



REVIEW OF ENVIRONMENTAL FACTORS

Proposed Elevated School Building
Empire Vale Public School

**NSW DEPARTMENT OF EDUCATION /
NORTHERN RIVERS SCHOOLS CLUSTER**

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Contents

Summary	8
1 Introduction	10
1.1 Overview	10
1.2 Other works	11
1.3 Certification	12
1.4 School Information	13
1.5 Scope of works and assessment requirements	13
1.6 Supporting Plans	13
1.7 Site Information	15
1.7.1 Site Description	15
1.7.2 Surrounding Development	19
1.8 Previous Development Consents	19
2 Proposed Works	20
2.1 Justification of Proposal	20
2.2 Definition of Proposed Works	20
2.3 Summary of Proposed Works	20
2.3.1 Staging	21
2.3.2 Site Preparation and Demolition	21
2.3.3 New Elevated School Building	22
2.3.4 Building B	24
2.3.5 Landscape	25
2.3.6 Connecting with Country	25
2.3.7 Stormwater	26
2.3.8 ESD	26
2.3.9 Traffic and Parking	26
2.3.10 Waste Management	27
2.3.11 Infrastructure and Services	27
2.3.12 BCA and Access	28
2.3.13 Operations	28
2.3.14 Construction Management	28
2.4 Alternatives Considered	30
3 Statutory Framework	32
3.1 Planning Overview	32
3.2 Environmental Planning and Assessment Act 1979	32
3.3 Environmental Planning and Assessment Regulation 2021	34
3.4 State Environmental Planning Policies	35
3.4.1 State Environmental Planning Policy (Transport and Infrastructure) 2021	35
3.4.2 Any other SEPPs that are relevant	38
3.5 Ballina Local Environmental Plan 2012	43
3.6 Ballina Development Control Plan 2012	44
3.7 Additional Relevant Legislation	47

3.7.1	Environment Protection and Biodiversity Conservation Act 1999	47
3.7.2	Biodiversity Conservation Act 2016	48
3.7.3	Fisheries Management Act 1994	53
3.7.4	Rural Fires Act 1997	55
3.7.5	National Parks and Wildlife Act 1974	57
3.7.6	Heritage Act 1977	57
3.7.7	Water Management Act 2000	60
3.7.8	Local Government Act 1993	61
3.7.9	Local Land Services Act 2013	61
3.7.10	Roads Act 1993	62
3.7.11	Protection of the Environment Operations Act 1997	62
3.8	Strategic Context	62
4	Consultation and Notification	65
4.1	General	65
4.2	Consultation – Council	66
4.2.1	Meeting November 2022	66
4.2.2	Consultation under T&I SEPP	67
4.3	Consultation – State Emergency Service	70
4.3.1	Meeting January 2023	70
4.3.2	Consultation under T&I SEPP	71
4.4	Consultation – Occupiers of adjoining land	72
4.5	Other Engagement	72
4.5.1	Community Engagement Channels and Activities	72
4.5.2	Department of Education Stakeholders	73
5	Environmental Assessment	74
5.1	Assessment method	74
5.2	Detailed Environmental Assessment	74
5.2.1	Flood	74
5.2.2	Bushfire	83
5.2.3	Contamination and Hazardous Materials	83
5.2.4	Geotechnical, Land Stability and Groundwater	84
5.2.5	Acid Sulfate Soils	84
5.2.6	Heritage	85
5.2.7	Aboriginal Cultural Heritage	87
5.2.8	Built Form and Visual Impacts	87
5.2.9	Biodiversity	89
5.2.10	Noise and Vibration	90
5.2.11	Traffic and Parking	94
5.2.12	Water Management	96
5.2.13	Waste Management	97
5.2.14	Sustainable Design and Climate Change	98
5.2.15	Construction Management	100
5.2.16	Air Quality	100

5.2.17 Crime Prevention Through Environmental Design	100
5.2.18 Infrastructure Services	102
5.2.19 Coastal Hazards	103
5.2.20 Social and Economic Impacts	103
5.2.21 Mosquito Management	103
5.2.22 Cumulative Impacts	103
5.3 Division 5.1 Guidelines Environmental Factors	104
6 Conclusion	108
Glossary and Abbreviations	109

Figures

Figure 1 View of the new elevated building (Source: Pedavoli Architects)	8
Figure 2 Location Plan (Source: Nearmap)	16
Figure 3 Aerial Photograph (Source: Nearmap dated 3 July 2012)	16
Figure 4 Existing Site Plan (Source: Pedavoli Architects)	17
Figure 5 Site photograph	18
Figure 6 Proposed Site Plan (Source: Pedavoli Architects)	21
Figure 7 Proposed Elevated floor plan (Source: Pedavoli Architects)	23
Figure 8 3D Photomontage of new school building from River Drive	24
Figure 9 Proposed landscape plan (Source: Taylor Brammer Landscape Architects)	25
Figure 10 Location of site compound, construction site access and site office and amenities (Source: ADCO Construction Management Plan)	29
Figure 11 Proposed construction vehicle ingress and egress routes (Source: ptc)	30
Figure 12 Extract of Coastal wetlands map (Source: ePlanning Spatial Viewer)	38
Figure 13 Borehole and sampling locations Empire Vale (Source: Tetra Tech Coffey)	42
Figure 14 Location of Priority Oyster Aquaculture Area (POAA) and available lease areas (Source: Fisheries NSW Spatial Data Portal)	43
Figure 15 Vegetation zones at Empire Vale Public School (Source: Kleinfelder)	49
Figure 16 Extract of Draft Ballina Bushfire Prone Land map (Source: Rural Fire Service)	55
Figure 17 Bushfire Attack Levels – Empire Vale Public School (Source: BlackAsh Bushfire Consulting Services)	56
Figure 18 Historical Archaeological Potential (Source: EMM)	58
Figure 19 Building B Original school building (library) with blue line indicating the approximate height of the 2022 floods with a blue line (Source: Acor Consultants)	75
Figure 20 Building F – learning spaces with blue line indicating the approximate height of the 2022 floods with a blue line (Source: Acor Consultants)	75
Figure 21 Section through elevated buildings showing flood levels and proposed elevated flood level (Source: Pedavoli Architects)	76
Figure 22 Comparison between the existing and proposed footprints at Empire Vale Public School (Source: Henry & Hymas)	77
Figure 23 Sample flood warning notice sign to be installed at Empire Vale Public School (Source: Acor Consultants)	82
Figure 24 Summary of hazardous materials at Empire Vale Public School (Source: Tetra Tech Coffey)	83
Figure 25 Birdseye 3D Photomontage (Source: Pedavoli Architects)	87
Figure 26 Shadow Diagrams (Source: Pedavoli Architects)	88
Figure 27 Proposed south-western elevation (Source: Pedavoli Architects)	89

