1 (2009). **Existing Stairs** A performance-based approach has been adopted to the provision of accessible features to existing stairs due to heritage constraints.
27. Fire Egress Stairs	D2.17 D3.3	Y	N	TBC	Stair details indicate compliance with AS1428.1 (2009) – nosing strips and handrail height.
Best Practice Recommendations for Consideration					
28. Luminance Contrast	na				Consider providing a minimum 30% luminance contrast between building elements – for example, columns and the back-ground surface; and floors and walls – to assist people with vision impairment. Refer to Appendix 1 for further details.
29. Seating	n/a				A proportion of accessible seating should be provided at within the building. Accessible seating should have back rests and arm rests and be adjustable in height.
30. Furniture Hardware	n/a				We recommend the use of D-type pull handles to furniture generally which provide a minimum 35mm clearance between the rear face of the handle and the face of the drawer.

Construction is to be in accordance with the recommendations made in this access report to ensure compliance. Where construction differs from the drawings, further assessment will be required to ascertain compliance.

This report is limited to items within drawings listed in this report only. Future alterations and additions to the building will render the recommendations in this report null and void as we cannot guarantee continued compliance where changes to the building fabric are made.

Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural. This needs to be considered during construction to account for wall linings and the like.

Best practice options, as noted in the report, are not mandatory but will minimise the risk of a complaint made under the DDA.

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry. This may differ from that of other consultants. We aim to provide practical, performance based advice based on project specifics that will maximize access for persons with a disability to the built environment.

Lindsay Perry is a qualified Access Advisor, being an accredited within Australia (ACAA No. 136) and at the international level (GAATES No. BE-02-106-18). Lindsay Perry Access Pty Ltd carries public liability insurance, professional indemnity insurance and workers compensation insurance.

LINDSAY PERRY
B.Arch, M.Dis.Stud.

Internationally Certified Access Consultant GAATES ICAC BE-02-106-18
ACAA Accredited Access Consultant No. 136 |
Registered Architect NSW 7021
Livable Housing Assessor 20047 | Changing Places Assessor CP005

Revision Summary

Date	Description	Rev
3 July 2019	Accessibility Compliance Statement	1
23 March 2020	Accessibility Compliance Statement	2
1 April 2020	Accessibility Compliance Statement	3

Appendix 1
ACCESSIBILITY REQUIREMENTS – GUIDELINES FOR CONSTRUCTION

The following accessibility requirements are to be incorporated into the design prior to commencement of construction to ensure compliance with access legislation:

1. Pathways Generally

An accessible path of travel is required from the accessible carparking areas to the main entrance of each building and from the allotment boundary to the main entrances. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428 as follows:

a. The minimum unobstructed width of all pathways is to be 1000mm (AS1428.1, Clause 6.3). A width of 1200mm is preferred for compliance with AS1428.2.

b. All pathways are to be constructed with no lip or step at joints between abutting surfaces (a construction tolerance of 3mm is allowable, or 5mm for bevelling edges).

c. The maximum allowable crossfall of pathways is to be 1:40.

d. The ground abutting the sides of the pathways should follow the grade of the pathway and extend horizontally for 600mm. We note that this is not required where there is a kerb or handrail provided to the side of the pathway.

e. Pathways to have passing bays complying with AS1428.1 at maximum 20m intervals where a direct line of site is not available. They are required within 2m of the end of the pathway where it is not possible to continue travelling along the pathway.

   A passing space shall have a minimum width of 1800 for a minimum length of 2000mm. Refer to AS1428.1, Clause 6.4.

2. Accessible Carparking

Access requirements for the accessible carparking are as follows and should be addressed during preparation of the construction certificate documentation.

a. Accessible carparking to be a minimum of 2400mm wide with a shared area to one side of the space 2400mm wide. Circulation space can be shared between adjacent accessible carparks. For a single space, a total width of 4800mm is required.

b. Provide a bollard to the shared circulation space as illustrated in AS2890.6, Figure 2.2.

c. The maximum allowable crossfall of accessible carparking area to be, 1:33 (for outdoor spaces). This crossfall applies both parallel and perpendicular to the angle of parking.

d. For covered carparking, the clear height of the accessible carparking space to be 2500mm as illustrated in AS2890.6, Figure 2.7.

e. Designated accessible carparking is to be identified using the International Symbol for Access (ISA) –ground and vertical signage is required. Signage is to comply with AS1428.1.

3. Stairs

AS 1428.1 has access requirements for all public access stairs as follows:

a. Stairs to comply with AS1428.1(2009), Clause 11.2.

b. Stairs to have closed or opaque risers. Open risers cause confusion for persons with a vision impairment and may trigger conditions such as epilepsy due to light penetrating through the open riser.

c. Provide handrails, with extensions, to both sides of the stair (AS1428.1 (2009), Clause 11.2 & 12). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis.

   Handrails are required on both sides of the stair to cater for left and right-handed disabilities. A central handrail is also an acceptable solution where adequate width is available. In this instance, the use of a double handrail is encouraged so that two users can travel in opposite directions and maintain their grip on the handrail.

d. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.

e. Stair nosings shall not project beyond the face of the riser.

f. Provide tactile indicators at the top and bottom of the stair to comply with BCA Clause D3.8 and AS1428.4.

   Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.

   Tactile indicators at the top and bottom of the stair to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

4. Entrances

Access requirements for entrances are as follows.

a. Entrance to comply with AS1428.1(2009), Clause 13 as part of the accessible path of travel.

b. Door are to have a minimum clear opening width of 850mm to comply AS1428.1(2009), Clause 13.2 as part of the accessible path of travel.

c. Door threshold to be level to provide seamless entry as part of the accessible path of travel. Maximum allowable construction tolerance is 3mm for compliance with

AS1428.1(2009), 5mm where beveled edges are provided between surfaces – refer to Figure 6.

d. Door to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)

e. For glass doors, provide decals to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level. Decals are to be solid. AS1428.1, Clause 6.6.

f. Where double door sets are provided, one door leaf is to be capable of being held in the closed position to provide door opening widths and circulation to comply with AS 1428.1.

g. For a best practice approach to access, and to assist people with a vision impairment locate the entrance, consider providing features with a minimum 30% luminance contrast to the background surface such as an entry mat or awning.

5. Doorways

Access requirements for doorways within the accessible path of travel are as follows.

a. Doorways within the accessible path of travel to have a minimum clear opening width of 850mm (AS1428.1(2009), Clause 13.2). We recommend the use of a 920 leaf door as a minimum to achieve adequate clear width.

   For double doors, the operable leaf must achieve this clear opening width to facilitate single leaf operation.

b. All doorways within the accessible path of travel to have complying circulation areas as illustrated in AS1428.1(2009), Figure 31. Circulation areas to have a maximum crossfall of 1:40.

c. Doors between indoor and outdoor spaces to have a level threshold for seamless transition.

d. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.

e. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5). Note that within a childcare centre, this is applicable to the unisex accessible sanitary facilities only.

6. Hearing Augmentation

For buildings that are required to be accessible, the BCA (Clause D3.7) requires hearing augmentation systems within auditoriums, meeting rooms and the like **where an inbuilt amplification system, other than the one used for emergency warning is installed**. An induction loop to at least 80% of the floor area is required.

Requirements for hearing augmentation are now contained in AS1428.5: Communication for People who are deaf or Hearing impaired. This standard will not be referenced by BCA. However, we recommend that the requirements of AS1428.5 be adopted in the provision of hearing augmentation within the building.

The hearing augmentation system is to be identified using the International Symbol for Deafness.

