

Built

APPENDIX A - Built Environmental Policy Statement

Built.

Environmental Management Policy

Our Aim

Built is committed to establishing and maintaining ours and our clients work environments with priority given to minimising adverse environmental effects from our activities and fostering a culture of sustainable environmental management.

The Built environmental strategy is the ongoing development of a system based on AS/NZS ISO14001, legislation and applying the principles of best practice environmental management to our activities. Built is committed to objectives and individual programs by applying proactive approaches to environmental stewardship through:

- Identifying environmental activities, aspects and impacts and applying appropriate environmental actions
- Minimising the effects of our activities on the environment
- Preventing pollution
- Complying with applicable environmental laws and regulations, Codes of Practice and Guidelines leading to the development of appropriate monitoring, measurement and review activities
- Working cooperatively with our clients and responsible agencies in exercising environmental due diligence at all stages
- Conducting relevant environmental education and training to improve awareness, knowledge and skills
- Developing and implementing plans and procedures for the effective operation and management of our processes
- Meeting Performance Standards and Key Performance Indicators, and taking action to improve performance through regular and formal reviews
- Communicating with staff, clients and stakeholders on all areas on environmental performance

Built acknowledges this environmental policy as a commitment that involves cooperation and consultation with all stakeholders to meet the company's business objectives.

Built is committed to continual improvement in environmental management. This includes regular monitoring, assessment and review of all aspects of the system by both internal and external audits.



Brett Mason
Managing Director
1 July 2018

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APPENDIX B - Built environmental Management Accreditation – ISO14001



Certificate of Conformity

Built Pty Ltd

ABN: 24 083 928 045

Built Qld Pty Limited

ABN: 43 108 064 099

Built Fitout and Refurbishment Limited

Company Number: 11645768

To certify that their

Environmental Management System

has been assessed and registered as complying with the requirements of
ISO 14001:2015 – *Environmental management systems – Requirements with guidance for use.*

Scope of works covered by certification and locations

Refer to the Certification Schedule for further details.

Certification Number 20904
Issue Date 22/07/2022
Issue Number 10

Period of Registration
09/08/2022 to 09/08/2025

John Edwards, Operations Director
dlcs international

Certification is subject to ongoing surveillance assessments
The validity of this certificate can be verified at www.jas-anz.org/register

This certificate and certification mark remains the property of
dlcs international • www.dlcsi.com.au
St Kilda Rd Towers, 1 Queens Road, Level 6, Suite 625, Melbourne, VIC 3004



Accredited by the Joint Accreditation System of
Australia and New Zealand.
Acc. No. M5250513AM

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APPENDIX C - HSE Project Risk Assessment



**Appendix 5 to HSE Plan
Safety Risk Register**

WEE WAA HS

Project Name:	WEE WAA HIGH SCHOOL
Project Number:	201481
Date of initial workshop:	
OFSC Scheme Project?	NO

Project Description
Wee Waa High School Education Redevelopment is the Design and Construction of a New High School with the capacity for 300 students. The High School provides a flexible design suited for future focused learning while offering a safe and secure learning environment on a new site. The Project Scope includes New Two-Storey Buildings, Multipurpose Hall/Gymnasium, Covered Outdoor Learning Areas, Sporting Fields, Agriculture and Environment Centre, Aboriginal Education Community and Learning Centre. The Project has been tendered based on Builts DfMA Solution.

Risk workshop Participants required		
Name	Project Role	Company
Steve Kogias	Construction Manager	Built
Neil George	Site Manager	Built
Rebecca Deegan	Project Manager	Built
Alec Christofidies	Project Engineer	Built
Andros Calpis	Project Engineer	Built
James Heap	Site Engineer	Built
Lloyd Bennett	Foreman	Built
Scott Cameron	Contract Administrator	Built

12. Reference documents / material	Y/N	
Site HSE Plan	Y	
State/Territory specific WHS Act or OHS Act	Y	State
State/Territory specific WHS Regulation or OHS Regulation	Y	State
Australian Standards	Y	
Industry approved Codes of Practice or Guidance Notes	Y	
National Codes of Practice	Y	
Regulatory Body Safety Alerts	Y	
Built's SIDE / Client Design Report (if available)	Y	
Previous reported injuries, illnesses and/or incidents	N	NA at time of project start up

1. High Risk Construction Work	Ref to Register (Y/N)	Areas of concern / Reference (in Appendix 5)
Risk of a person falling more than 2m	Y	DfMA Site Install
Risk of materials falling 3m	Y	DfMA Site Install
Likely to involve disturbing asbestos	Y	Northern Area of site. Access to containment bubbles, e.g. first aid, scaffold alterations?
Work in or near a shaft or trench deeper than 1.5m or a tunnel	Y	Civil Stormwater upgrade works (Swale and Pipework install)
Work on or near chemical, fuel or refrigerant lines	N	
Tilt-up or precast concrete elements	Y	DfMA Panels, SW concrete pipes
Work in areas with artificial extremes of temperature	N	
Work in an area that may have a contaminated or flammable atmosphere	N	
Temporary load-bearing support for structural alterations or repairs	Y	DfMA Install
Use of explosives	N	
Work on or near energised electrical installations or services	Y	Overhead Power substation/lines on site boundary, Charles St inground services and overhead power poles adjacent to box culvert install in road reserve, Mitchell St stay within drainage swale
Work on, in or adjacent to a road, railway, shipping lane or other traffic corridor in use by traffic other than pedestrians	Y	Civil Stormwater upgrade works (Swale and Pipework install)
Work in or near water or other liquid that involves a risk of drowning	Y	Civil Stormwater Swale
Demolition of load-bearing structure	N	
Work in or near a confined space	Y	Civil Stormwater trenches and services Underneath Building
Work on or near pressurised gas mains or piping	N	
Work on a telecommunication tower	N	
Work in an area with movement of powered mobile plant	Y	Earthworks Plant and Mobile Cranes
Diving work	N	
2. Consideration of Other Hazardous tasks	Y/N	Areas of concern / Reference (in Appendix 5)
Use of explosive or power actuated hand fastening tools	N	
Hazardous materials and dangerous goods	Y	Asbestos to corner of Mitchell and Charles St (unexpected), as well as NE corner of site (expected)
Working with or removal SMS, MDF, CFC	N	
Use of electrically powered mobile plant (e.g. pallet trolleys)	Y	
Use of Lasers	Y	
Welding work / Oxy Cutting work / Use of angle grinder	Y	
Working in close proximity to pedestrian or members of the public	Y	
Use of Demolition Saws / Use of Chainsaw	Y	Tree pruning
Erecting mobile scaffolds	Y	Services trades
Refuelling plant/equipment	Y	
Use of electrical powered jack hammer	Y	
Use of electrical powered saws	Y	
Use of compressed air tools including air compressors	Y	
Work involving hazardous non-mechanical manual handling tasks	Y	General manual handling tasks
Work involving the handling of sheet glass	Y	DfMA
Hazardous atmospheres	N	
Biological	N	
Others:		
3. Supplementary plans	Y/N	Person Responsible
Demolition Plan	N	Green Field Site
Asbestos control plan	Y	
Water Management Plan	Y	
Vehicle Movement Plan	Y	
Waste Management Plan	Y	
4. Potential risks on project	Y/N	Areas of concern / Reference (in Appendix 5)
Concealed services / services	Y	
Isolation of services during works / emergency	Y	
Risk of Flooding / Water Damage to building	Y	
Other: Risk of adversely affecting town conditions	Y	