Figure 28	Location of tree protection fencing at Empire Vale Public School (Source: Northern Tree Care)	90
Figure 29	Location of noise sensitive receivers (Source: Acoustic Logic)	91
Figure 30	Rating Background Noise Levels	91
Figure 31	Maximum noise emissions to surrounding properties (Source: Acoustic Logic)	92
Figure 32	Predicated Operational Noise Levels at Sensitive Receivers (Source: Acoustic Logic)	92
Figure 33	Predicted noise generated to R1 Residential receiver (Source: Acoustic Logic)	93
Figure 34	Predicted noise generated to R2 Residential receiver (Source: Acoustic Logic)	93
Figure 35	Construction Traffic Volumes (Source: ptc)	95
Figure 36	Proposed Traffic Guidance System along River Drive (Source: ptc)	96
Figure 37	Existing stormwater drainage system (Source: Henry & Hymas Consulting Engineers)	97
Figure 38	Empire Vale Public School waste generation and bin allocation (Source: MRA Consulting Group)	98
Figure 39	Section through the Wisconsin Mound (Source: Taylor Environmental)	102

Tables

Table 1	Certification	12
Table 2	School Information	13
Table 3	Scope of works and assessment requirements	13
Table 4	List of Supporting Documents	13
Table 5	Proposed Tree Removal	22
Table 6	Alternative Options Considered	31
Table 7	Planning Overview	32
Table 8	Consideration of the Objects of the EP&A Act	32
Table 9	Part 3.4 Schools – specific development controls	35
Table 10	Assessment against Section 3.37 of the T&I SEPP	36
Table 11	Assessment against relevant provisions of Chapter 2 of the R&H SEPP	39
Table 12	Assessment against Ballina DCP	44
Table 13	Matters of National Environmental Significance	47
Table 14	Assessment against Section 7.3 of the BC Act	50
Table 15	Ecological Mitigation Measures	51
Table 16	Assessment against Section 220ZZ of the FM Act	53
Table 17	Strategic Context	63
Table 18	Consultation and Notification Requirements	65
Table 19	Meeting with Ballina Shire Council 10 November 2022	66
Table 20	Meeting with Ballina Shire Council – 30 August 2023	67
Table 21	Meeting with State Emergency Service 24 January 2023	70
Table 22	Community Engagement Tools	72
Table 23	Summary of flood and floor levels for Empire Vale Public School	75
Table 24	Flood Resilience - Proposed Undercroft Materials	78
Table 25	Flood resilience – Building services	79
Table 26	Assessment against the principles of ecologically sustainable design	98
Table 27	Division 5.1 Guidelines Environmental Factors to be considered	105

Appendices

- A. Architectural Plans (Pedavoli Architects)
- B. Mitigation Measures
- C. Property Documents
- D. Section 10.7 Planning Certificate
- E. Previous Development Consents
- F. Site Survey (Beveridge Williams)
- G. Landscape Plans and Report (Taylor Brammer Landscape Architects)
- H. Civil Plans & Report (Henry & Hymas Consulting Engineers)
- I. Structural Engineering Plans (Henry & Hymas Consulting Engineers)
- J. Flood Impact Assessment (August 2022) (Acor)
- K. Flood Emergency Response Plan (Acor)
- L. Statement of Heritage Impact (EMM)
- M. Aboriginal Heritage Due Diligence (EMM)
- N. Archaeological Research Design and Methodology (EMM)
- O. Geotechnical Investigation Report (Tetra Tech Coffey)
- P. Contamination Investigation Report (Tetra Tech Coffey)
- Q. Acid Sulfate Management Plan (Tetra Tech Coffey)
- R. Hazardous Materials Survey (Tetra Tech Coffey)
- S. Hazardous Chemicals Assessment (Tetra Tech Coffey)
- T. BCA Compliance Statement (MBC)
- U. Performance -based Design Brief / Fire Engineering Brief Questionnaire (FEBQ) (E-Lab Consulting)
- V. ESD Report (E-Lab Consulting) / Section J Part J1 Compliance Report (E-Lab Consulting)
- W. Access Statement (MBC)
- X. Bushfire Impact Assessment (BlackAsh)
- Y. Acoustic Report (Acoustic Logic)
- Z. Arboricultural Report (Northern Tree Care)
- AA. Flora and Fauna Assessment Report (Kleinfelder)
- BB. Transport and Traffic Assessment (PTC)
- CC. Infrastructure Services Statement (JHA)
- DD. Preliminary Investigation On-Site Wastewater and Effluent Disposal (Taylor Environmental)
- EE. Waste Management Plan (MRA)
- FF. Construction Management Plan (ADCO)
- GG. Construction Traffic Management Plan (PTC)
- HH. Construction Noise and Vibration Management Plan (Acoustic Logic)
- II. Council Consultation Letter (EPM Projects)
- JJ. SES Consultation Letter (EPM Projects)
- KK. Adjoining Owner Consultation Letter (School Infrastructure NSW)
- LL. Minutes from consultation meeting with Ballina Shire Council (EPM Projects)
- MM. Email correspondence from Ballina Shire Council (5 September 2023) (Ballina Shire Council)
- NN. Letter from NSW State Emergency Services dated 6 September 2023 (NSW State Emergency Services)

- OO. Response letter to SES from Acor Consultants dated 19 September 2023 (Acor Consultants)
- PP. Existing Conditions Report Empire Vale Public School (Henry & Hymas Consulting Engineers)

Summary

This proposal is for the demolition of existing buildings and construction of a new elevated school building at Empire Vale Public School, 632 River Drive, Empire Vale (Lot 1 DP 912494). Empire Vale Public School was significantly damaged in the 2022 floods, and most of the existing structures are no longer habitable due to the damage caused by the flood waters. The new elevated school building has been designed to be flood and climate change resilient with the floor level of the new building being located above the design flood level and the probable maximum flood (PMF) level.