7. Floor Finishes

All floor finishes are to be flush to provide an accessible path of travel throughout the different areas of the building. Maximum allowable construction tolerance is 3mm (5mm for bevelled edges) as part of the accessible path of travel. Refer to AS1428.1(2009), Clause 7.2 for further details. This should be implemented during construction to ensure compliance.

8. Carpet

AS1428.1 has access requirements for carpet. Where new carpet is used as the floor surface, pile height should not exceed 4mm. Exposed edges will be fastened to the floor surface. Carpet trims shall have a vertical face not more than 3mm high.

9. Visual Indication to Glazing

Provide decals to all full height glazing that can be mistaken for a doorway to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level. Decals are to be solid. AS1428.1, Clause 6.6.

10. Tactile Indicators

For a building that is required to be accessible, tactile ground surface indicators must be provided wo warn people who are blind or have a vision impairment that they are approaching a stairway (other than a fire isolated stair); an escalator; a moving walkway; a ramp (other than a fire isolated ramp, step ramp, kerb ramp or swimming pool ramp); and in the absence of a suitable barrier, an overhead obstruction less than 2m above the floor level or an accessway ,meeting a vehicular way if there is no kerb or kerb ramp (BCA D3.8).

The use of tactile indicators should be minimized through good design.

Tactile indicators are generally required to be 600-800mm deep across the width of the hazard and set back 300mm from the edge of the hazard (refer AS1428.4.1, Figure A1). Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background color (45% for discrete tactile indicators and 60% for discrete two-tone tactile indicators).

11. Signage

Signage to include information in Braille and tactile signage formats as outlined within BCA Specification D3.6.

a. Braille and tactile components of the sign to be located not less than 1200mm and not higher than 1600mm affl.

b. Signage identifying rooms with accessible features or facilities nominated in Clause D3.6 to be located at the latch side of the doorway with the leading edge

of the sign 50-300mm from the architrave. Where this is not possible, the sign can be located on the door. This is to allow use of the Braille without obstructing pedestrian traffic through the doorway.

The following are typical examples only:

Unisex Accessible Toilet

Unisex Accessible Toilet / Shower Facility

Ambulant Toilet Cubicle

c. For signage identifying an exit, “exit” and the level must be stated on the sign. It must be located at the latch side of the doorway with the leading edge of the sign 50-300mm from the architrave. Where this is not possible, the sign can be located on the door.

Exit Signage

12. Slip Resistance

The BCA defines the following slip resistance requirements for stairs and ramps:

Application	Surface Conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or Landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

13. Thresholds

The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless in a building required to be accessible by Part D3, the doorway opens to a road or open space; and is provided with a threshold ramp or step ramp in accordance with AS 1428.1.

14. Unisex Accessible Sanitary Compartment

Access requirements for the accessible toilet facilities are as follows. For compliance with AS1428.1(2009), the minimum room dimensions of the accessible toilet are to be 1900x2300mm plus additional area for the handbasin. These are **CLEAR** dimensions. Provision for wall linings needs to be considered.

a. Accessible toilet facilities to be unisex facilities for compliance with the BCA.

b. Unisex accessible facilities to comply with AS1428.1(2009), Clause 15 including set-out of fittings and fixtures, circulation areas and doorways.

   Crucial dimensions for the toilet are 450mm from centreline of pan to side wall, 800mm from front of pan to rear wall and a seat height of 470mm.
   A minimum clear dimension of 1400mm is required from the toilet pan to any other fixture (see figure 43).

   For the basin, a minimum dimension of 425mm is required from the centreline of the basin to the side wall and height of basin to be between 800 and 830mm.

   Grabrails to be provided at the side and rear of the toilet in compliance with AS1428.1 at a height of 800mm.

c. Taps to have lever handles, sensor plates or similar controls. For lever taps, a minimum 50mm clearance to be provided to adjacent surfaces.

d. Toilet seat shall be of the full round type, be securely fixed in position when in use and have fixings that create lateral stability. They should be load rated to 150kg, have a minimum 30% luminance contrast to the background colour (eg pan, wall or floor) and remain in the upright position when fully raised.

e. Provide a backrest to accessible toilets to comply with AS1428.1, Clause 15.2.4.

f. Accessible toilet to be identified using the International Symbol for Access. Pictograms / lettering to have a minimum 30% luminance contrast to the background colour. Signage is to comply with AS1428.1, Clause 8 and include information in tactile and Braille formats (as required by the BCA).

g. Doorways to have a minimum clear opening width of 850mm to comply AS1428.1(2009), Clause 13.2 as part of the accessible path of travel. Adequate circulation area at the latch side of the doorway is required to allow independent access to the facility – for details refer to AS1428.1, Figure 31.

h. Door hardware to be located within the accessible height range of 900-1100mm above the finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

i. Controls such as light switches within the accessible toilet facilities to be in the accessible height range of 900-1100mm above the finished floor level to comply with AS1428.1(2009), Clause 14. Controls should be located not less than 500mm to a corner.

15. Unisex Accessible Shower

Access requirements for the accessible shower facilities are as follows. These are CLEAR dimensions. Provision for wall linings needs to be considered.

a. Accessible showers are to comply with AS 1428.1, Clause 15.5 and include accessible features such as grabrails, adjustable height shower rose and fixtures within an accessible height range.

b. Floor waste to be positioned 550mm and 580mm from enclosing shower walls as illustrated in AS1428.1 (2009), Figure 47a.

c. The minimum dimension of an accessible shower to be 1160 x 1000mm. A folding seat, at a height of 470mm is to be provided. All taps to be located within the height range of 900-1100mm above the finished floor level.

d. Circulation space in front of the shower is to be provided as illustrated in AS1428.1, Figure 47.

16. Ambulant Toilet Cubicles

Options for the configuration of the PAD cubicles are illustrated in AS1428.1, Figure 53. The following should be implemented to ensure compliance.

a. Provide a PAD cubicle within each bank of male and female toilets in compliance with AS1428.1, Clause 16.

b. Minimum width of PAD cubicles to be 900-920mm.

c. Provide grabrails to PAD cubicles to comply with AS1428.1, Clause 17 and Figure 53A.

d. Doors to have a minimum opening width of 700mm and comply with AS1428.1, Figure 53B.

e. Provide signage to the PAD cubicles to comply with AS1428.1, Clause 16.4.

17. Lifts

The following access requirements apply to the lifts. These requirements are for disabled access only and do not include requirements for stretchers.

a. Lift is to comply with AS1735.12 and be fully automatic as required by the BCA, Clause E3.6.

b. Minimum internal dimensions of the lift car to be 1400mm wide x 1600mm deep BCA, Clause E3.6 – for a lift that travels over 12m.

c. Clear opening of the lift door to be minimum 900mm.

d. Provide a handrail complying with the provisions for a mandatory handrail in AS1735.12.

e. All lift control buttons are to be in the accessible height range of 900-1100mm affl and have a minimum 30% luminance contrast to the background colour. This includes buttons within the lift car and at each public lift lobby. All buttons are to be provided with information in Braille and tactile formats.

f. Auditory / voice cues are to be provided within the lift car to assist persons with a vision impairment.

g. Series of door opening devices that will detect a 75mm diameter rod across the door opening between 50 mm and 1550mm above the floor level.

h. Emergency hands-free communication, including a button that alerts a call centre of a problem, a light to signal that the call has been received by the call centre and a light indicating assistance is being dispatched.

18. Platform Lift

The BCA has limitations for the use of this type of lift. They must not travel more than 12m.

Confirmation should be sought from the manufacturers to confirm compliance with AS1735.16 prior to installation.

