221155 CAAG



12 March 2024

Blackett Maguire + Goldsmith 2/22-36 Mountain St. Ultimo NSW 2007

Attention: Michael Potts – Building Surveyor

#### Darcy Road Public School

#### SSD - 49073460 Condition B23 and B24 - Structural Statement

Dear Michael,

With reference to Condition B23 and B24 of Development Consent of SSD-49073460, for Darcy Road Public School upgrade project at 98A Darcy Road Wentworthville NSW 2145, we wish to advise the following:

In compliance with condition B24 a) and b):

- 1. Finish floor levels of Buildings A and C are more than 500mm above the 1%AEP flood level.
- 2. Finish floor levels of Buildings A and C are at the probable maximum flood level (PMF), being 27.9 mAHD and 26.5 mAHD respectively.
- 3. All structures below the probable maximum flood level (PMF) are constructed from flood compatible building components. Measures applied to building B are addressed below:
  - i. The current FFL of Building B (27.0 mAHD) is 1.8m above the 1%AEP flood level but 0.2m lower than the PMF level at the southern end of the building.
  - ii. There are no openings into building B within the PMF flood zone.
  - iii. Structurally, it is acceptable to keep the current FFL and provide a concrete upstand structure above the PMF level (refer to attached plan DRPS-NBRS-BB-XX-DR-A-5421, revision 2) which is designed to withstand the flood loads. Building B structure will be designed to suit the flood flow and flood velocity of up to 2m/s, which is the extent expected in this zone during a PMF event.
  - iv. The concrete upstand will be located behind the façade brick wall with infill grout in the cavity as shown in the sections attached. The concrete wall will also be waterproofed and insulated.
- 2. In compliance with condition B23:
  - i. Primary structures have been designed with flood compatible materials able to withstand the hydrodynamic forces from moving flow and still water during any period of flood inundation and/or submerging events, as identified in the Flood Impact Assessment, revision 15, dated 1 February 2024 prepared by TTW. Also refer to items 3 iii and 3 iv above.

Please do not hesitate to contact our office for further information.

Yours faithfully, TTW (NSW) PTY LTD

Glen Fowlie Executive Director BE(Hons) CPEng NER 4065670

\ttwcloud2.ttw.net.au\Jobfiles\$\2022\2211\221155\Certificates\Structural\240312 Flood Wall Statement (Rev10)\Cert 301s, NSW, V10, 210518, Structural Design Certificate.docx

221155 CAAD



#### 12 March 2024

Taylor Constructions Level 16, 100 Pacific Highway North Sydney NSW 2060

Attention: Katherine Barrionuevo

#### **Darcy Road Public School** Civil Design Statement – SSD 49073460 Condition B24 (c & d)

Dear Katherine,

This civil certificate has been provided to respond to Condition B24 Part (c) and (d) of Development Consent SSD-49073460 for the Darcy Road Public School upgrade project at 98A Darcy Road Wentworthville NSW 2145.

Consent Conditions Development Consent Conditions SINSW (received 8/03/2024)					
No.	Condition Description	TTW Response			
B24	Prior to the commencement of construction of the relevant stage, the Applicant must provide evidence from a suitably qualified chartered professional engineer to the Certifier and Planning Secretary confirming that:				
С	any new buildings have been designed to ensure shelter in place of vulnerable persons is safe and in locations above the PMF level as outlined in the Flood Impact Assessment, revision 15, dated 1 February 2024 and prepared by TTW; and	new buildings have been designed to ensure shelter in place of vulnerable persons and are safe and in locations above the PMF level, or protected from the PMF flood, as outlined in the Flood Impact Assessment, revision 15, dated 1 February 2024 and prepared by TTW; and			
d	any new building has been designed, so that the part of the building that will be used for egress after a flood event will be safe to be used for this purpose after the flood waters recede from the 1% AEP through to PMF flood events described in the Flood Impact Assessment, revision 15, dated 1 February 2024 and prepared by TTW.	new buildings have been designed so that the part of the building that will be used for egress after a flood event will be safe to be used for this purpose after the flood waters recede from the 1% AEP through to PMF flood events, as described in the Flood Impact Assessment, revision 15, dated 1 February 2024 and prepared by TTW.			

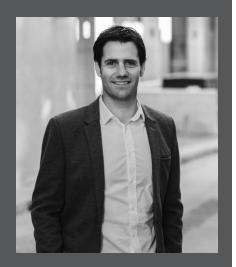
Yours faithfully, TTW (NSW) PTY LTD

TIM MOORE NSW Civil Manager MEng (Hons) MIEAust CPEng NER (4135658)

P:\2022\2211\221155\Certificates\Civil\240312\_TTW\_221155 Civil Design CC1 REV2.docx