The works comprise the demolition of the existing buildings excluding Building B (Brick Library building) and the associated covered outdoor learning area (COLA), construction of a new elevated school building with amenities and storage on the undercroft level and administration, general learning spaces, library and canteen on the elevated level (**Figure 1**). The works also comprise new hard and soft landscaping, ancillary structures and new site servicing. The new building utilises modular construction techniques, whereby an elevated platform will be constructed off site, whilst the new general learning spaces and other school facilities are constructed on-site and craned into place. The off-site manufacturing provides benefits through a standardised approach that maximises design efficiencies, reduces construction impacts and provides high level sustainability outcomes.



Figure 1 View of the new elevated building (Source: Pedavoli Architects)

Under Division 5.1 of the *Environmental Planning & Assessment Act* (EP&A Act), a public authority can assess the environmental impact of certain activities that they are carrying out themselves. These activities are defined as “development permitted without consent” under an environmental planning instrument (EPI). The works at Empire Vale Public School are proposed to be undertaken by the NSW Department of Education (as both the proponent and determining authority for the activity) as “development permitted without consent” pursuant to Section 3.37 of *State Environmental Planning Policy (Transport & Infrastructure) 2021* (T&I SEPP). As required under Division 5.1 of the EP&A Act, the environmental impacts of the proposed activity are assessed using a Review of Environmental Factors (REF). It is a statutory requirement under section 5.5 of the EP&A Act that the REF assesses the impacts to the “fullest extent possible” all matters affecting or likely to affect the environment, for the purpose of the protection and enhancement of the environment. This REF for Empire Vale Public School has been prepared to fulfil the Department of Education’s duties under the EP&A Act.

This REF has been prepared in accordance with the relevant provisions of EP&A Act, *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), T&I SEPP, *Biodiversity Conservation Act 2016* (BC Act), *Fisheries Management Act 1994* (FM Act) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It has also been prepared with regard to the Department of Planning and Environment (DPE)'s *Guidelines for Division 5.1 Assessments*, June 2022 (the Guidelines), which respond to the requirements of Section 170 of the EP&A Regulation.

This REF provides an assessment of the impacts of the proposed activity at Empire Vale Public School including flooding, bushfire, ecology and biodiversity, sustainability and climate change, built heritage, historical archaeological, aboriginal cultural heritage, acid sulfate soils, contamination and hazardous building materials, waste management, water quality and quantity, traffic and parking, and construction management. Mitigation measures have been identified to eliminate or reduce any environmental impacts. The REF concludes that the environmental impacts of the proposed activity are not likely to be significant and therefore, it is not necessary for an environmental impact statement (EIS) to be prepared and approval to be sought for the proposal from the Minister for Planning under Division 5.2 of Part 5 of the EP&A Act.

The proposal is unlikely to affect threatened species, populations or ecological communities or their habitats, within the meaning of the BC Act and/or FM Act. Therefore, a species impact statement or biodiversity development assessment report is not required. The proposal does not affect the environment of Commonwealth land or have an impact on any matters of national environmental significance.

Statutory notification of the proposed activity has occurred in accordance with the requirements of Part 3.2 Division 1 and section 3.38 of the T&I SEPP to Ballina Shire Council, NSW State Emergency Services and occupiers of adjoining properties. Feedback from the statutory notification has been incorporated into the design and mitigation measures outlined in this REF.

In accordance, with Section 171(4) of the EP&A Regulation, a copy of the REF will be published on the School Infrastructure NSW's website.

In addition, to the approval for the proposed activity under Part 5 of the EP&A Act, the following approvals will be required:

- Section 138 of the *Roads Act 1993*
- Section 68 of the *Local Government Act 1993*

Approval may also be required under Section 140 of the *Heritage Act 1977* depending on the outcomes of the archaeological testing to be undertaken under a section 139(4) exemption.

1 Introduction

1.1 Overview

This Review of Environmental Factors (REF) has been prepared by EPM Projects on behalf of the NSW Department of Education and assesses the potential environmental impacts which could arise from the demolition of existing buildings and construction of new elevated school buildings at Empire Vale Public School at 632 River Drive, Empire Vale. The proposed development is 'development permitted without consent' under the provisions of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) and is proposed to be undertaken pursuant to Section 3.37 of T&I SEPP.

The existing buildings were significantly inundated during the February / March 2022 floods and most of the existing structures are no longer habitable due to the damage caused by the flood waters. As a result, the Department of Education is proposing to demolish most of the existing school buildings and construct new elevated school buildings to replace it. The floor level of the new building will be located above the design flood level and probable maximum flood extent (PMF) to increase flood resilience and create useable undercroft spaces.

Works will comprise the following:

- Site preparation including site establishment works, earthworks and relocation of school bell.
- Demolition of existing school buildings (excluding Building B and covered outdoor learning area COLA).
- Construction of a new elevated school building, with at-grade (undercroft) amenities and storage, including:
 - Ground Level:
 - Open undercroft space for covered outdoor learning and play.
 - Male and female amenities and accessible toilet / change room facility.
 - Cleaners' store.
 - Equipment store.
 - Sport equipment store.
 - Elevated Level:
 - New administration comprising interview room, clerical spaces, Principal's office, staff room, sick bay and male, female and accessible amenities.
 - School library with computer room, store, main communications room and library office.
 - Three (3) General Learning Spaces (GLS) with learning commons and multi-purpose space.
 - Canteen with open servery space.
 - Store.
 - Male, female and accessible amenities.
 - Mechanical plant.
- New and hard soft landscaping including replacement play equipment, vegetable garden, fernery and yarning circle.
- New hydrant pump house with fire tanks and booster.
- New septic tanks and rainwater tanks.
- Maintenance and conservation works to Building B (Library Building).

It is not proposed to increase staff or student numbers as a result of these works.

This REF has been prepared in accordance with the relevant provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), T&I SEPP, *Biodiversity Conservation Act 2016* (BC Act), *Fisheries Management Act 1994* (FM Act) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). It has also been prepared with regard to the Department of Planning and Environment (DPE)'s *Guidelines for Division 5.1 Assessments*, June 2022 (the Guidelines), which respond to the requirements of Section 170 of the EP&A Regulation.