Basic access requirements for Part 16 lifts are as follows (BCA Table E3.6a).

a. Car size should be a minimum of 1100x1400mm to accommodate a wheelchair.

b. Clear opening of the lift door to be minimum 900mm.

c. Provide a handrail complying with the provisions for a mandatory handrail in AS1735.12.

d. All lift control buttons are to be in the accessible height range of 900-1100mm affl and have a minimum 30% luminance contrast to the background colour. This includes buttons within the lift car and at each public lift lobby. All buttons are to be provided with information in Braille and tactile formats.

19. Stairs

Access requirements for public access stairs are as follows and should be addressed during construction to ensure compliance.

a. Stair construction to comply with AS1428.1, Clause 11.1.

b. Stairs to have closed or opaque risers. Open risers cause confusion for persons with a vision impairment and may trigger conditions such as epilepsy due to light penetrating through the open risers.

c. Where the stair intersects with an internal corridor, the stair shall be set back in accordance with AS2418.1 Figure 26C/D to allow adequate space for handrail extensions and tactile indicators.

d. Provide handrails, with extensions, to both sides of the stair (AS1428.1, Clause 11.2). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis. Handrails should be continuous around the landings where possible.

   Handrails are required on both sides of the stair to cater for left and right-handed disabilities. A central handrail is also an acceptable solution where adequate width is available.

e. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.

f. Stair nosings shall not project beyond the face of the riser.

g. Provide tactile indicators at the top and bottom of the stair to comply with BCA Clause D3.8 and AS1428.4.1.

   Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour. For discrete tactile indicators, 45% luminance contrast is required (60% where two-tone indicators are used).

   Tactile indicators at the top and bottom of the stair to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

20. Fire Isolated Egress Stairs

Designated fire egress stairs are not considered public access stairs and therefore are not subject to the requirements of AS1428.1 with the exception of contrasting nosing strips and handrail requirements. These are required per AS1428.1.

a. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.

b. Stair nosings shall not project beyond the face of the riser.

c. Handrails in a required exit serving an area required to be accessible, are to be designed and constructed to comply with AS 1428.1, Clause 12 (BCA D2.17).

   We recommend the use of the staggered stair to maintain a constant height along the length of the handrail per AS1428.,1 (2009), Clause 12.

Appendix 2
REVIEWED DOCUMENTATION

The following documentation, prepared by DWP, has been reviewed.

- A000 Rev-5 Cover Sheet
- A002 Rev-5 Legends
- A035 Rev-12 General Arrangement Site Development Plan
- A101 Rev-6 General Arrangement Level 1
- A102 Rev-7 General Arrangement Level 2
- A103 Rev-6 General Arrangement Level 3
- A104 Rev-5 General Arrangement Level 4
- A105 Rev-5 General Arrangement Roof
- A111 Rev-4 Fire Management Plan Level 1
- A112 Rev-4 Fire Management Plan Level 2
- A113 Rev-4 Fire Management Plan Level 3
- A114 Rev-4 Fire Management Plan Level 4
- A231 Rev-6 Dimension Education Level 1
- A232 Rev-7 Dimension Education Level 2
- A233 Rev-6 Dimension Education Level 3
- A234 Rev-6 Dimension Education Level 4
- A235 Rev-6 Dimension Education Roof
- A241 Rev-6 Dimension Court House Level 1
- A242 Rev-6 Dimension Court House Level 2
- A243 Rev-6 Dimension Court House Level 3
- A244 Rev-6 Dimension Court House Level 4
- A245 Rev-6 Dimension Court House Roof
- A251 Rev-8 Dimension Residential Level 1
- A252 Rev-7 Dimension Residential Level 2
- A253 Rev-7 Dimension Residential Level 3
- A254 Rev-6 Dimension Residential Level 4
- A255 Rev-6 Dimension Residential Roof
- A351 Rev-6 RCP Education Level 1
- A352 Rev-6 RCP Education Level 2
- A353 Rev-6 RCP Education Level 3
- A354 Rev-6 Education Level 4
- A361 Rev-6 RCP Courthouse Level 1
- A362 Rev-9 RCP Courthouse Level 2
- A363 Rev-5 RCP Courthouse Level 3
- A364 Rev-5 RCP Courthouse Level 4
- A351 Rev-6 RCP Residential Level 1
- A352 Rev-6 RCP Residential Level 2
- A353 Rev-6 RCP Residential Level 3
- A354 Rev-6 RCP Residential Level 4
- A400 Rev-3 Elevation – North & South
- A401 Rev-3 Elevation – Inner East, Outer East & Inner West, Outer West
- A410 Rev-4 Elevation – Educational – North & South
- A411 Rev-3 Elevation – Educational – East & West
- A420 Rev-3 Elevation – Court House – North & South
- A421 Rev-3 Elevation – Court House – East & West

- A430 Rev-3 Elevation – Residential – North & South
- A431 Rev-3 Elevation – Residential – East & West
- A500 Rev-8 Section 1 AA, BB, CC
- A501 Rev-8 Section 2 DD, EE
- A502 Rev-8 Section 3 FF, GG, HH
- A510 Rev-7 West Retaining Wall & Slab Detail
- A640 Rev- Details – Joinery – Reception Desk
- A680 Rev-4 Stair A1 Detail
- A681 Rev-4 Stair A2 Detail
- A682 Rev-5 Stair B1 Detail
- A683 Rev-4 Stair C1 Detail
- A684 Rev-4 Stair C2 Detail
- A685 Rev-4 Atrium Stair 01 Detail
- A686 Rev-3 Atrium Stair 02
- A687 Rev-5 Stair A3 & External Stair 01 Detail
- A688 Rev-3 External Stair 02 & 03 Detail
- A689 Rev-3 External Stair 04 & 05 Detail
- A695 Rev-2 Lifts E1
- A696 Rev-3 Lifts R2
- A697 Rev-3 Lifts R3
- A704 Rev-1 RLS – Education L3 ACC.WC, WC(F), WC(M)
- A708 Rev-1 RLS – Education L4 ACC.WC, WC(F), WC(M)
- A735 Rev-1 RLS – Courthouse L1 ACC.WC, Cleaner, WC(F), WC(M)
- A740 Rev-1 RLS – Courthouse L2 ACC.WC, WC(F), WC(M)
- A764 Rev-3 RLS – Residential L1 Cool Room, Kitchen, Dry Store
- A766 Rev-1 RLS – Residential L1 Service Corridor
- A767 Rev-1 RLS – Residential L1 Laundry, Comms
- A768 Rev-1 RLS – Residential L1 Staff Lobby, Staff Bath, Staff Living, Staff Bed
- A771 Rev-1 RLS – Residential L1 Kitchen Store Service Room
- A772 Rev-1 RLS – Residential L1 WC(F), WC(W), ACC.WC
- A776 Rev-1 RLS – Residential L3 Store, WC(F), ACC.WC, Laundry
- A777 Rev-1 RLS – Residential L2/L3 SW Kitchen
- A778 Rev-1 RLS – Residential L4 Laundry WC(F) T.WC
- A780 Rev-1 RLS – WC9M) COMMS
- A850 Rev-2 Wall Schedule
- A851 Rev-3 Wall Schedule
- A852 Rev-2 Door Schedule Building A
- A853 Rev-2 Door Schedule Building B & C Level 1
- A854 Rev-2 Door Schedule Building C Level 2
- A855 Rev-2 Door Schedule Building C Level 3
- A856 Rev-2 Door Schedule Building C Level 4
- A857 Rev-2 Door Schedule
- A860 Rev-2 Window Schedule
- A861 Rev-2 Window Schedule
- A862 Rev-2 Window Schedule

Appendix 3
PERFORMANCE SOLUTION | ACCESSIBILITY

lindsay perry access

Performance Solution Report
ACCESSIBILITY

Nihon University
Former Newcastle Courthouse
Church Street
Newcastle NSW

For: Azusa Sekkei Co Ltd (c/- DWP)
Ref: LP_18101

1. Introduction

The Principal Certifying Authority (PCA) has determined that the following items within the Proposed Nihon University – located with the former Newcastle Courthouse Building, Church Street Newcastle – do not meet the deemed to satisfy provisions of the National Construction Code:The Building Code of Australia Volume 1 2019 (BCA) and are therefore considered a Performance Solution.