13. Built Safe Mandatory Standards	Y/N	Initial review date (month)
HSE-120 BSMS Scaffolding	N	Confirm if covers mobile scaffold - JH
HSE-121 BSMS Electrical	Y	
HSE-122 BSMS Temporary Works	Y	
HSE-123 BSMS Demolition	N	
HSE-124 BSMS Formwork Reo Concrete Placement	Y	
HSE-125 BSMS Asbestos	Y	
14. Permits	Y/N	Trade / Location
HSE-080 Concrete Cutting & Core Drilling Permit	Y	
HSE-081 Hot Works Permit	Y	
HSE-082 Confined Space Permit	Y	
HSE-083 Excavation Permit	Y	
HSE-084 Permit to Work	Y	
HSE-085 Permit for Harness Work at Height	Y	
HSE-086 Permit to Erect Alter or Dismantle a Tower Crane	N	Mobile Cranes/Manitou
HSE-087 Permit to Pump Site Water	Y	
HSE-088 Tower Crane Commissioning Checklist	N	Mobile Crane/ Manitou
HSE-089 Nine Inch Grinder and Handheld Concrete Saw Authorisation	Y	
15. Client Specific Requirement (refer to 'Client/Public/Other Entities' in Standard Controls section)	Y/N	Person Responsible / Action Required
School notifications	Y	SINSW/TSA to be notified of any HSE Incidents - AC to chase up
16. Local Council / Utilities Requirements or permits	Y/N	Person Responsible / Action Required
Council permits	Y	S138
17. Complex, new or unusual processes / technologies	Y/N	Action Required / Area of Concern
Voids	N	
Multiple plant and equipment	Y	DfMA
Temporary works	Y	DfMA
Structural alteration / demolition	N	
DfMA	Y	
18. HAZMAT	Y/N	Person Responsible / Action Required
Building older than 2003	N	
HAZMAT report requested from client	N	
HAZMAT reviewed and summary prepared	N	
19. Significant Plant / Equipment	Y/N	Action Required / Location
Man / material Hoist	N	
Tower crane	N	
Swing Stage (suspended scaffold)	N	
Mast Climber	N	
Temporary Electrical	Y	
Concrete line	N	
Civil earthworks machines	Y	

5. Third party audits	Y/N	Person Responsible
Scaffolding (including scaffolding design)	Y	Bryan Medbury
Tower Crane	N	
Crane base design and installation	Y	Crane establishment locations (WSP & Geotech & Douglas partners).
Hoist installation	N	
Hoardings / Fencing	Y	Bryan Medbury
Temporary Electrical installations	N	Confirm in BSMS - JH
False-work / Formwork	Y	Bryan Medbury
Structural Steel installations	Y	NorthRop & Bryan Medbury
In-situ gantries / lifting structures	N	
Temporary Works	Y	Bryan Medbury (Inclusive of shoring box design)
SINSW	Y	
6. Project Design	Y/N	Action required / Area of concern
Design and Construct or Construct Only	Y	
Safety in design evaluation completed & presented (refer to SIDE manual)	N	Confirm with PN SID manual - AC
Client design report required/obtained (where design is unusual)	N	
7. Excavation & Trenches	Y/N	Action required / Area of concern
Stability of adjoining buildings / materials / foundations	Y	Mitchell St stay
Vibration (from a damage nuisance perspective)	N	Confirm with CEMP - William Day noise and vibration plan
Geotechnical Reports	Y	Douglas Partners report to be used (Barnsons superseded)
Structural Engineering reports	N	
Shoring and support systems	Y	Shoring boxes required on Charles st
Design of Ground support systems, including benching/battering	Y	Bryan Medbury
Dilapidation Survey	Y	AusDilaps
Ongoing monitoring of adjoining buildings / material / foundations and frequency of	N	
Ongoing monitoring of ground support systems	N	
8. Lifting Operations (non-routine)	Y/N	Action required / Area of concern
Erection of Tower Crane	N	
Ground bearing capacity	Y	Douglas partners
Heavy Lifts (50 tonnes or more)	N	
Lifting large materials / plant or equipment	Y	
Multiple crane lifts	Y	Mobile Cranes 2.5 cranes
Precast and Tilt-up panels	Y	DfMA wall panels, concrete SW pipes
Proximity to existing buildings and structures	Y	Yes during construction only
Slab Loadings / Ground Bearing Capacity / Voids Services / Penetrations	Y	
Working near overhead power-lines	N	Vehicle movement underneath only
Note: Lifting Procedures/Plan/Studies are required for		
• large or complex tilt-up or precast concrete lifts	Y	
• multiple crane lifts	Y	
• lifting workboxes with people in the box	N	
• working near overhead power lines	Y	DfMA
• when using crane for demolition work	N	
• erecting tower cranes	N	
Crane Base Loading:		
Grouting Methodology confirmation/verified	N	
Crane base ITP's confirmed	N	
Grouting Contractor confirmation	N	
9. Lifting Operations (Routine)	Y/N	Action required / Area of concern
Crane suppliers	Y	DfMA mobile cranes
Need for specific lifting procedures	Y	DfMA Structural Panels
Lifting & Slinging Guide	Y	DfMA Install
Slab Loadings / Ground Bearing Capacity / Voids Services / Penetrations	Y	DfMA Install
10. Mobile Plant	Y/N	Action required / Area of concern
Requirements for Roll Over Protection	Y	
Requirement for Falling Object Protection (FOPS) Class 1 (Small falling objects e.g. Bricks, Hand Tools etc.)	Y	
Requirement for Falling Object Protection (FOPS) Class 2 (Large falling objects e.g. Trees, Rocks)	Y	
Vehicle Movement Plans	Y	
MEWPs required to be raised in close proximity to structures	Y	
11. Plant Movement	Y/N	Action Required / Location
Close proximity to Excavations	Y	
Close proximity to Precast Props	Y	DfMA
Close proximity to public or workers	Y	
Close proximity to Scaffold	N	DfMA
Close proximity to structural support systems	Y	
Traversing Ramps / Gradients	Y	Swale
Vehicle Movement Plans	Y	
Voids/ Penetrations	Y	Charles St & Boundary St