Pursuant to Section 171 (4) of the EP&A Regulation, a copy of the REF must be published on the public authority's website or on the NSW Planning Portal, if the activity:

- Has a capital investment value (CIV) of more than \$5 million, or
- Requires an approval or permit for the activity under sections 144, 200, 205 or 219 of the *Fisheries Management Act 1994* (FM Act), section 57 of the *Heritage Act 1977*, section 90 of the *National Parks and Wildlife Act 1974* (NPW Act) or sections 47-49 or 122 of the *Protection of the Environment Operations Act 1997* (POEO Act), or
- If the determining authority considers it in the public interest to publish the REF.

The proposed activity has a CIV of more than \$5 million and is in the public interest, therefore, a copy of the REF will be published on the School Infrastructure NSW website.

The assessment contained within the REF has been prepared having regard to:

- Whether the proposed activity is likely to have a significant impact on the environment and therefore the necessity for an EIS to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Part 5 of the EP&A Act; and
- The potential for the proposal to significantly impact *Matters of National Environmental Significance* (MNES) on Commonwealth land and the need to make a referral to the Australian Government Department of Environment and Energy for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.








Following consideration of the key environmental aspects and the information presented in this REF, it is concluded that by adopting the mitigation measures identified in **Appendix B**, it is unlikely that there would be significant environmental impacts associated with the proposal and therefore an Environmental Impact Statement is not required. In addition, the proposed activity will not be carried out in a declared area of outstanding value; is not likely to significantly affect threatened species, populations or ecological communities, or their habitats; or impact biodiversity values. Accordingly, a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR) is not required.

1.2 Other works

Other works occurring on the site under separate planning pathways include:

- Fit-out or use of Building B.

1.3 Certification

Table 1 Certification			
<p>This Review of Environmental Factors (REF) has been prepared for School Infrastructure NSW (SINSW) on behalf of the NSW Department of Education (DoE) and assesses the potential environmental impacts which could arise from the demolition of the existing buildings, construction of a new elevated school building, new hard and soft landscaping and ancillary works at Empire Vale Public School.</p> <p>This REF has been prepared in accordance with the <i>Guidelines for Division 5.1 Assessments</i> (the Guidelines) and the relevant provisions of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act), the <i>Environmental Planning and Assessment Regulation 2021</i> (EP&A Regulation) and <i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i> (TI SEPP).</p> <p>This REF provides a true and fair review of the activity in relation to its likely impact on the environment and the information it contains is neither false nor misleading. It addresses to the fullest extent possible all the factors listed in Section 3 of the Guidelines, the EP&A Regulation and the Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (EPBC Act).</p>			
Person who prepared the REF:	Amy Cropley		
Position and Qualifications:	Associate Planner, EPM Projects M. Urban Design (Urban Design & Planning) USyd. RPIA		
Person who reviewed the REF:	Penny Smith		
Position and Qualifications	Senior Associate Planner, EPM Projects B. Urban & Regional Planning (Hons), UNE MPIA		
Signature:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; vertical-align: middle;">  Date: 4 October 2023 </td> <td style="width: 50%; text-align: center; vertical-align: middle;">  Date: 4 October 2023 </td> </tr> </table>	 Date: 4 October 2023	 Date: 4 October 2023
 Date: 4 October 2023	 Date: 4 October 2023		
<p>I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.</p>			
Name of the Reviewing Officer	Andrew Robinson		
Position and Qualification of the Reviewing officer	Principal Specialist Development Planner, SINSW BSc (Geog), UW, GDURP, UNE, MPIA		
Signature:	 Date: 3 November 2023		

1.4 School Information

Table 2 School Information	
Detail	Description
School Name	Empire Vale Public School
School Address	632 River Drive, Empire Vale, NSW, 2478
Lot(s) And DP(s)	Lot 1 DP 912494
Local Government Area	Ballina Shire Council
Land Owner	Minister for Education
Easements and Covenants	Reservations and conditions in the crown grant(s)

A copy of the Certificate of Title and other property documents for the site is provided as **Appendix C** to this REF.

1.5 Scope of works and assessment requirements

Table 3 Scope of works and assessment requirements	
Detail	Description
What are the proposed works?	<ul style="list-style-type: none"> Demolition of existing structures excluding Building B and associated COLA. Construction of new elevated school building. Associated soft and hard landscaping. Ancillary structures and new site services. Maintenance to Building B (existing Library building)
Does the project involve works outside the existing school campus?	No
Will the project facilitate any increase in student numbers?	No

1.6 Supporting Plans

A full list of the REF supporting documentation and plans is provided in **Table 4**.

Table 4 List of Supporting Documents			
Drawing #	Drawing Name	Rev	Date
Architectural plans prepared by Pedavoli Architects			
EMP-ARC-REF-DWG-001	Cover Sheet	F	15/09/2023
EMP-ARC-REF-DWG-003	Site Analysis Plan	E	17/08/2023
EMP-ARC-REF-DWG-010	Proposed Site Plan	G	15/09/2023
EMP-ARC-REF-DWG-015	Demolition Plan	E	17/08/2023
EMP-ARC-REF-DWG-100	Undercroft Plan	F	15/09/2023
EMP-ARC-REF-DWG-110	Raised Level Floor Plan	F	15/09/2023
EMP-ARC-REF-DWG-120	Roof Plan	E	17/08/2023
EMP-ARC-REF-DWG-200	Elevations	F	15/09/2023