Due to the heritage significance of the existing building fabric within the Former Newcastle Courthouse Building, strict compliance with BCA and AS1428.1 (2009) is not achievable. Specifically:

- Accessible features to existing stairs including handrails and extensions;
- Accessible features to existing doorways including hardware and circulation areas; and
- Access for people with limited mobility to some parts of the existing building.

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry. This may differ from that of other consultants. We aim to provide practical, performance-based advice based on project specifics that will maximize access for persons with a disability to the built environment. Best practice options, as noted in the report, are not mandatory but will minimise the risk of a complaint made under the DDA.

Lindsay Perry is a qualified Access Advisor, being an accredited within Australia (ACAA No. 136) and at the international level (GAATES No. BE-02-106-18). Lindsay Perry Access Pty Ltd carries public liability insurance, professional indemnity insurance and workers compensation insurance.

2. Project Description

The project sees the refurbishment of the Newcastle Courthouse to provide a university building with teaching facilities and associated student accommodation. The original Courthouse building will remain, flanked on both sides by an educational building to the west and an accommodation building to the east. Connections will be available between the three buildings.

Figure 1 | Church Street View

Access for people with disabilities has been considered in the proposed design through the provision accessible features including accessible sanitary facilities; lifts to all levels; accessible accommodation; and accessible carparking. While accessibility is greatly improved as a result of this development, due to heritage restrictions within the existing Courthouse building, there are restrictions in achieving full compliance with current accessibility requirements.

3. Reviewed Documentation

The following documentation, prepared by Azusa Sekkei Co Ltd, has been reviewed.

- A-101 Rev-07 General Arrangement Plan – 1st Floor
- A-102 Rev-07 General Arrangement Plan – 2nd Floor
- A-103 Rev-07 General Arrangement Plan – 3rd Floor
- A-104 Rev-07 General Arrangement Plan – 4th Floor
- A-105 Rev-07 General Arrangement Plan – Roof

4. Process for the Assessment of the Performance Solution

The above-mentioned items do not meet the deemed-to-satisfy provisions of the BCA and are considered a Performance Solution.

BCA Clause A2.0 states that the compliance with the NCC is achieved by complying with the governing requirements of the NCC (Deemed-to-Satisfy Solution) and the performance requirements. Compliance can be satisfied by a Performance Solution, a Deemed-to-Satisfy Solution or a mixture of both. The performance solution is to be at least equivalent to the Deemed-to-Satisfy provisions.

The process outlined in Clause A2.2 has been followed to demonstrate compliance with the performance requirements. This requires that the performance solution be at least equivalent to the deemed-to-satisfy provisions and that the Performance Solution will only comply when the assessment methods used satisfactorily demonstrate compliance with the performance requirements.

With regards to BCA Clause A2.2(2) Assessment Methods, we advise that a combination of Expert Judgement (Method C) and Comparison with the Deemed-to-Satisfy Provisions (Method D) has been adopted in the preparation of this performance solution.

Expert judgement is based upon professional opinion and experience. In this regard, Lindsay Perry is a qualified Access Advisor, being an accredited member of The Association of Consultants in Access, Australia – membership number 136. For the past fifteen years, Lindsay Perry has been providing access consultancy services throughout Australia. She is a registered architect and accredited access consultant holding a bachelor degree in both science and architecture and a Master of Disability Studies. These qualifications offer a sound basis to provide advice regarding access to premises for persons with a disability. Lindsay Perry carries public liability insurance and professional indemnity insurance.
The performance requirements of the BCA 2019 specify the minimum level of performance for buildings and building elements. They offer flexibility in achieving compliant outcomes and encourage innovative design. In terms of accessibility, this allows usability factors; the specific needs of the building occupants; and the way in which the building will be managed to be considered as a part of the assessment / compliance process.

The requirements of the Disability Discrimination Act 1992 (DDA) have also been considered in the preparation of this Performance Solution. The DDA is a complaint-based law that makes it unlawful to discriminate against a person on the ground of disability.

5. Deemed-to-Satisfy Departure 1 – Accessible Features to Existing Stairs

Due to the heritage significance of the existing building fabric within the Former Newcastle Courthouse Building, strict compliance with AS1428.1 (2009) is not achievable with respect to the provision of accessible features to existing stairs including handrails, handrail extensions and tactile indicators.

5.1 Summary of Legislative Requirements and Deemed-to-Satisfy Departure

Class of Building:	Class 3 | Class 7a | Class 9b
Deemed to Satisfy Clauses:	Clause D3.3(a)(ii) In a building required to be accessible… a stairway…except for stairways in areas exempted by D3.4 must comply with…Clause 11 of AS1428.1. Clause D3.8 For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have vision impairment that they are approaching… a stairway
Deemed to Satisfy Departures:	Due to the heritage significance of the existing building fabric within the Former Newcastle Courthouse Building, strict compliance with AS1428.1 (2009) is not achievable with respect to the provision of accessible features to existing stairs including handrails, handrail extensions and tactile indicators.
Australian Standard Clauses:	AS1428.1 (2009), Clause 11.2 (b) Handrails shall be installed on both sides of the stairs…. AS1428.1 (2009), Clause 11.2 Where the handrail terminates at the bottom of a flight of stairs, the handrail shall extend at least one tread depth parallel to the line of the nosings plus a minimum of 300mm horizontally from the last riser (Figure 28B). The handrail shall extend a minimum 300mm horizontally past the nosing on the top riser. Figure 26B states that the handrail must turn through 180° or return into a wall face. AS1428.4.1 (2009), Clause 2.4 Where required on a path of travel, warning indicators shall be located at both the top and bottom of stairways…as shown in Figures 2.2(A), 2.2(B), 2.3(A) and 2.4.

Performance Requirement:	DP 2 So that people can move safely to and within a building, it must have— (a) walking surfaces with safe gradients; and (b) any doors installed to avoid the risk of occupants – i. having their egress impeded; or ii. being trapped in the building; and (c) any stairways and ramps with— (i) slip-resistant walking surfaces on— (A) ramps; and (B) stairway treads or near the edge of the nosing; and **(ii) suitable handrails where necessary to assist and provide stability to people using the stairway or ramp**; and (iii) suitable landings to avoid undue fatigue; and (iv) landings where a door opens from or onto the stairway or ramp so that the door does not create an obstruction; and (v) in the case of a stairway, suitable safe passage in relation to the nature, volume and frequency of likely usage.

5.2 Justification of the Performance Solution

The provision of handrails, handrail extensions and tactile indicators to ALL existing stairs (internally and externally) within the former Newcastle Courthouse Building have been considered as a part of this performance solution. Due to heritage restriction and the existing configuration of the stairs with the existing portion of the building, it is not possible to provide compliant handrails or handrail extensions in some instances. Handrail extensions would generally protrude into the traverse path of travel and may cause injury to the users of the building.

The following commentary provides rationale for the omission of these items within the existing building. Stairways within the two new buildings located either side of the existing heritage building will offer compliance with AS1428.1 (2009) in the provision of handrails and tactile indicators.