20. Information requested from client	Y/N	Person Responsible / Action Required
Floor and suspended slab loading	Y	
As Built's drawings including service locations	Y	
Emergency evacuation	Y	
Pre possession of site inspection: Electrical, Structural, HAZMAT etc.	N	
Other	Y	DfMA structural system to be peer reviewed by SINSW
21. Surveys / Investigations	Y/N	Action Required / Location
Dial before you dig	Y	
Slab scans	Y	
Geotech	Y	
Structural	N	
Hazmat soil investigations potholing	Y	
22. Occupying, using, interfacing with adjoining properties	Y/N	Action Required / Location
Operational facility	N	
Shared and common areas	N	
Works to be completed outside construction zone	Y	Crown Land to Namoi River
Neighbouring properties affected by the construction	Y	Neighbours driveways during civil upgrade works
Other		Refer also to 'Client/Public/Other Entities in 'Standard Controls' section
23. Members of the general public and those visiting the site	Y/N	Action Required / Location
Overhead protective structures	N	
Hoardings and fencing	Y	
Security	Y	
Site Entry	Y	Road reserve entry to be modified following council approval of
Other:		Refer also to 'Client/Public/Other Entities in 'Standard Controls' section
24. Environmental Risks	Y/N	Action Required / Location
Heritage, recycling	Y	
Spill kit, trade waste washout, concrete washout	Y	
Offsite pumping	Y	
Sediment management	Y	
(Review Project Environmental Aspects & Impacts Register)		
25. Health Monitoring and Atmospheric Monitoring (Also see Built's Health Monitoring & Exposure Monitoring Guide)	Y/N	Action Required / Location
Review Standard Controls section for relevance and Built's Health Monitoring & Exposure Monitoring Guide		
Asbestos	Y	
Crystalline Silica - earthworks, demolition, natural stones/marble products	Y	
Diesel Exhaust Emissions (enclosed/semi enclosed areas)	N	
Dusts (Not Otherwise Specified)	Y	All stockpiles to be covered with geofab
Fitness for work (including Drugs and Alcohol / Fatigue)	Y	
Hand / Arm Vibration (Use of pneumatic tools, vibration machines/equipment)	Y	
Hazardous Chemicals	Y	Fuel, Waterproofing membrane, low VOC
Lead (e.g. Paint, residue dust, removal of flashings)	N	
Noise	Y	
Personal exposure monitoring	Y	Heat and Sun exposure
Welding / Cutting (Chemical Fumes)	Y	
Snakes	Y	Snake bite kit to be on hand
High Grass	Y	
26. Risk Workshops - Note: Risk workshops should include a review of applicable Codes of Practice (refer Built Legal Register for a list of State/Territory specific COP)	Y/N	Action Required / Location
(List the proposed separate risk workshops to be held with Subcontractors)		
DfMA	Y	CLT panels (similar to tilt up pre cast works)
WTC	Y	Civil & Piling works
Carter & Osborn	Y	Temp services connection
Services trades generally	Y	Access to subfloor (confined space)
27. Emergency Preparedness	Y/N	Action Required / Location
Emergency Plan and Schedule of Emergency Equipment Completed?	Y	
First Aid Risk Assessment Completed?	Y	
Emergency evacuation	Y	
Harness Rescue	Y	Roof
Isolation points (gas/hydraulics/electrical)	Y	
Jumpform	N	
Lift shafts	Y	
Plant	Y	
Trenches/Excavation	Y	
Subfloor Structure	Y	
Risk of drowning	Y	Life ring to be sourced