National Engineering Regist		neering Portfolio	tPE (Aus)
Registrations			
APEC Engineer Re	gister (APEC)	National Engineering	Register (NER)
Registration Date Areas of Practice	22-02-2018 Structural Engineering	Registration Date Occupational Category Areas of Practice	30-10-2015 Professional Engineer Structural
International Profe	essional Engineers Agreement (IPE/	A)	
Registration Date Areas of Practice	22-02-2018 Structural Engineering		
Contact Details		EA Membership	
ST LEONARDS, NSW 20	65	Chartered Status Membership Grade	Chartered Professional Engineer Member
AUSTRALIA		Chartered Areas of Practice	

		agineering Portfolio	
/ National Engineering Register	Search / Engineering Portfolio		
Registrations			
National Engineerin	g Register (NER)		
Registration Date	30-10-2015		
Occupational Category Areas of Practice	Professional Engineer Civil		
Contact Details		EA Membership	
Manly, NSW 2095		Chartered Status	Chartered Professional Engineer
AUSTRALIA		Membership Grade Chartered Areas of Practice	Member Civil Engineering



### Experience

2019-Current Director, TTW 2017-2019 Technical Director, TTW 2014-2016 Associate Director, TTW 2012-2013 Associate, TTW 2011-2012 Structural Engineer, TTW 2009–2010 Line Manager, Balfour Beatty & Carillion, East London Overground 2007-2008 Structural Engineer. Waterman Structures Ltd, London 2006 Structural Engineer. Bogdonov Pao Group Ltd, Canada

> 2004-2005 Structural Engineer. Sinclair Knight Merz Ltd, Auckland

Glen Fowlie has an entrepreneurial spirit that he takes into each project he joins. With 12 years of engineering experience in New Zealand and Australia, Glen plays a critical leadership role at TTW, as Director. His expertise has been sought after by market-leading architects and buildings firms.

He has taken a lead role on many significant and iconic projects for TTW such as the Westmead Millennium Institute, which was awarded Architecture Australia's most prestigious awards – the Sulman Medal. Glen has recently completed the complex Wynyard Walk project connecting Wynyard Station to Barangaroo. This major transportation project involved building under existing high-rise commercial and heritage listed buildings in a highly constrained environment.

Glen's pragmatic approach has seen him develop his career across various project sectors including healthcare, transportation, commercial, public buildings and education.

# **Glen Fowlie**

## Director

#### **BE(Hons) CPEng NER RPEQ**

glen.fowlie@ttw.com.au

#### Accommodation / Hotel

Little National Hotel, Sydney Sonaisali Villas Fiji Veriu Hotel, Sydney

#### Commercial + Retail

Ausgrid Chatswood Office Building, Chatswood Birkenhead Point Shopping Centre, Drummoyne Eastgate Leeds, United Kingdom Roden Cutler House Refurbishment, Sydney Manly Wharf Redevelopment, Manly

#### Education

Murwillumbah Education Campus Crofton House School, Vancouver, Canada Hillsong Melbourne East Church Sydney University Capital Works, Sydney Sydney University FEIT Master Plan, Sydney

#### Healthcare + Research

Wagga Wagga Hospital Redevelopment, Stage 3 Byron Shire Central Hospital, Byron Bay Coffs Harbour Hospital Expansion Concord Hospital Development New Maitland Hospital St Jude Medical Centre – Parking Structure, Los Angeles, United States St Vincent's Private Hospital, Darlinghurst Sutherland Hospital Westmead Hospital - Temporary Works Westmead Millennium Institute

#### Aged Care

Hawkins Masonic Retirement Village Aveo RACF, Bella Vista Aveo, Bella Vista Aveo, Mosman RFBI Hawkins Village Sir Moses Montefiore Jewish Home, Randwick

#### Government + Public

Jindabyne Community Library and Innovation Hub Sutherland Entertainment Centre, Sutherland Queens Square Law Courts, Sydney Royal New Zealand Navy Dive Training & Support Centre, Auckland, New Zealand Surry Hills Police Station, Surry Hills

#### Sport + Leisure

National Snowsports Training Centre (NSTC), Jindabyne Batemans Bay Aquatic Centre Gunyama Park Aquatic and Recreation Centre, Green Square Sleeman Centre Water Ramps, OWIA, Brisbane Stromo Leisure Centre Temporary Works Telstra Clear Pacific Events Centre, Auckland

#### Transport

Western Sydney Airport (WSA) Metro -Tender Crows Nest Metro Station – Temporary Works Sydney Metro West - Tender Sydney Metro City & Southwest - Pitt Street Integrated Station Development M4-M5 Link Project, Temporary Works Melbourne Metro Tender Sydney Metro Victoria Cross Station Review Wynyard Walk, Sydney East London Overground Line, United Kingdom