5.2.1 Assumptions:

The building works are subject to compliance with National Construction Code: The Building Code of Australia Volume 1 2019 (BCA). Volume 1 of the BCA deals with public buildings and therefore must cater to the widest range of users possible. This means that a wide range of disabilities must be considered in a performance-based approach including non-ambulant disabilities; ambulant disabilities; sensory disabilities – hearing and vision; and intellectual disabilities.

The occupancy rates of the building are an important factor in determining the appropriateness of a performance-based design solution. For this building, occupancy rates are not considered high being largely a controlled group. The building will

accommodate a Japanese university with boarding facilities. Users will generally be limited to students and staff (who will also reside within the building).

While other students and visitors may attend the university on a casual basis, the building will not be open to the general public as such.

The lack of handrails and handrail extensions to the existing stairs is considered to be a secondary accessibility feature. Therefore, usability rather than accessibility is affected.

Primary accessibility features are considered as items that restrict or deny access to and within a building and could potentially lead to a complaint being made under the DDA. Typical examples would include omission of a lift within a multi-storey building; an unusable ramp gradient; a lack of accessible sanitary facilities; no accessible carparking; or the absence of luminance contrast on stair nosings / full height glazing.

Secondary accessibility features are considered those that do not necessarily restrict access but affect usability such as the provision of handrail extensions; restricted circulation areas; or other minor non-compliances.

5.2.2 Context:

The context of the performance solution is an important factor in determining the suitability of the deemed-to-satisfy departure.

In this instance, the heritage significance of the existing building, and its structure, affect the capacity to comply with currently accessibility legislation. There are certain stairs within the building that cannot be altered or modified. Additionally, the configuration of some stairs and their intersection with corridors makes it unsafe / impractical to provide handrail extensions or tactile indicators from a safety perspective. The following photographs illustrate typical examples where handrail extensions would be impractical.

Figure 2 | Existing Stair Protrudes into Corridor

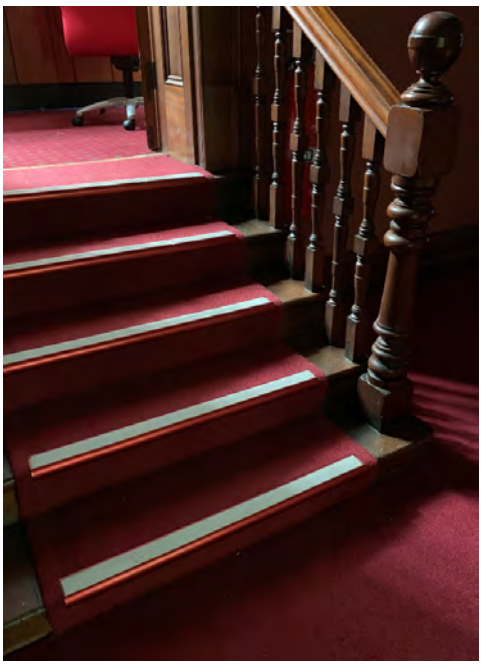


Figure 3 | Existing Stair Intersects with Corridor

5.2.3 Equity and Dignity:

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings and the preparation of performance solutions. In any performance solution, the resulting design approach needs to maintain a high level of equity for people with disabilities while meeting the performance requirements of the BCA.

The performance requirements adopt two main concepts in the provision of access for people with a disability being to the degree necessary and safe movement. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.

5.2.4 Validation:

The provision of handrails and handrail extensions to the existing stairs within the former Newcastle Courthouse Building will not offer compliance with AS1428.1 (2009) due to existing conditions and heritage constraints. The following commentary validates the proposed performance-based design approach adopted.

In determining the appropriateness of the provision of handrails and handrail extensions to stairs, the purpose of the handrails needs to be considered. Handrails serve up to five purposes (Goldsmith, 2001):

- They act as a stabilizer to people with mobility limitations while using the stair;
- They enable people to retain their balance;
- They act as a locomotory aid, assisting people to raise their legs to use the stair;
- They act as a damage-limitation device in that if one stumbles, the handrail can be grasped and injury limited;
- They act as an orientation device for people with vision impairment.

Handrail extensions the following additional purposes (Goldsmith, 2001):

- They act as a stabilizer to people with mobility limitations before entering, or on exit of, the stair;
- They act as an orientation device for people with vision impairment, indicating the termination of the stair.

The provision of handrails to both sides of a stair enables use by people with both left and right-handed disabilities. That is, a person can use either their right or left hand to hold onto the rail for support. Also, if several people are using the ramp or stairs whilst travelling in opposite directions, handrails on both sides will allow for multiple users to use a rail at any one time (IATA, 2015).

At the top of a stair, handrail extensions provide a stabiliser before entering / existing the stair. They can also be utilised to pull oneself up the final step and onto the landing.

At the base of the stair, is important that handrails extend beyond the end of stairs to inform a user that there is another step down to make before reaching the floor (IATA, 2015). A user's hand on the handrail is generally a tread ahead of their feet. The handrail extension at the same angle as the angle stair, projecting one tread past the stair, ensures a consistent height while the users' feet are still on the stair treads. The flattening out of the handrail extension past this point aids balance and mobility while providing a cue to people with vision impairment that the stair has in fact met the floor level.

The occupants of the building are generally staff and students who are familiar with their environment. Therefore, where the lack of handrails or handrail extensions prevents a person with an ambulant disability from safely use in the stairs, the lifts proposed as a part of the building works can be utilised in lieu of the stairs. Usual occupants of the budding would be familiar wither the location of the lifts – three (3) in total, which are distributed both sides of the central heritage building.

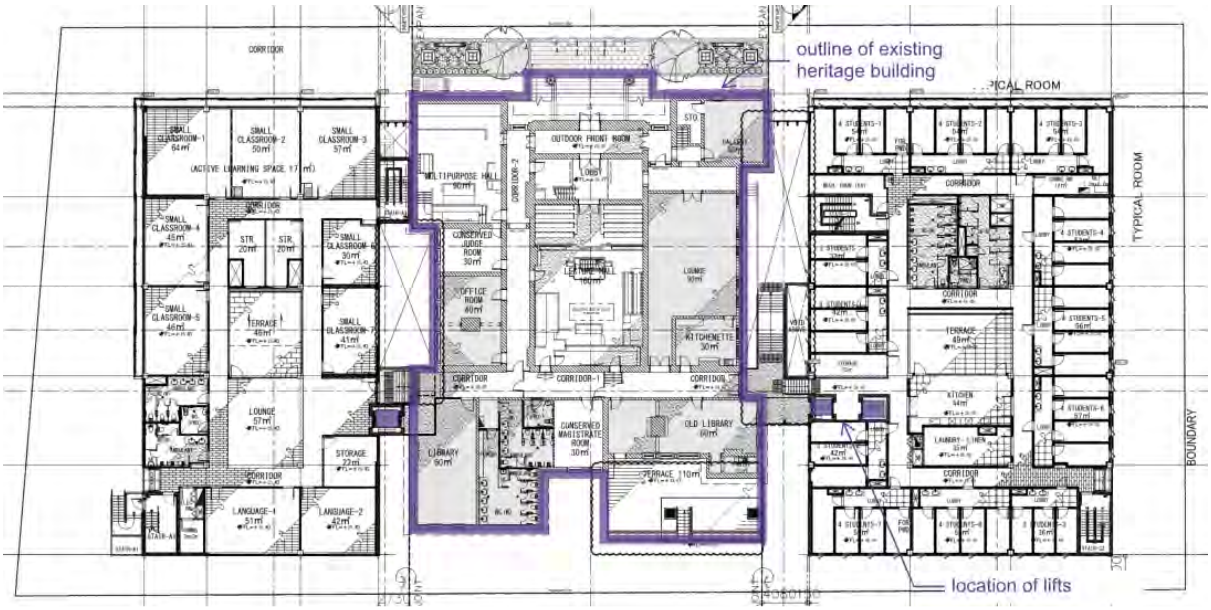


Figure 4 | Location of Lifts

It can be argued that the existing stairs with the former Newcastle Courthouse Building do not form the main means of access between levels of the building. New stairs, that offer full compliance with AS1428.1 (2009), are provided but the lifts are the primary means of access between levels. Therefore, for people unable to safely use the existing stairs, the lifts can be used, enabling equitable use of the building.