WEE WAA HS											
Project Specific Register											
REF.	Work Activity, Process or Task <i>(The aspect of the scope of work or process that gives rise to the identified risk)</i>	Hazard <i>(Source of harm)</i>	Risk <i>(Describe the risk in relation to the hazards identified or select a HRCW activity)</i>	HRCW?	Risk Assessment			CONTROL MEASURES <i>(Describe the controls associated with the risks identified)</i>	HIRAC	Responsible Entity	STATUS
					Likelihood	Consequence	Risk Level				
1	Site Establishment	Site security	unauthorised access	No	Pos	MS	Med	Built to take possession of the site and make secure. ATF fencing to be installed and locked to prevent unauthorised access. Site signage to be erected to notify personal of the construction	3 Isolate	Built	Closed
1		Fencing	working adjacent to public/ collapse of hoarding	No	Pos	MS	Med	ATF fencing to be erected around the project. Installed and maintained to ensure ongoing security	3 Isolate	Built	Ongoing
2	Flood Mitigation - Stage A onsite works	Struck by mobile plant	working in and around powered mobile plant	Yes	VL	HS	High	Plant to be inducted/ operator to hold relevent VOC. Daily checks to be completed. Spotter in place during plant movement	Administratr	Built & PCBU	Closed
2		Asbestos	working with Asbestos	Yes	Pos	LS	High	Unexpected finds protocol to be adhered to	3 Isolate	Built & PCBU	Closed
2		Struck existing services	on/ near energised electrical installations/ services	Yes	VL	HS	High	Dial before the dig prior to excavations/ mark up any known services/ Use toothless bucket in the vicinity of services	3 Isolate	Built & PCBU	Closed
3	Mitchell/George street road upgrades	Struck by mobile plant	working in and around powered mobile plant	Yes	Pos	HS	High	Plant to be inducted/ operator to hold relevent VOC. Daily checks to be completed. Spotter in place during plant movement. Exclusion zones to be established and managed	Administratr	Built & PCBU	Ongoing
3		Public interface	work on/ in/ adjacent to road/ railway/ traffic corridor	Yes	Pos	LS	Low	Exclison zone and perdestrian management plan to be developed and managed	Administratr	Built & PCBU	Ongoing
3		Working on or adjacent to a traffic lane	work on/ in/ adjacent to road/ railway/ traffic corridor	Yes	Pos	MS	Med	Traffic control plan in place and implemented	4 Enginee	Built & PCBU	Ongoing
4	Flood Mitigation - Stage B Charles Street	1.5m excavation greater than 1.5m	in/near a shaft/ trench with excavated depth > 1.5m	Yes	VL	HS	High	High Risk construction methodology to be provide and risk workshop undertaken and all safety measures to be implemented	4 Enginee	Built & PCBU	Ongoing
4		Moving plant	working in and around powered mobile plant unauthorise access by the public to designated work area	Yes	VL	HS	High	Plant to be inducted/ operator to hold relevent VOC. Daily checks to be completed. Spotter in place during plant movement. Exclusion zones to be established and managed	Administratr	Built & PCBU	Ongoing
4		Working on or adjacent to a traffic lane	work on/ in/ adjacent to road/ railway/ traffic corridor	Yes	VL	HS	High	Traffic control plan in place and implemented	Administratr	Built & PCBU	Ongoing
4		Live services - Comms, Sewer, overhead power, Water	on/ near energised electrical installations/ services	Yes	VL	HS	High	Dial before the dig prior to excavations/ mark up any known services/ Use toothless bucket. in the vicinity of services. Engage with local authorities	Administratr	Built & PCBU	Ongoing
4		Structural failure - Power Poles	structural alterations/ repairs requiring temporary support to prevent collapse	Yes	VL	HS	High	Exclusions zones, consult with essential energy and obtain zone of influence information for pole stays	4 Enginee	Built & PCBU	Ongoing
4				Yes							
5	Flood Mitigation - Stage C Boundary street to Namoi river	Structural failure - Power Poles - Stay to be supported	structural alterations/ repairs requiring temporary support to prevent collapse	Yes	VL	HS	High	Exclusions zones, consult with essential energy and obtain zone of influence information for pole stays	4 Enginee	Built & PCBU	Ongoing
5		Moving plant	working in and around powered mobile plant	Yes	VL	HS	High	Plant to be inducted/ operator to hold relevent VOC. Daily checks to be completed. Spotter in place during plant movement. Exclusion zones to be established and managed	4 Enginee	Built & PCBU	Ongoing
5		Deep Excavation	risk of person falling > 2m	Yes	VL	HS	High	High Risk construction methodology to be provide and risk workshop undertaken and all safety measures to be implemented	4 Enginee	Built & PCBU	Ongoing
5											
5		Flooding of Immediate residential area	Water ingress into residentail and commercial properties	No	VU	MS	Low	Ensure pumps are onsite and are operational.	4 Enginee	Built & PCBU	Ongoing
5		Personel requiring rescue from river flat (north of levee)	Inadequate emergency response Emergency response efforts are hindered by access restraints	No	Pos	HS	High	Ensure emergency response plan is comprehensive and all workers are familiar. Review ERP and rescue procedures with local health & SES services	Administratr	Built & PCBU	Ongoing
5											
6	MW - Civil works	Moving Plant	working in and around powered mobile plant	Yes	Pos	HS	High	Vehicle management plan to be adhered to Traffic control to be managed at george st entrance	Administratr	Built	Ongoing
6		Deep Excavation - 1.5m	in/near a shaft/ trench with excavated depth > 1.5m	Yes	Pos	MS	Med	Benching as required at storm water and electrical pits Excavation permit to be completed as required	3 Isolate	PCBU	Closed
6			working in and around powered mobile plant	Yes	Pos	HS	High	Vehicle management plan to be adhered to	4 Enginee	Built & PCBU	Ongoing
6		Falling objects - Trees Removal	where there is a risk of falling objects > 3m	No	Pos	MS	Med	Exclusion zone in work area inclusive of spotter All plant to have FOPs	3 Isolate	Built & PCBU	Closed
6			working in and around powered mobile plant					Vehicle management plan to be adhered to			
6		Unloading materials from trucks	risk of person falling > 2m	No	Pos	HS	High	HSE-131 Vehicle Movement Plan to be review and followed	Administratr	Built & PCBU	Ongoing
6			working in and around powere mobile plant								
6		Unsuitable subgrade preperation for Screw piling	machine roll over due to unstable ground conditions	No	VU	HS	med	Certified and level platform bench in conjunction with Geotech advice	4 Enginee	Built & PCBU	Ongoing
6				No							
7	Services Inground infrastructure	Moving plant	working in and around powered mobile plant	Yes	Pos	HS	High				
7		Deep excavation - Sewer connection/pump out pit	in/near a shaft/ trench with excavated depth > 1.5m	Yes	Pos	MS	Med	Road closure for duration of excavation, shoring box, lift study, Geotech advice for crane setup and location, waterfilled barriers around area, ATF fencing exclusion zone perimetre, davit arm safety winch for emergency extraction, HRWS, shoring box design and engineering, qualified installers.	4 Enginee	Built & PCBU	Ongoing
7		Temporary and permanent power connections	on/ near energised electrical installations/ services	Yes	Pos	HS	High	Implementation of HSE -094 by site team and site electrician	Administratr	Built & PCBU	Ongoing
7											
8	Substructure works	Moving plant	working in and around powered mobile plant	Yes	Pos	HS	High	Vehicle management plan to be adhered to Traffic control to be managed at george st entrance	Administratr	Built & PCBU	Closed
8		Unsuitable subgrade preperation for Screw piling	machine roll over due to unstable ground conditions	No	VU	HS	Med	Certified and level platform bench in conjunction with Geotech advice	4 Enginee	Built & PCBU	Closed
8		Falling objects - Structural steel installation	where there is a risk of falling objects > 3m	Yes	VL	HS	High	Exclusion zone in work area inclusive of spotter All plant to have FOPs	3 Isolate	PCBU	Closed
8			working in and around powered mobile plant					Vehicle management plan to be adhered to			
8											
8											
9	DfMA	Moving plant	Interaction with other plant and also personnel in multiple work faces	Yes	VL	HS	High	Prestarts, Segregation of work areas, exclusion zones, communication via UHF and eye contact.	3 Isolate	Built	Ongoing
9		Falling objects	where there is a risk of falling objects > 3m	Yes	VL	HS	High	Toolbox talks, exclusion zones, perimeter kickboards to floor plates, penetration covers, spotters when	3 Isolate	Built & PCBU	Ongoing
9		fall from heights	risk of person falling > 2m	Yes	Pos	MS	Med	Edge protection with handrails, EWPs, Mobile scaffolds	1 Eliminati	Built & PCBU	Ongoing
9		Panel collapse	involves tilt-up/ precast concrete	Yes	Pos	HS	High	Engineered propping design, engineered slab connections to temporary propping, qualified riggers	4 Enginee	Built & PCBU	Ongoing
9		Unsuitable subgrade preperation for crane establishment	Crane collapse or roll over	Yes	VU	HS	Med	Geotechnical design for crane establishment based on mobile crane point load information, geotechnic	4 Enginee	Built	Ongoing
9		Unsituable structural capacity of slabs for the establishment of scissor lifts	Over sized machine on bondek and CLT slabs	Yes	Pos	MS	Med	Seek engineers advice for slab loadings and approval of equipment to be used	4 Enginee	Built	Ongoing
9		Stretcher stair access to Level 1	Insufficient access for recivory or rescue of injured persons	yes	VU	LS	Low	Install stretcher stair for adequate access	1 Eliminati	Built	Ongoing
9				No							