Table 4 List of Supporting Documents			
Drawing #	Drawing Name	Rev	Date
EMP-ARC-REF-DWG-201	Elevations	F	15/09/2023
EMP-ARC-REF-DWG-300	Sections	E	17/08/2023
EMP-ARC-REF-DWG-400	Shadow Diagrams	F	15/09/2023
EMP-ARC-REF-DWG-500	Renders	E	15/09/2023
Landscape Plans prepared by Taylor Brammer Landscape Architects			
EMP-LAN-PP-DWG-0001	Landscape: Cover Sheet	A	07/07/2023
EMP-LAN-PP-DWG-0010	Landscape: Concept Plan	H	14/08/2023
EMP-LAN-PP-DWG-0011	Tree Retention / Removal Plan	F	14/08/2023
EMP-LAN-PP-DWG-0020	Landscape: Sections	B	14/08/2023
EMP-LAN-PP-DWG-0030	Landscape: Planting Approach	A	07/07/2023
-	Landscape Architectural Design Report	F	14/08/2023
Stormwater and Civil Plans prepared by Henry & Hymas Consulting Engineers			
EMP-CIV-PP-DWG-0000	Cover Sheet, Drawing Schedule and Locality Sketch	02	10/07/2023
EMP-CIV-PP-DWG-0010	Notes	02	10/07/2023
EMP-CIV-PP-DWG-0100	Detail Plan	04	11/08/2023
EMP-CIV-PP-DWG-0200	Stormwater Miscellaneous Details and Pit Lid Schedule	03	17/07/2023
EMP-CIV-PP-DWG-0201	Stormwater Miscellaneous Details	02	10/07/2023
EMP-CIV-PP-DWG-0250	Pre Development Catchment Plan	02	10/07/2023
EMP-CIV-PP-DWG-0251	Post Development Catchment Plan	04	11/08/2023
EMP-CIV-PP-DWG-0901	Sediment and Erosion Control Plan	02	10/07/2023
EMP-CIV-PP-DWG-0910	Sediment and Erosion Control Typical Details	02	10/07/2023
Structural Engineering Plans prepared by Henry & Hymas Consulting Engineers			
EMP-STR-DD-DWG-0100	Title Sheet & Drawing List	P1	01/08/2023
EMP-STR-DD-DWG-0200	Footing Plan	P1	01/08/2023
EMP-STR-DD-DWG-0300	Undercroft Level Floor Slab on Ground Plan	P1	01/08/2023
EMP-STR-DD-DWG-0400	Raised Level Floor Gantry Framing Plan	P1	01/08/2023
EMP-STR-DD-DWG-0501	Footing, Slab on Ground & Gantry Framing Details – Sheet 1	P1	01/08/2023
EMP-STR-DD-DWG-0502	Footing, Slab on Ground & Gantry Framing Details – Sheet 2	P1	01/08/2023
Survey Plan prepared by Beveridge Williams			
2202780 DET-004	Detail Survey Plan for Northern NSW Flood Recovery	A	10/02/2023
Other Documentation			
Henry & Hymas Consulting Engineers <i>Civil Engineering Report: Empire Vale Public School</i> (Rev 1.4) dated 22 September 2023			
Acor Consultants <i>Flood and Civil Engineering Assessment: Empire Vale Public School</i> (Rev 02) dated 30 August 2022			
Acor Consultants <i>Flood Emergency Response Plan</i> (Rev 04) dated 19 September 2023			

Table 4 List of Supporting Documents			
Drawing #	Drawing Name	Rev	Date
	EMM <i>Aboriginal Heritage Due Diligence (V 2)</i> dated 17 January 2023		
	EMM <i>Statement of Heritage Impact: Empire Vale Public School (V6)</i> dated 13 September 2023		
	EMM <i>Archaeological Research Design and Methodology: Empire Vale Public School (V2)</i> dated 22 September 2023		
	Tetra Tech Coffey <i>Geotechnical Investigation Report – Empire Vale Public School (Rev 2)</i> dated 2 August 2023		
	Tetra Tech Coffey <i>Contamination Investigation – Empire Vale Public School (Rev R02)</i> dated 6 September 2023		
	Tetra Tech Coffey <i>Acid Sulfate Soils Management Plan – Empire Vale Public School (Rev 1)</i> dated 6 September 2023		
	Tetra Tech Coffey <i>Asbestos and Hazardous Materials Pre-Demolition Assessment – Empire Vale Public School (Rev R01)</i> dated 18 July 2023		
	Tetra Tech Coffey <i>Hazardous Chemical Assessment – Empire Vale Public School (Rev R01)</i> dated 14 July 2023		
	MBC Group <i>BCA Design Compliance Report (Rev 03)</i> dated 5 September 2023		
	E-LAB Consulting <i>Performance-Based Design Brief / Fire Engineering Brief Questionnaire (FEBQ)</i> (Initial submission) (undated)		
	E-LAB Consulting <i>Sustainable Development Plan (Rev 4)</i> dated 5 September 2023		
	E-LAB Consulting <i>Section J Part J1 Compliance Report (Rev 1)</i> dated 25 August 2023		
	MBC Group <i>Accessibility Assessment Report (Rev 2)</i> dated 4 September 2023		
	Blackash Bushfire Consulting <i>Bushfire Hazard Assessment (V1.2)</i> dated 18 August 2023		
	Acoustic Logic <i>Concept Design Acoustic Report (Rev 2)</i> dated 7 August 2023		
	Northern Tree Care <i>Aboricultural Report – Empire Vale Public School</i> dated 5 September 2023		
	Kleinfelder Australia Pty Ltd <i>Flora and Fauna Assessment Report – Empire Vale Public School (V 2.2)</i> dated 4 September 2023		
	PTC <i>Transport and Traffic Assessment – Empire Vale Public School (Issue 2)</i> dated 25 July 2023		
	JHA <i>Infrastructure Services Statement (Rev F)</i> dated 15 August 2023		
	Taylor Environmental <i>OSSMS Wastewater Report: Detailed Design Report (Rev B)</i> dated 20 September 2023		
	MRA Consulting Group <i>Empire Vale Public School – Waste Management Plan (Rev 1)</i> dated 11 September 2023		
	ADCO <i>Construction Management Plan – Empire Vale Public School (Rev 3)</i> dated 22 September 2023		
	PTC <i>Construction Traffic Management Plan (Issue 2)</i> dated 10 July 2023		
	Acoustic Logic <i>Construction Noise and Vibration Management Plan (Rev 0)</i> dated 27 July 2023		
	Henry & Hymas Consulting Engineers <i>Existing Conditions Report: Empire Vale Public School</i> dated 21 September 2023		

1.7 Site Information

1.7.1 Site Description

Empire Vale Public School is located at 632 River Drive, Empire Vale within the Ballina Shire LGA. The site is located to the south-east of the Richmond River and approximately 4 kms to the west of the Tasman Sea (**Figure 2**). Ballina Town Centre is located approximately 7.5 kms to the north-east of the site.



Figure 2 Location Plan (Source: Nearmap)

The site is legally described as Lot 1 Deposited Plan (DP) 912494. The site has a total area of 1.62 hectares. The site is irregularly shaped with a frontage to River Drive of 103.4m. The site is generally flat. A swale runs north-east to south-west through the site.

A site survey has been prepared by Beveridge Williams Surveyors (**Appendix F**).

Figure 3 is an aerial of the site and its immediate surrounds.