Our approach towards the provision of tactile indicators has been developed to reflect the requirements of AS1428.4.1 and offer a safe environment for all users of the building. While tactile indicators can offer assistance to persons with a vision impairment, they also have the capacity to affect the balance of people with mobility impairment or interfere with the use of a mobility aid.

There are two types of tactile indicators – warning indicators and directional indictors. Warning tactile indicators provide warning of a potential hazard while directional indicators offer a wayfinding tool for orientation throughout the built environment.

Key concepts in the provision of tactile indicators are as follows and have been adopted as a part of our philosophy within the assessment of the stair and are considered noteworthy with regard to this performance solution. These key concepts are noted in the Forward to AS1428.4.1 and Appendix A – Wayfinding.

- Tactile indicators provide cues which when combined with other environmental information, assist people who are blind or vision impaired with their orientation.

  "Orientation" is a person's awareness of where they are, where they are going and where they have been.

- Warning tactile indicators indicate an approaching hazard but not the nature of the hazard. They provide a message to pause and consider a change in direction.

- Tactile indicators should be installed to provide guidance and/or warning of an obstruction or hazard in any location where insufficient alternative or "natural" tactile cues exist.

- People who are blind or have vision impairment are able to make use of aids and environmental cues available to them for wayfinding in the community. Eg, guide dogs, personal assistants, orientation training, tactile indicators, dome buttons, auditory traffic lights.

- People who are blind or have vision impairment are able to benefit from a well designed environment that presents a predictable set of physical circumstances.

- Having established the circumstances that assist safe wayfinding, the design industry should not overuse the installation of tactile indicators but rather use of the full range of environmental guidance features available so as to minimize inconvenience to other members of the community.

With regard to wayfinding, tactile indicators are generally installed to alert people who are blind or vision impaired to pending obstacles or hazards or changes in direction of the continuous accessible path of travel. Australian requirements for tactile indicators are not reflected at the international level.

There is currently much debate about the effectiveness of tactile indicators, especially with regard to the general safety issues regarding slipping and tripping for members of the public that do not have vision impairment. There is also concern that people with mobility impairments that use an aid such as a walking frame or wheelchair find it difficult to traverse tactile indicators.

Regular ongoing maintenance is required to ensure tactile indicators remain in their as-installed state and in many instances, this does not occur causing tactile indicators to lose their effectiveness as a way-finding tool.

At the international level, the British and American building standards (BS8300 2010 & ADA Standards 2010 respectively) have no requirement for the provision of tactile indocators. The Singapore Accessibility Code 2013 offers the provision of tactile

indicators as optional and dependent on-site circumstances, suggesting their installation should be minimised.

ISO 21542 includes an appendix on tactile indicators installation advising that they are generally used by people travelling alone. It also advises that installation and patterns vary from country to country and that luminance contrast is the important factor, more so than the tactile contrast.

When considering the omission of the tactile indicators to the stairs that provide access to the stage, the following justifications are provided in support of the proposed approach:

- The building generally has a controlled user group that is familiar with their environment,
- Ommisssion of tacitle indocaurosr is applicable to only existing stairs withtine h heritage building. All new stairs – which form the maoin means of access between levels – offer full comnpliance.
- There are lifts within the building that can be used as alternative route for people reliant on the provision of tactile indicators for orientation and mobility.
- If the lack of tactile indicators to the existing stairs becomes an inherent accessibility issue in the future, tactile indicators can be easily installed on an as-required basis requiring no additional structural modifications to the floor.

Based on the above, we consider that the lack of handrails to both sides of existing stairs, the limited opportunity to provide handrail extensions to these stairs, and the omission of tactile indicators will not adversely affect people with ambulant disabilities due to the availability of the lifts for safe travel between levels of the building. The location of the lifts is obvious to building users.

5.2.5 Design Enhancements:

As a means upgrading existing stairs to the highest safety level possible, we recommend the following:

- Provide contrasting nosing strips to existing stairs – both internal and external stairs – throughout the building. Contrasting nosing strips to have a minimum 30% luminance contrast to the tread colour and be 50-75mm wide to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.

5.2.6 Conclusion:

It is our professional opinion that Performance Requirement DP2 of the BCA has been met in the provision of handrail and handrail extensions to the existing stairs within the former Newcastle Courthouse Building. As demonstrated above, access has been provided to the degree necessary so that people can move safely within the building through the provision of lifts. We consider that compliance with the BCA has been met through satisfying these performance requirements.

6. Deemed-to-Satisfy Departure 2 – Accessible Features to Existing Doors

Due to the heritage significance of the existing building fabric within the Former Newcastle Courthouse Building, strict compliance with AS1428.1 (2009) is not achievable with respect to the provision of accessible features to existing doorways including hardware and circulation areas.

6.1 Summary of Legislative Requirements and Deemed-to-Satisfy Departure

Class of Building:	Class 3 | Class 7a | Class 9b
Deemed to Satisfy Clause:	Clause D3.1 *Buildings and parts of building must be accessible…to and within all areas normally used by the occupants.*
Deemed-to-Satisfy Departure:	The latch side circulation to some existing doorways is compromised due to the door's proximity to the adjacent wall. The existing door hardware in some locations is a knob-style handle or not within the accessible height range.
Australian Standard Clauses:	AS1428.1 (2009), Clause 13.3 Circulation spaces shall be provided at every doorway…on a continuous accessible path of travel…as shown in Figures 31 & 32. AS1428.1 (2009), Clause 13.5.2(a) The door handle and related hardware shall be of the type that allows to door to be locked and opened with one hand. The handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch.
Performance Requirement:	**DP1** Access must be provided, to the degree necessary, to enable – (a) people to – i. approach the building from the road boundary and any accessible car parking spaces associated with the building; and ii. approach the building from any accessible associated building; and **iii. access work and public spaces, accommodation and facilities for personal hygiene; and** (b) identification of accessways at appropriate locations which are easy to find.

6.2 Justification of the Performance Solution

The latch side circulation spaces and provision of hardware to some existing doorways within the former Newcastle Courthouse Building have been considered as a part of this performance solution. Due to heritage restrictions and the existing configuration of walls and doors with the existing portion of the building, it is not possible to provide compliant circulation or hardware in some instances. Also, existing hardware that includes the provision of knob type handles will be retained for heritage reasons.

The following commentary provides rationale for the non-compliance of these items within the existing building. Doorways within the two new buildings located either side of the existing heritage building will offer compliance with AS1428.1 (2009) in the provision circulation areas and hardware.

6.2.1 Assumptions:

The building works are subject to compliance with National Construction Code: The Building Code of Australia Volume 1 2019 (BCA). Volume 1 of the BCA deals with public buildings and therefore must cater to the widest range of users possible. This means that a wide range of disabilities must be considered in a performance-based approach including non-ambulant disabilities; ambulant disabilities; sensory disabilities – hearing and vision; and intellectual disabilities.