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APPENDIX D - Construction Traffic and Pedestrian Management Sub- Plan

Construction Traffic and Pedestrian Management Sub Plan

Wee Waa High School

Prepared for Built / 27 July 2023

211022 TAAF

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Revision Register

Rev	Date	Prepared By	Approved By	Remarks
0	07.10.22	GC	PY	For review
1	27.10.22	GC	PY	For issue
2	17.11.22	GC	PY	For issue
3	07.02.23	GC	PY	For issue
4	27.02.23	GC	PY	For issue

Prepared by
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GRACE CARPP
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Authorised By
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PAUL YANNOULATOS
Technical Director

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1.0 Introduction

1.1 Overview

TTW has been engaged by Built to provide a Construction Traffic and Pedestrian Management Sub Plan for the construction of a new high school within Wee Waa.

The proposed works involve the construction of a new high school with a capacity of 200 students (up to 300 future expansion) in a two-storey building, an Indigenous learning centre, sporting fields and associated civil and utilities works.

1.2 Conditions of Consent

The project was approved under SSD-21854025. Condition B21 of the development requires the following to be detailed within this Construction Traffic and Pedestrian Management Sub-Plan:

Condition	Reference
B21. The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:	
a) Be prepared by a suitably qualified and experienced person(s);	This report has been prepared by qualified traffic engineers as shown on page 4. CVs have been attached to Appendix F of this report.
b) Be prepared in consultation with Council and TfNSW;	A draft version of this plan was provided to Narrabri Shire Council and TfNSW for comment as shown in Appendix G. No comments were received.
c) detail; i) measures to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services;	Refer to Section 5.2
c) ii) measures to ensure the safety of vehicles and pedestrians accessing adjoining properties where shared vehicle and pedestrian access occurs;	Refer to Section 5.2
c) iii) heavy vehicle routes, access and parking arrangements;	Refer to Section 4.3 for heavy vehicle routes Refer to Section 3.2 for access points Refer to Section 4.7 for parking arrangements

Condition	Reference
<p>c) iv) 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, in accordance with the latest version of AS2890.2; and</p>	<p>Refer to Appendix C</p>
<p>c) v) arrangements to ensure that construction vehicles enter and leave the site in a forward direction unless in specific exceptional circumstances under the supervision of accredited traffic controller(s); and</p>	<p>Refer to Appendix C</p>
<p>c) vi) include the requirements detailed in conditions B30, B31 and B32.</p>	<p>Refer to the remainder of this table.</p>
<p>B30. Prior to the commencement of construction, evidence of compliance of construction parking and access arrangements with the following requirements must be submitted to the Certifier:</p> <p>a) all vehicles must enter and leave the Site in a forward direction;</p> <p>b) the swept path of the longest construction vehicle entering and exiting the site in association with new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS2890.2; and</p> <p>c) the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, has been addressed.</p>	<p>Refer to the swept path analysis in Appendix D.</p> <p>Safety of vehicles and pedestrians has been addressed in Section 5.2.</p>
<p>B31. A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:</p> <p>a) minimise the impacts of earthworks and construction on the local and regional road network;</p> <p>b) minimise conflicts with other road users;</p> <p>c) minimise road traffic noise; and</p> <p>d) ensure truck drivers use specified routes</p>	<p>Refer to Appendix D</p>

Condition	Reference
<p>B32. Prior to the commencement of construction, the Applicant must submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of sufficient parking facilities or other travel arrangements for construction workers in order to minimise demand for parking in nearby public and residential streets or public parking facilities. The Strategy must include measures to restrict worker parking to the north of Mitchell Street in order to minimise impacts on the operation of the existing Wee Waa Public School and temporary high school's pick-up/drop and bus zones. A copy of the strategy must be provided to the Planning Secretary for information.</p>	<p>Refer to the Construction Worker Transportation Strategy</p>

2.0 Existing Conditions

2.1 Site Location

The site is located centrally within Wee Waa, within Narrabri Local Government Area. The site has a frontage to Mitchell Street along the southern boundary, Charles Street along the western boundary, George Street along the eastern boundary, and residential lots to the north.