Figure 3 Aerial Photograph (Source: Nearmap dated 3 July 2012)

Existing buildings at Empire Vale Public School include:

- Building A: One (1) storey brick classroom building.
- Building B: One (1) storey brick and weatherboard library building (original school building built in 1891 with later additions c. 1913) with associated covered outdoor learning area (COLA) structure.
- Building C: One (1) storey weatherboard canteen building.
- Building D: One (1) storey brick boys and girls amenities building.
- Building E: One (1) storey metal shed.
- Building F: One (1) storey modular-style classroom building.
- Building G: One (1) Sports and bulk store shed.

Other structures on the site include shipping containers, demountable buildings, shade sails over a sandpit and play equipment, septic tanks and rainwater tanks.

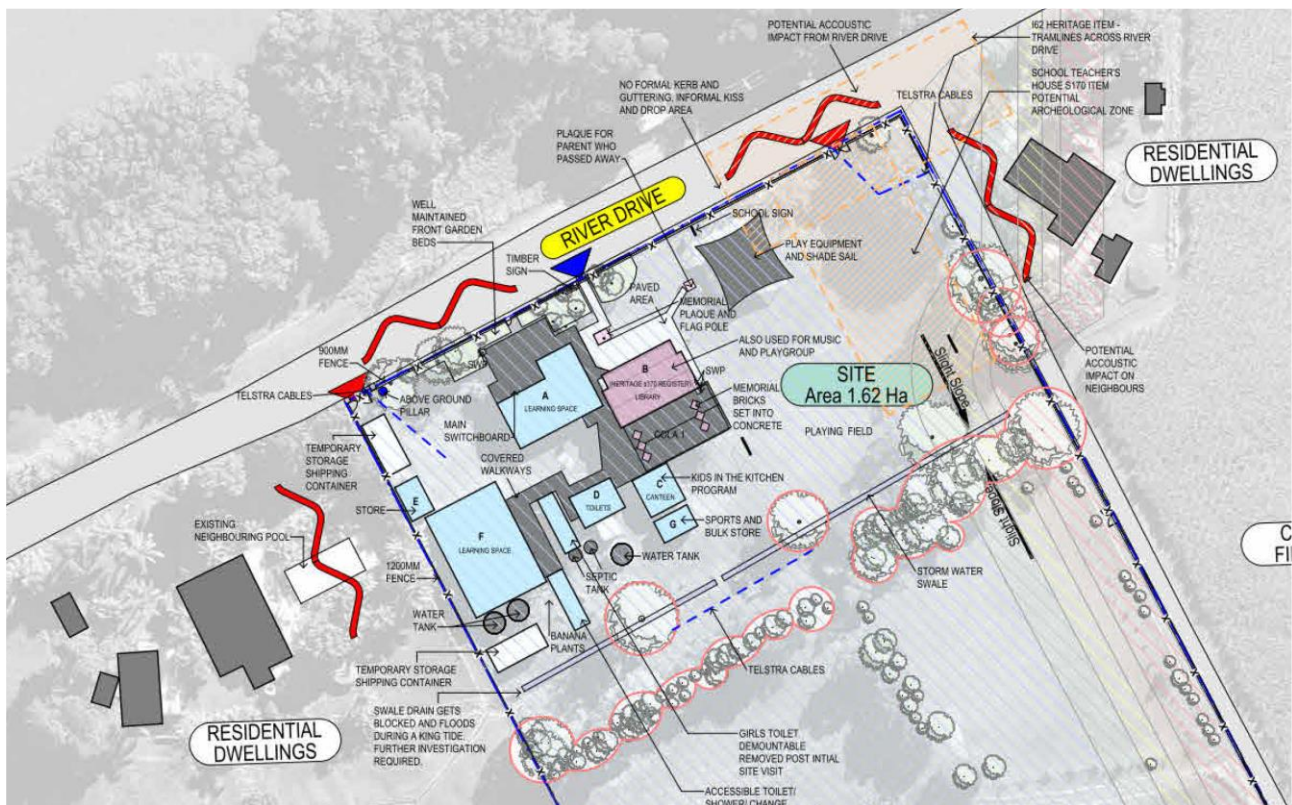


Figure 4 Existing Site Plan (Source: Pedavoli Architects)

The main student play space is the north-eastern corner of the site.

Existing vegetation on the site comprises a mix of planted native species. The trees are located along the site boundaries, along with a row of trees to the south of the existing swale.

Vehicular access to the site is via an existing driveway from River Drive in the western corner of the site. There is also informal vehicle access in the northern corner of the site. There is no formal on-site parking. Student pick-up and drop-off occurs on River Drive. There are two (2) main pedestrian entries to the site from River Drive, they are adjacent to Building A and adjacent to Building B.

There is an existing on-site sewerage management system that comprises a concrete septic tank and concrete aerated wastewater treatment system (AWTS) within a fenced enclosure. This discharges to an existing Wisconsin Mound located at the rear of the site.

Following the 2022 floods, students and staff at Empire Vale Public School have been relocated to Southern Cross Public School in East Ballina.

Photos of the site and its immediate surrounds is provided in **Figure 5**

Empire Vale Public School



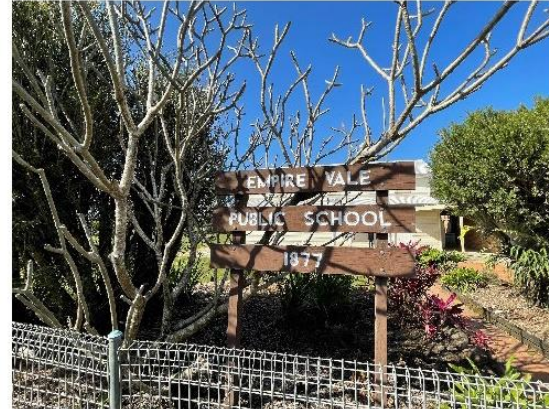
1. View looking north-east along River Drive



2. Empire Vale Post Office



3. Tramlines



4. Wooden school sign



5. Entry to Building A (Classrooms) from River Drive



6. Building B (Library building)



7. Covered Outdoor Learning Area (COLA) to the south of Building B



8. View towards inner courtyard



9. Rear of Building B with COLA



10. Existing gardens along River Drive



11. Open play space in the north-east corner of the site



12. View towards the rear of the site

Figure 5 Site photograph

1.7.2 Surrounding Development

The Richmond River is located to the north and west of the school. There is a small weatherboard Post Office building located on the northern side of River Drive. There are rural residential dwellings located to the north-east and south-west of the school. Agricultural lands (predominantly sugar cane fields) are located to the south, east and north of the school.