The occupancy rates of the building are an important factor in determining the appropriateness of a performance based design solution. For this building, occupancy rates are not considered high being largely a controlled group. The building will accommodate a Japanese university with boarding facilities. Users will generally be limited to students and staff (who will also reside within the building).

While other students and visitors may attend the university on a casual basis, the building will not be open to the general public as such.

The lack of latch side circulation areas and hardware to existing doorways is considered to be a secondary accessibility feature. Therefore, usability rather than overall accessibility is affected.

Primary accessibility features are considered as items that restrict or deny access to and within a building and could potentially lead to a complaint being made under the DDA. Typical examples would include omission of a lift within a multi-storey building; an unusable ramp gradient; a lack of accessible sanitary facilities; no accessible carparking; or the absence of luminance contrast on stair nosings / full height glazing.

Secondary accessibility features are considered those that do not necessarily restrict access but affect usability such as the provision of handrail extensions; restricted circulation areas; or other minor non-compliances.

6.2.2 Context:

The context of the performance solution is an important factor in determining the suitability of the deemed-to-satisfy departure.

In this instance, the heritage significance of the existing building, and its structure, affect the capacity to comply with currently accessibility legislation. There are certain doorways

within the building that cannot be altered or modified. The following photographs illustrate typical examples of doorways that do not offer compliance with current accessibility legislation due to circulation areas or hardware.

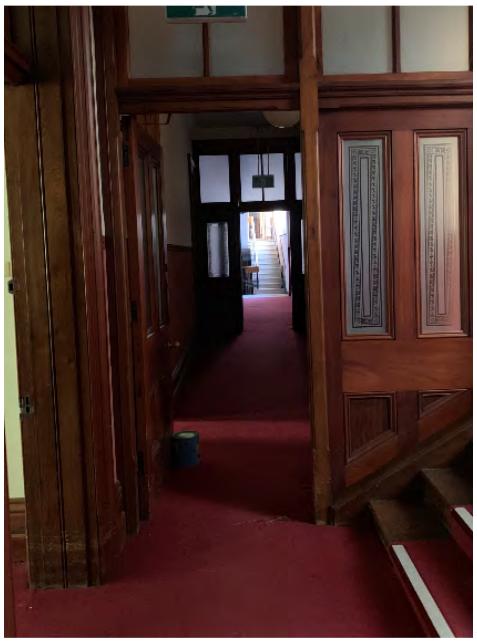


Figure 5 | Existing Doorway Circulation Obstructed by Stair

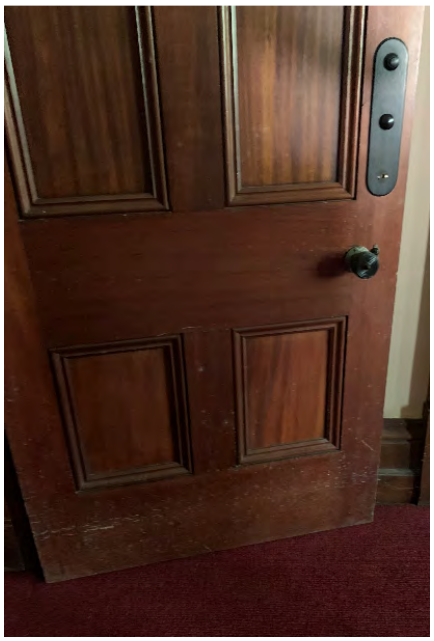


Figure 6 | Existing Doorway with non-compliant handle

6.2.3 Equity and Dignity:

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings and the preparation of performance solutions. In any performance solution, the resulting design approach needs to maintain a high level of equity for people with disabilities while meeting the performance requirements of the BCA.

The performance requirements adopt two main concepts in the provision of access for people with a disability being to the degree necessary and safe movement. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.

6.2.4 Validation:

The provision of complying circulation areas at doorways and accessible door hardware ensures independent access for all building users regardless of their activity limitations.

Doorways generally require 530mm at the latch side to achieve compliance with AS1428.1 (2009), Figure 31 for a front approach with the door opening towards the user. Due to existing conditions that cannot be altered due to heritage restrictions, there are a number of doorways throughout the former Newcastle Courthouse Building that do not achieve compliance with current accessibility legislation.

Provision of circulation areas at doorways within the accessible path of travel affects a wide range of people with a disability. Specifically, people with significant mobility impairments or those with an activity limitation who would have difficulties in negotiating doors with reduced circulation spaces, such as wheelchair users, amputees, people affected by partial paralysis, stroke, arthritis, or the like. Compliant and accessible doorway circulation areas ensure all occupants are able to independently negotiate each door to access public or work areas.

With regard to door hardware, 'D' type lever handles are preferred as they are usually easier to operate for people with limitations to functional use of their hands (IATA, 2015). Round knobs can be difficult to grasp and turn to operate the latch mechanism for a person who has arthritis or lacks fine motor skills. Door controls must be operable by one hand as some people may not have functional use of both hands.

In the context of the former Newcastle Courthouse, where there is a somewhat controlled user group and heritage restrictions on the building fabric, we consider that access for people with mobility limitations is not greatly affected by the non-compliances of the existing doorways – circulation areas and hardware. The new sections of the building – being the main teaching areas and accommodation areas – are provided with doorways that have complying circulation areas and hardware.

In the event that a person is unable to use an existing doorway, alternative accommodations could be made in other areas of the university to ensure that access to services and spaces is available, thus facilitating access to the degree necessary in keeping with performance requirement DP1.

6.2.5 Conclusion:

It is our professional opinion that Performance Requirement DP1 of the BCA has been met with regard to the existing doorways within the former Newcastle Courthouse Building. As demonstrated above, access has been provided to the degree necessary so that people can move safely within the building. We consider that compliance with the BCA has been met through satisfying these performance requirements.

7. Deemed-to-Satisfy Departure 3 – Limited Access

There are areas within the Former Newcastle Courthouse Building that will remain inaccessible to people with limited mobility on completion of the proposed construction works. This is due to existing structural constraints and the difficulty of providing a lift to these areas.

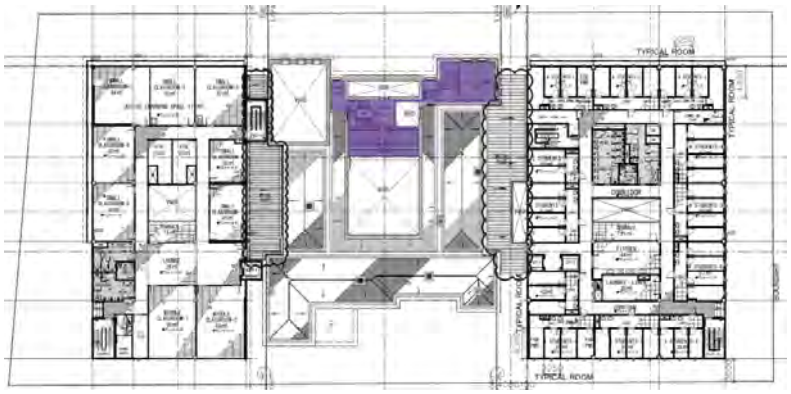


Figure 7 | Third Floor – Non-accessible Areas

7.1 Summary of Legislative Requirements and Deemed-to-Satisfy Departure

Class of Building:	Class 3 | Class 7a | Class 9b
Deemed to Satisfy Clause:	Clause D3.1 *Buildings and parts of building must be accessible…to and within all areas normally used by the occupants.*
Deemed-to-Satisfy Departure:	Access for people with non-ambulant disabilities is provided to a portion of the ground floor area in lieu of the whole of the ground floor due to existing conditions.
Performance Requirement:	**DP1** Access must be provided, to the degree necessary, to enable – (a) people to – i. approach the building from the road boundary and any accessible car parking spaces associated with the building; and ii. approach the building from any accessible associated building; and iii. **access work and public spaces, accommodation and facilities for personal hygiene;** and (b) identification of accessways at appropriate locations which are easy to find.