The current Wee Waa High School is temporarily co-located with Wee Waa Public School across Mitchell Street to the south.

Currently, the subject site comprises of an undeveloped greenfield site as shown in Figure 2.1.



Figure 2.1: Existing Site

2.2 Road Network

2.2.1 State Roads

Mitchell Street forms a connection between the eastern and western sections of the Kamilaroi Highway as it passes through the suburb of Wee Waa. The road is a two-lane roadway providing service both directions (one lane each). The road is subject to School zones just prior to the intersection with George Street travelling westbound and runs until just after the Church Street Intersection. Due to it serving as an extension of the Kamilaroi Highway, the road experiences steady road train movements and thus harvester and oversize vehicles require access to Mitchell Street. These movements peak during harvest season, but otherwise are relatively evenly spread once every 10-15 minutes during morning peak.

Narrabri Shire Council has recently constructed traffic calming measures adjacent to Dangar Park on Mitchell Street to slow vehicles through this area and increase safety to students.

2.2.2 Local Roads

Cowper Street is a two-lane roadway running parallel south of Mitchell Street and services travel in both directions. Parking is limited immediately adjacent to the school on the north end during school hours to service bus and pick up services. Parking on the southern side is unrestricted 45-degree angled to the flow of traffic.

Church Street is a two-lane roadway running perpendicular to and intersecting both Mitchell Street and Cowper Street to the west of the existing school site and south of the new school site. The roadway services traffic flowing both directions and is divided along the majority of its run by planted median strips. Street parking is available on both sides at 45-degree angles to the flow of traffic south of Cowper Street, or parallel to the kerb north of Cowper Street.

George Street is a two-lane roadway running perpendicular to and intersecting both Mitchell Street and Cowper Street to the East of the existing and proposed site. The roadway services traffic flow in both directions and contains no lane division markings aside from near traffic control measures such as intersections and the school crossing. A student crossing is present, joining the school to the adjacent Dangar Park. Parking is restricted in proximity to the school crossing during morning and afternoon peak school hours but features unrestricted 45-degree angle parking in the direction of traffic flow outside these zones.

Charles Street is a two-lane roadway running perpendicular to and intersecting Mitchell Street to the west of the proposed site. The roadway services traffic flow in both directions and contains no traffic control measures or line markings north of Mitchell Street.

2.3 Active Transport

2.3.1 Walking

A number of the surrounding roads do not contain formal pedestrian footpaths. There are no formal footpaths immediately adjacent to the site.

Narrabri Shire Council have recently completed kerb blistering on Mitchell Street adjacent to Dangar Park which is intended to provide traffic calming and also a shorter crossing distance.

2.3.2 Cycling

Cyclist infrastructure in and around the site area is minimal. Roadways do not contain designated cycling lanes for cyclist use which results in safety concerns, especially along Mitchell Street where high movements of Road Train Vehicles are common.

2.4 Public Transport

Currently there are school bus services to Cowper Street near to the site. There are limited public transport facilities near to the site.

2.5 Pick-up and Drop-off

Currently both the High School and Primary School share the same pick-up and drop-off area as both are located within the same site area. Pick-up and drop-off services form the bulk of travel demands amongst Primary School students (57%) as well as making up a large population of High School students (45%). Surveys amongst Staff indicate that 6% are dropped off and picked up from work as part of their primary mode of transport.



Figure 2.2: Existing Pick Up and Drop Off

2.6 Car Parking

There is no existing car park on the site of the proposed works.

3.0 Construction Overview

3.1 Construction Works

The construction works include:

- Construction of a new high school with a capacity of 200 students (up to 300 future expansion) in a two-storey building;
- An Indigenous learning centre;
- Sporting fields; and
- Associated civil and utilities works.



Figure 3.1: Proposed Site Plan

Source: WD1101 Rev M prepared by SHAC (29/06/22)

3.2 Site Layout and Access

The majority of built works are located adjacent to George Street and Mitchell Street, providing good construction access to the site. It is proposed that two construction site access points are provided, one from George Street and one from Charles Street. As Mitchell Street is a state road, the site provides good construction vehicle access.

Turning path analysis has been conducted for the largest anticipated vehicle accessing the site and is attached to this report in Appendix C.