1.8 Previous Development Consents

A review of Ballina Shire Council's DA Tracker and a GIPA application undertaken in September 2022 have identified the following previous development consents for the site.

- Development Application DA 2005/580 "Erection of covered walkways" Approved by Council on 16 February 2005.
- Development Application DA 2007/171 "Proposed undercover area / shade cover". Approved by Council on 23 October 2006.
- Development Application DA 2009/298 "Proposed shade structure". Approved by Council on 13 November 2008.
- IPA No. 10/087 EP – Empire Vale Public School "Demolition of an existing classroom building, construction of a new MDR classroom and covered walkway; installation of sun shading devices; and associated works". Works authorised under *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009* on 1 April 2010.

A copy of these development consents is provided as **Appendix E**.

2 Proposed Works

2.1 Justification of Proposal

The buildings at Empire Vale Public School were inundated during the February / March 2022 floods. Several of the structures are no longer habitable due to damages because of the flood waters. The proposal seeks to rebuild the school and deliver new modern and flexible learning environments and core facilities that will support the long-term needs of the community. The new elevated school building has been designed to be flood and climate-change resilient, with the floor level of the elevated building located above both the design flood level and probable maximum flood (PMF) level. This creates a usable undercroft space suitable for covered outdoor learning and play.

Other key design considerations include:

- Protection of the heritage and community values of the site, in particular the original school building (Building B) through the creation of an appropriate curtilage.
- Improve site visibility and physical connectivity between the school buildings and the play spaces.
- Preservation of the green buffer and school identity through the retention of the existing garden beds along River Drive.

It is proposed to undertake the proposed demolition of existing buildings, construction of a new elevated school building and other ancillary works as 'development permitted without consent' pursuant to section 3.37 of the T&I SEPP. This reduces the approval timeframes and will enable staff and students to return to site as soon as possible.

2.2 Definition of Proposed Works

For the purposes of the T&I SEPP, the proposed works are defined as 'development permitted without consent'. For the purposes of Part 5 of the EP&A Act, the proposal is defined as 'works' or an 'activity'. Any references to 'works' or an 'activity' is considered to have the same meaning for the purposes of this assessment.

2.3 Summary of Proposed Works

Works will comprise the following:

- Site preparation including site establishment works, earthworks and relocation of school bell.
- Demolition of existing school buildings.
- Construction of a new elevated school building, with at-grade (undercroft) amenities and storage, including:
 - Ground Level:
 - Open undercroft space for covered outdoor learning and play.
 - Male and female amenities and accessible toilet / change room facility.
 - Cleaners' store.
 - Equipment store.
 - Sport equipment store.
 - Elevated Level:
 - New administration comprising interview room, clerical spaces, Principal's office, staff room, sick bay and male, female and accessible amenities.
 - School library with computer room, store, main communications room and library office.
 - Three (3) General Learning Spaces (GLS) with learning commons and multi-purpose space.
 - Canteen with open servery space.

- Store.
- Male, female and accessible amenities.
- Mechanical plant.
- New and hard soft landscaping including replacement play equipment, vegetable garden, fernery and yarning circle.
- New building services including septic tanks and rainwater tanks.
- Maintenance and conservation works to Building B (existing library building).

The works do not seek to increase staff or student numbers. Architectural plans prepared by Pedavoli Architects are provided in **Appendix A** of this REF. **Figure 6** is an extract of the proposed site plan for Empire Vale Public School.

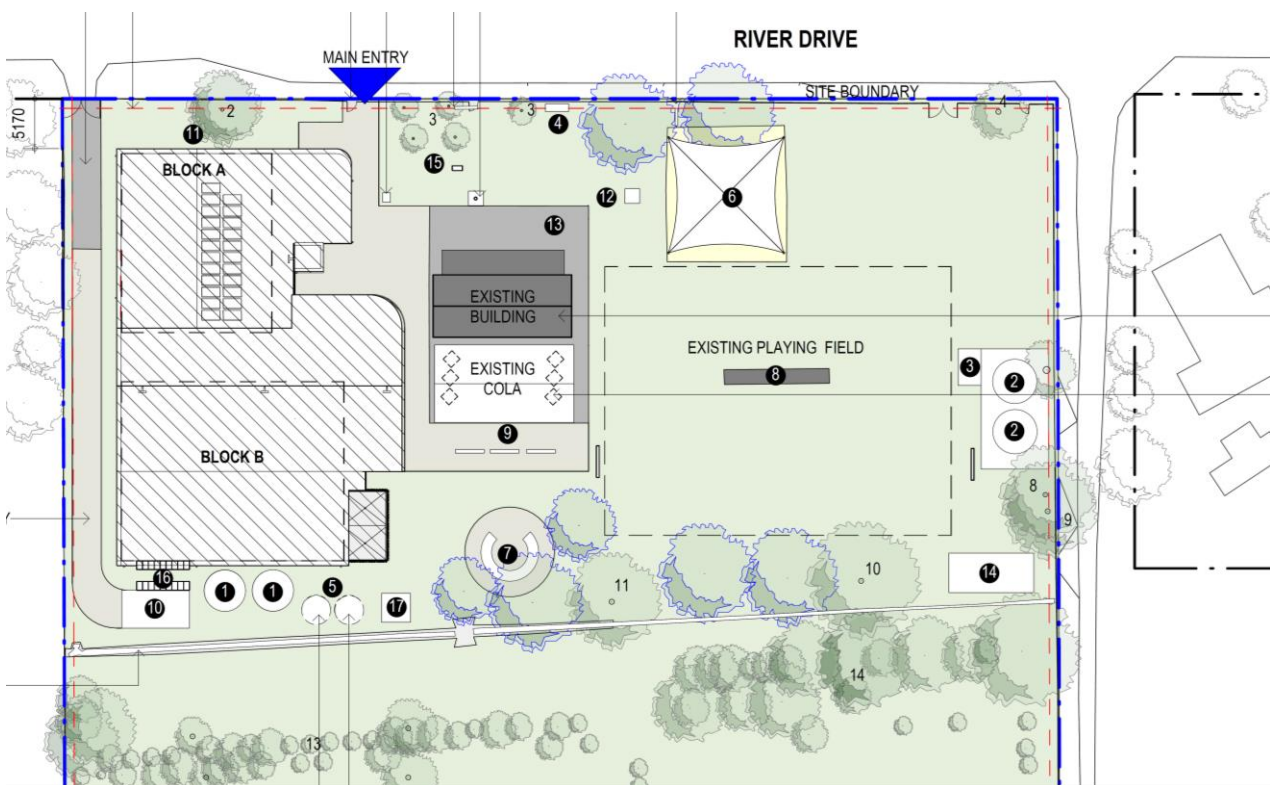


Figure 6 Proposed Site Plan (Source: Pedavoli Architects)