#### Industrial

Dicker Data Warehouse, Kurnell Energy Australia Switching Station, Surry Hills



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OUTSIDE	<u> </u>					
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CAVITY FLASHING WITH 150MM MIN						
WEEP HOLES @ 1200MM	××					
PMF LEVEL SHOWN RL 27250						
RED DASHED						//////////////////////////////////////
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MEMBRANE TYPE 02 - TANKING MEMBRANE						
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125mm THICK						
EXTERNAL PAVING SLAB ON 100mm THICK SUBGRADE TO CIVIL ENGINEER'S DETAILS						
MORTAR FILL		<b>.</b>				
WATER PROOFING						
RI-26400						
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		50				
FOOTING TO STRUCTURAL ENG. DETAILS		4				
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4021 1 : 5 Issue Changes to this F	~ \	DE	MECI ICR A Amir T Unit 12 +61 2 9	IANICAL ir Condition	ing ad NORTHMEAD I	URBIS Yen Vu NSW 2152 Level 8, Angel Pla +61 2 82337637
4021     1:5       Issue     Description       No.     Date       1     07/12/2023       Updated Detail & Schedule	Revision	<u>DE</u>	MECI ICR A Amir T Unit 12 +61 2 0 amir@ HYDF Hitec	HANICAL ir Condition ambrchi , 175 Briens Rot 98901788 crair.com.au AULIC h Plumbing	-	Yen Vu NSW 2152 Level 8, Angel Pla +61 2 82337637 yvu@urbis.com.au STRUCTURE/0 ulic TTW

Autodesk Docs://Darcy Road PS [P180802]/DRPS-NBRS-BB-ZZ-M3-A-0001.rvt

	STS92e- STEEL STUD 92MM PLB06- PLASTERBOARD – FIRE RATED - LINE OF CONCRETE COLUMN BEYOND SHOWN DASHED - JOINERY. REFER TO JOINERY DRAWINGS FOR DETAILS	0.55BMT COLORBOND UNDER FLASHING OVER THE SILL BRICK LAID OVER SEPERATION STRIPAND EXTENDED TO UNDER SUBSILL			PLE INS (TH STS
	<b>GLS</b> PS101.01 – WALL LINING AS SELECTED INS01	MA01- FACE BRICKWORK AS SELECTED WITH PENETRATING SEALER APPLIED TO EXPOSED SURFACE PM01 VAPOUR PERMEABLE COMMERCIAL WALL WRAP WITH FULLY TAPED OVERLAPS TO MANUFACTUERER'S INSTALLATION GUIDELINES OUTSIDE		INSIDE	— 150
	<ul> <li>WALL LINING AS SELECTED</li> <li>INS01- INSULATION – WALL (THERMAL)</li> <li>200 THK CONCRETE WALL TO STRUCTURAL ENG. DETAILS</li> </ul>	PMF LEVEL SHOWN RED DASHED	_27250		92 S INS (TH 40 T THE
		STRUCTURAL ENG. DETAILS           MORTAR FILL           WPM02- WATER PROOF           MEMBRANE TYPE 02 - TANKING-			→ SK — FCO CON — G
	<ul> <li>SLAB TO STRUCTURAL ENG. DETAILS</li> <li>0.2mm THICK HEAVY DUTY DPC MEMBRANE</li> <li>200THK CONCRETE WALL TO STRUCTURAL ENG. DETAILS</li> <li>CRUSHED ROCK &amp; COMPACT SAND BACKFILL</li> </ul>	WATERPRROFING SEALANT ON BACKING ROD			SL DE DE DE DE ST ST
	<ul> <li>AGG. LINE + GEO FABRIC TO ENG. DETAILS</li> <li>WATER STOP</li> </ul>	COMPRESSIBLE FILLER			AC DE W
ARCHITECT	ARCHITECTURE NBRS John Vasco 4 Glen Street, Milsons Point NSW Australia 3 +61 2 9922 2344	2 TYP. SLAB EDGE D 1:5 Drawing Title WALL SECTIONS - BLOCK B 02	DETAIL ALONG S	NBRS•	
au #/ <b>CIVIL</b> r Street, NSW 2060 w.com.au	john.vasco@nbrs.com.au BUILDER TAYLOR CONSTRUCTION GROUF Katherine Barrionuevo Level 16, 100 Pacific Highway,NSW 2060 +61 2 87369000 katherineb@taylorau.com.au		at 98A Darcy Rd, Wentworth for Taylor Construction + SINS	Nominated Architect: Andrew Duffin NSW 5602	nbrs. ABN 16 0 ithout the n infringe

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hung.nguyen@ttw.com.au

# **NBRS**

— PLB03- PLASTERBOARD - IMPACT INS01- INSULATION – WALL (THERMAL)

(B)

STS92e- STEEL STUD 92MM

----- 150 STUD FRAMING

# **GLS** BR0023

— 92 STUD FRAMING \_ INS01- INSULATION – WALL (THERMAL)

40 THK BRADFORD THERMAL PIR BOARD R1.90

- PLB03- PLASTERBOARD - IMPACT

- SKT01- ALUMINIUM SKIRTING FC02.A- VINYL SHEET (ON CONCRETE) GROUND FLOOR RL 27.000 

SLAB TO STRUCTURAL ENG. DETAILS

0.2mm THICK HEAVY DUTY DPC MEMBRANE

200 THK CONCRETE WALL TO STRUCTURAL ENG. DETAILS CRUSHED ROCK & COMPACT SAND

AGG. LINE + GEO FABRIC TO ENG.

WATER STOP

90°/0 DD

nbrs.com.au

Nominated Architect: Andrew Duffin NSW 5602 NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565 Drawing Reference Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright. © 2023

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Revision