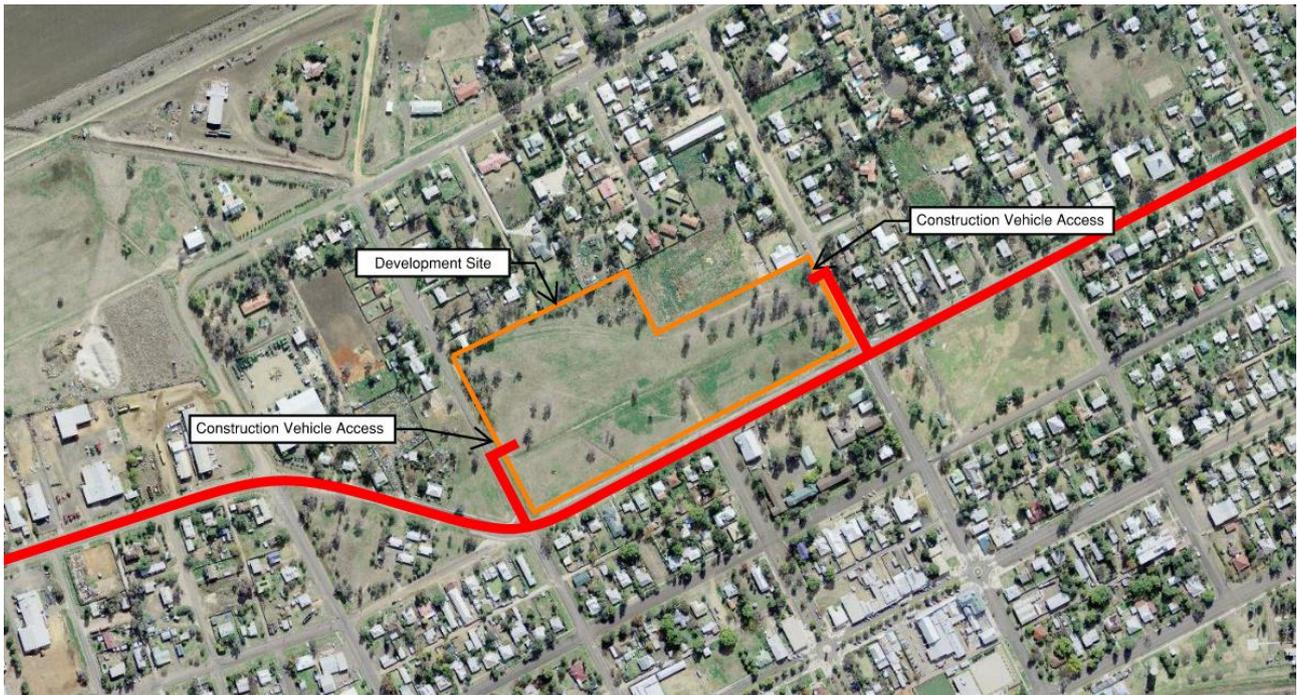


Figure 3.2: Construction Vehicle Routes

3.3 Construction Program, Workforce and Vehicle Numbers

The construction program for the works is as detailed in the table below:

Activities	Schedule (approx.)	Workforce	Vehicle Numbers
Earthworks and In Ground Substructure	Late October 2022 to December 2022	25-30 workers	5-10 vehicles per day
Super Structure	November 2022 to February 2023	30 workers	3-5 vehicles per day
Fit-out and Commissioning	Mid December 2022 to March 2023	40-50 workers	5-10 vehicles per day

3.4 Hours of Operation

The hours of operation for construction activities are conditioned to the following:

- Monday to Friday 7am to 6pm
- Saturday 8am to 1pm
- Sunday and public holidays None

Vehicle movements are to be scheduled outside road network peak periods where possible, other than necessary deliveries.

- It should be noted that no construction deliveries will be made outside of construction hours.

4.0 Construction Traffic Management

4.1 Construction Traffic Volumes

The delivery of material to and from the site will result in some generated traffic activity associated with the works. The estimated construction traffic volumes for the standard operation for the worst-case is 5 – 10 trucks per day. Consequently, increased traffic associated with construction activities will have minor impacts on the existing road network.

Light vehicle traffic generation would be generally associated with construction staff movements to and from the site. Staff would be comprised of project managers, various trades and general construction employees. Over the full period, the peak workforce represents the worst-case scenario for vehicle movements during the morning and the evening road network peak hour. The workforce arrival and departure periods (6:30 – 7am and 6:00 – 6:30pm) represent the peak construction traffic periods. Workers should be encouraged to use alternative transport options (such as carpooling) and be mindful of noise when accessing the site and arriving and leaving the site outside of the construction hours.

4.2 Construction Vehicle Types

The largest truck accessing the site during construction will be a 19m long semi-trailer. Other typical vehicles will include 130T mobile cranes and 12.5m heavy rigid vehicles.

4.3 Vehicle Routes

Construction vehicles shall be directed to travel on the main road network except where required to reach the construction site.

- Approach
 - **From East:** Approach to Charles Street or George Street via Kamilaroi Highway
 - **From West:** Approach to Charles Street or George Street via Kamilaroi Highway
- Departure
 - **To East:** Depart via Charles Street or George Street turn left onto Kamilaroi Highway
 - **To West:** Depart via Charles Street or George Street, turn right onto Kamilaroi Highway

The Kamilaroi Highway provides connection to Narrabri and Walgett. The construction vehicle routes are illustrated in Figure 4.1.



Figure 4.1: Construction Vehicle Routes

4.4 Sensitive Receivers

With the exception of the final approach road (George Street), all roads along the nominated construction access routes are within the classified road network. The classified road network is the nominated road network for high-volume vehicle movements and these areas are therefore already expected to experience heavy vehicle or construction traffic movements. Sensitive receivers along these routes will therefore not be subject to any unexpected impacts.

Sensitive receivers along the state road network may include:

- Wee Waa Public School
- Wee Waa Sporting Complex
- Residential properties fronting George Street

Given the anticipated traffic volumes and the nature of the nominated construction vehicle routes, no unexpected or undue impacts are expected to sensitive receivers subject to compliance with the consent conditions.

4.5 Vehicle Management

During days of high estimated vehicle movements, communication between the site and incoming vehicles will be maintained to stagger the arrival of vehicles, in order for them to be accommodated within the worksite and to minimise traffic disruptions or idling on any public road.

Loading and unloading activities will occur within the site. All deliveries are to be made within the approved construction work hours. Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the local and state road network.

Construction vehicle access points to the site will be secured by gates to ensure no unauthorised or unsafe access is permitted for vehicles or pedestrians. All construction vehicles are to enter and exit the site in a

forward direction unless in specific exceptional circumstances under the supervision of accredited traffic controller/s.

Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plants regularly used on-site (i.e., greater than one day) and for any out of hours work.

4.6 Works Zones

No on-street Works Zone is proposed to facilitate the works subject to this Construction Traffic and Pedestrian Management Sub Plan. A Section 138 is to be submitted separately for works outside of the school boundary and a separate Traffic

4.7 Contractor Parking

Where possible, it is advised that workers utilise parking within the site. This may be staged as the separate early works and main works scopes are likely to cover separate areas of the site. No contractor parking is to occur within the existing school pick up and drop off zone as per the Construction Worker Transportation Strategy.

During construction the High School is to continue operation from the Primary School site, and pick up/drop off vehicle and bus zones will continue in operation. Parking south of Mitchell Street adjacent to this site should be discouraged.

4.8 Traffic Control Measures

The Traffic Guidance Scheme (TGS) outlines the proposed traffic management to inform road users of changed traffic conditions in the vicinity of the construction site. High-Level concept TGS have been prepared and included in Appendix A.

As shown in the TGS, no impact to the operation of George Street will occur as a result of the works. Drivers must wait until a suitable gap in traffic allows them to enter or exit the site and this will occur under the supervision of accredited traffic controller(s).