7.2 Justification of the Performance Solution

While access will be provided to and within all areas of the new buildings within the development and to most areas within the existing building – being the Former Newcastle Courthouse Building – the third floor level that accommodates a Lobby; Staff room; Staff kitchen and Gallery Seating will remain inaccessible to people with non-ambulant disabilities. The following commentary provides rationale for this condition.

7.2.1 Assumptions:

The building works are subject to compliance with National Construction Code: The Building Code of Australia Volume 1 2019 (BCA). Volume 1 of the BCA deals with public buildings and therefore must cater to the widest range of users possible. This means that a wide range of disabilities must be considered in a performance-based approach including non-ambulant disabilities; ambulant disabilities; sensory disabilities – hearing and vision; and intellectual disabilities.

The occupancy rates of the building are an important factor in determining the appropriateness of a performance based design solution. For this building, occupancy rates are not considered high being largely a controlled group. The building will accommodate a Japanese university with boarding facilities. Users will generally be limited to students and staff (who will also reside within the building).

While other students and visitors may attend the university on a casual basis, the building will not be open to the general public as such.

The lack of access to the third floor is considered a secondary accessibility issue based on the provision of similar spaces elsewhere in the development.

Primary accessibility features are considered as items that restrict or deny access to and within a building and could potentially lead to a complaint being made under the DDA. Typical examples would include omission of a lift within a multi-storey building; an unusable ramp gradient; a lack of accessible sanitary facilities; no accessible carparking; or the absence of luminance contrast on stair nosings / full height glazing.

Secondary accessibility features are considered those that do not necessarily restrict access but affect usability such as the provision of handrail extensions; restricted circulation areas; or other minor non-compliances.

7.2.2 Context:

The context of the performance solution is an important factor in determining the suitability of the deemed-to-satisfy departure.

In this instance, the heritage significance of the existing building, and its structure, affect the capacity to comply with currently accessibility legislation. It has been established throughout the design process that it is not practical or structurally viable to install a lift for access to the third level of the existing building. There are no unique facilities provided at this level.

7.2.3 Equity and Dignity:

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings and the preparation of performance solutions. In any performance solution, the resulting design approach needs to maintain a high level of equity for people with disabilities while meeting the performance requirements of the BCA.

The performance requirements adopt two main concepts in the provision of access for people with a disability being to the degree necessary and safe movement. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.

7.2.4 Validation:

The third-floor level of the former Newcastle Courthouse Building will not accommodate access for people with non-ambulant disabilities due to existing conditions and heritage constraints. The area provides a Lobby; Staff room; Staff kitchen and Gallery Seating. There are no unique uses at this level.

With regard to the gallery seating, we note that the BCA Table D3.1 states that while access for people with disabilities is required to wheelchair seating spaces provided in accordance with D3.9, access need not be provided to every tier / platform within an auditorium. As such, it is our professional opinion that access for people with disabilities is not required to the Gallery Seating area.

Figure 8 | Third Floor – Gallery Seating

For other areas at the third floor, we note that staff rooms and kitchens are provided at accessible levels of the building ensuring equitable access to facilities.

We note that the limited access to the third floor of the former Newcastle Courthouse Building affects predominantly people with non-ambulant disabilities. A non-ambulant disability means that a person is reliant on a wheelchair for mobility. Other disability groups – people with ambulant disabilities, vision impairment, hearing impairment or an intellectual disability; are able to negotiate the stairs and therefore access the third-floor area.

While approximately 18% of Australian have a disability, people who use a manual or electric wheelchair represent 3.8% and 0.6% of people with a disability respectively (ABS, 2015).

Given these statistics and the provision of similar rooms at other accessible levels of the building, we consider that the limited access to the third floor is a reasonable condition.

7.2.5 Conclusion:

It is our professional opinion that Performance Requirement DP1 of the BCA has been met in the provision of access for people with disabilities to the Former Newcastle Courthouse Building within the Nihon University. This opinion is been based on the existing conditions within the building and the provision of areas of similar use at accessible levels. Accessibility is not negatively affected by the proposed building works.

Access has been provided to the degree necessary for people with non-ambulant disabilities to access work and public spaces and facilities for personal hygiene as per performance requirement DP1 of the BCA.

We consider that compliance with the BCA has been met through satisfying these performance requirements.

8. Summary

The above assessment demonstrates that the following departures from the deemed-to-satisfy provisions of the BCA offers compliance with the applicable performance requirements noted throughout this report.

- Due to the heritage significance of the existing building fabric within the Former Newcastle Courthouse Building, strict compliance with AS1428.1 (2009) is not achievable. Specifically:

  — Accessible features to existing stairs including handrails and extensions;
  — Accessible features to existing doorways including hardware and circulation areas; and
  — Access for people with limited mobility to some parts of the existing building.

Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural.

Please contact the undersigned is you wish to discuss this matter in greater detail.

Yours Sincerely,

LINDSAY PERRY
B.Arch, M.Dis.Stud.

Internationally Certified Access Consultant GAATES ICAC BE-02-106-18
ACAA Accredited Access Consultant No. 136 |
Registered Architect NSW 7021
Livable Housing Assessor 20047 | Changing Places Assessor CP005

Revision Summary

Date	Description	Revision
27 August 2019	Performance Solution | Accessibility	draft
17 September 2019	Performance Solution | Accessibility	1

References:

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APPENDIX 1

Curriculum Vitae

Lindsay Perry
Director

Lindsay Perry is an Internationally Accredited Access Consultant (Level 2) who is passionate about access and inclusion. Lindsay has over eighteen years of experience in access consulting throughout Australia and at the international level.

Lindsay Perry Access was established in 2017. Prior to this, Lindsay led the team at Philip Chun Access, a national team of access consultants. Lindsay is experienced in a wide range of access consulting including building appraisals; design reviews; site inspections; policy development; management plans and general advice.

qualifications:

2015	Master of Disability Studies, University of Newcastle
1996	Bachelor of Architecture (Hons II), University of Newcastle
1993	Bachelor of Science (Arch), University of Newcastle

professional associations:

GAATES International
Accredited Member – ICAC BE-02-106-18

Association of Access Consultants, Australia
Accredited Member – 136

NSW Board of Architects
Registered Architect 7021

Livable Housing Australia
Registered Assessor – 20047

Changing Places Australia
Registered Assessor – CP005

employment history:

2017-	Director, Lindsay Perry Access
2014-2017	Associate, Philip Chun Access
2009-2014	Part-time Teacher in Architecture, TAFE NSW
2002-2014	Principal, Lindsay Perry Architecture + Access
2001-2003	Access Consultant, Access Australia
2000-2001	Architect, Duc Associates
1998-2000	Architectural Designer, The Plan Centre of Newcastle
1997-1998	Architectural Graduate, Suters Architects

committee involvement:

2014-	Ordinary Member, Association of Access Consultants, Australia NSW Network
2017-	Member, Lake Macquarie City Council Ageing & Disability Panel
2017-2018	Secretary, Association of Access Consultants, Australia
2016-2017	Treasurer, Association of Access Consultants, Australia

experience:

Extensive experienced in a wide range of projects including retail; commercial; healthcare; seniors living; residential; public domain; educational; entertainment; sporting facilities; and public transport at all stages of design and construction.

Experienced in accessibility strategy and management procedures; performance solutions and heritage buildings.

Expert witness for private clients – seniors living, childcare centres, residential development.

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