5.0 Project Impact

5.1 Local Traffic

Local traffic patterns during construction are expected to remain consistent with the existing conditions. All public roads will remain in operation at full capacity. Traffic impacts from the construction works are expected to be limited to the volume of construction vehicles only, with minimal contractor traffic. As previously discussed, truck movements to and from the site will be scheduled outside the network peak hours where possible which will reduce impacts to the surrounding road network. All deliveries and construction works are to take place within the site, with no impact to passing traffic.

Intersection modelling undertaken as part of the SSDA process indicated that the surrounding intersections were operating at a good Level of Service A. As such it is anticipated that construction vehicles will have a minimal impact to surrounding intersection performance.

If, upon arrival, a vehicle cannot be accommodated within the site, vehicles are not to queue on the roadway. In this instance, vehicles may be turned away and rescheduled if there is no suitable waiting area within the construction site. If recirculating to the site, vehicles shall only park legally in designated parking zones and in accordance with any relevant road rules, and only for as long as necessary. Vehicles are not to wait on public roads and deliveries must be scheduled accordingly.

The pick-up and drop-off zone on Cowper Street will not be impacted by the construction works, as construction vehicle movements will not travel on Cowper Street.

5.2 Safety

5.2.1 Construction Vehicle Access Points

The access driveway to the site is along George Street and Charles Street which links pedestrians living north of Mitchell Street with the current existing High School and Primary School site. This will likely create some level of potential conflict between construction vehicle movements and pedestrian movements, particularly during the peak before and after school periods. Traffic control will be in place at the entry driveways into the site which will allow for safe movement of pedestrians along George Street and Charles Street.

5.2.2 Construction Vehicle Routes and Intersections

Access to the site will be via George Street and Charles Street. As Mitchell Street is a state road and therefore the primary access point to Wee Waa, routes will involve a single turn at the George Street - Mitchell Street or Charles Street – Mitchell Street unsignalised intersections.

5.2.3 Pedestrians

During school peak hours, significant pedestrian activity is expected near the primary school site as students and staff arrive and depart. While deliveries will occur within school hours, there will be no parking adjacent or opposite the existing temporary school to ensure pedestrian safety. Manoeuvres into and out of the construction site will occur under traffic control to ensure safety of pedestrians on George Street and Charles Street.

Pedestrians will be prohibited from entering or passing through the site during construction, enforced by fencing around the perimeter. Signage will be fitted to communicate to students and staff the site location. Any changes to external pedestrian routes will also be communicated with signage and detours clearly marked.

5.2.4 Cyclists

Signage will be installed on approach to warn both drivers and cyclists of the changed traffic conditions ahead. This is important for construction vehicle drivers and workers who are often unfamiliar with local traffic conditions and need to be prepared for the presence of cyclists.

It should be noted that due to the age of students, it is likely that changes to pedestrian infrastructure are more likely to impact student cyclists than changed road conditions and should therefore be accounted for during pedestrian rerouting.

5.3 Parking

It is expected that some impacts to on street parking will occur as a result of the works due to construction workers parking on the street. It is noted that there is ample unrestricted on street parking near to the site and particularly at the site's frontage that will reduce impact to adjoining neighbours.

5.4 Pedestrians and Cyclists

The construction works will have no impact on pedestrian or cyclist movements externally, other than the construction driveway crossovers which will be fully traffic controlled during all construction hours.

5.5 Public Transport

There will be no change to the existing bus services due to construction works.

5.6 Public Infrastructure

On infrequent occasions when particularly large vehicles are required to access the site, some mounting or crossing of public kerbs and medians may be necessary. In line with the consent conditions, the builder shall repair any damage to this infrastructure if large vehicles are required to mount the devices. Any other road markings damaged as a result of vehicles associated with the construction shall be repaired as a responsibility of the builder.

5.7 Emergency Services

The proposed traffic control arrangements do not propose the closure of any local roads. Any emergency vehicles requiring access to the site will do so via the available site access points. Emergency services access to the construction site will be facilitated as required in the event of an emergency.

5.8 Cumulative Local Impact

There are no publicly available planned construction works in the vicinity of the site at this time during the delivery timeframes set for the construction of this project. Should construction works commence near the site, the site manager shall be responsible for liaising with the site manager of the nearby site. In particular, communication across sites should ensure:

- Overall project programs are to be identified and shared
- High-volume days or periods (such as concrete pours) are to be communicated, and where possible are to be coordinated to avoid excessive impact to the road network and commenced so as to complete works within the permitted construction hours
- Oversize / overmass delivery days are to be communicated, and where possible are to be coordinated to avoid excessive impact to the road network
- Traffic control measures (including Traffic Control Plans / Traffic Guidance Schemes) are to be shared if

these may be relevant to construction vehicle routes for surrounding projects

5.9 Communicating Impacts

Community notification shall be undertaken as per the Community Communication Strategy required for the site under condition B16. Community consultation is anticipated to occur through ongoing face to face meetings, communications collateral and digital engagement methods.

6.0 Hazards and Risks

Hazard / Risk	Mitigation Measure
<p>Construction traffic interacting with school traffic</p> <p>Construction traffic and local traffic activity will occur across Mitchell Street.</p>	<p>Traffic controller to be implemented at the George Street and Charles Street entry points to manage construction traffic activity. Construction traffic and local traffic starts at 7am and construction traffic will continue to occur during permitted construction hours.</p>
<p>General traffic / construction vehicle interaction</p> <p>General public traffic would share the local roads with construction vehicles.</p>	<p>Temporary signage and a communications plan are recommended to advise about changes in the area. This will be in accordance with the Community Communication Strategy and Traffic Guidance Schemes.</p> <p>Traffic guidance schemes have been prepared which include advance warning signage showing that construction vehicles are active in the area.</p>
<p>Pedestrian activity near construction site</p> <p>The construction site is near to the existing schools and the access point is located on a pedestrian desire line on George Street.</p>	<p>All pedestrian desire lines adjacent to the site will be fully separated from the construction site by site fencing. Traffic movements into and out of the George Street and Charles Street access points are to provide full priority to pedestrian movements.</p>