2.3.1 Staging

The works are proposed to be undertaken in three (3) stages as set out below:

- **Stage 1 – Early Works:** The scope of Stage 1 comprises site establishment activities, services disconnections and diversions, tree protection and removal, along with demolition to existing buildings, structures and hardstands including removal of hazardous materials.
- **Stage 2 – Substructure and civil works:** The scope of Stage 2 comprises of the installation of all inground services and structural works including (but not limited to) excavation for services, installation of all external services, piling and detailed excavation for pile caps and slab on ground.
- **Stage 3 – Main building works and completion:** The scope of Stage 3 comprises all structural slab on ground, footpaths and other hardstand, construction of the structural steel gantry system and the installation of the modular building components. Landscaping and commissioning of the new elevated building will be undertaken during this stage.

2.3.2 Site Preparation and Demolition

The extent of demolition is shown on the demolition plans prepared by Pedavoli Architects (**Appendix A**). The proposed activity includes the demolition of the following buildings and structures:

- Demolition of Buildings A, C, D, F and G.
- Dismantling and re-use of Building E.
- Relocation of shipping containers.
- Demolition of existing water tanks and septic tanks.

Building B and the associated COLA are to be protected during the works.

Minor site grading is required on site to create suitable transitions between the existing hardstand and structures and the new hardstand and structures. Site grading will also be undertaken to improve onsite drainage and direct stormwater overland flow paths away from buildings. Only minor earthwork batters are required (less than 0.3m) and no bulk earthworks are required.

A total of nine (9) trees are proposed to be removed as part of the proposed activity as set out in **Table 5**, in accordance with the requirements of the *Local Land Services Act 2013* (refer to **Section 3.7.9**). All other trees will be protected on site in accordance with the recommendations of the *Aboriginal Report* (**Appendix Z**).

Table 5 Proposed Tree Removal					
Tree #	Species (Common Name)	Crown (m)	Height (m)	Landscape Significance	Reason for removal
1	Dead	n/a	n/a	Very Low	Dead
5	<i>Eucalyptus robusta</i> (Swamp Mahogany)	12	15-20	Moderate	To accommodate the new fire tanks.
6	<i>Elaeocarpus grandis</i> (Blue Quondong)	4	5-10	Moderate	To accommodate the new fire tanks.
7	<i>Grevillea robusta</i> (Silky Oak)	4	5-10	Moderate	To accommodate the new fire tanks.
12	<i>Melaleuca quinquenervia</i> (Paperbark)	12	5-10	Moderate	Facilitate the construction of the new elevated building and ancillary services.
19	Dead	n/a	n/a	Very Low	Dead
20	<i>Ficus coronata</i> (Sandpaper Fig)	4	5	Low	To accommodate the new fire tanks.
21	<i>Commersonia bartramia</i> (Brown Kurrajong)	3	8	Low	To accommodate the new fire tanks.
22	<i>Findersia schottiana</i> (Cudgerie)	5	9	Low	To accommodate the new fire tanks.

Appropriate sediment and control measures will be implemented prior to the commencement of the works.

2.3.3 New Elevated School Building

The new elevated building is located in the south-west corner of the site. It replaces the existing classrooms and administration spaces that were damaged by the floods. The new building comprises amenities and storage spaces within the undercroft and the school facilities including administration, three (3) GLAs, library, canteen and amenities on the elevated level. Access to the elevated level is via stairs and a lift.

Figure 7 is an extract of the proposed elevated floor plan.



Figure 7 Proposed Elevated floor plan (Source: Pedavoli Architects)

The new building has a total Gross Floor Area (GFA) of 752.37m² consisting of 77.37m² within the undercroft and 675m² on the elevated level. The building has a maximum height of 8m to the top of the lift overrun above the existing ground level.

The new building utilises modular construction techniques. An elevated platform will be constructed on site, whilst the new GLAs and other school facilities are constructed off-site and craned into place. The off-site manufacturing provides benefits through a standardised approach that maximises design efficiencies and reduces construction impacts.

The proposed elevated building has been designed using flood resilient construction methods and materials.

External finishes for the new building have been influenced by the colours of country and community including the colours of endemic flora and the school's colours. The use of coloured vertical battens and shading elements creates visual interest and provides articulation. Proposed building materials include fibre cement wall cladding in neutral colours and metal sheet roofing.

Figure 8 is a 3D photomontage of the new elevated school building as viewed from River Drive.



Figure 8 3D Photomontage of new school building from River Drive

2.3.4 Building B

Building B (existing library building) damaged during the floods. Due to its heritage significance, it is proposed to retain Building B and the associated covered-outdoor-learning-area. In order to ensure its ongoing viability, the following indicative scope of works is proposed to be undertaken:

- Weather Protection:
 - Repair and make good roofing and stormwater drainage.
 - Remove soil build up around perimeter of building to ensure underfloor vents are clear and ground level is 150mm below floor level.
- Cleaning:
 - Remove hazardous materials in accordance with a certified hygienist report including mould removal, paint stabilisation, asbestos removal as required and desalination.
- Repair to make building safe including:
 - Uplift of floor and retention of sound flooring boards for reinstatement.
 - Clearing and decontamination of subfloor space to provide minimum 350- 400mm clearance under floor joists.
 - Clearing of underfloor vents.
 - Repair and reinstatement of flooring.
 - Make good of render and paint finishes.
- Secure building including:
 - All windows and doors are operable and lockable.
- Ventilate building:
 - Ensure existing wall, ceiling and roof vents are operable.
 - If none present, provide non mechanical wind driven ceiling and roof vents.

The final scope of works for Building B will be subject to the preparation of a Schedule of Conservation Works to be prepared by a suitability qualified heritage consultant. All works to Building B are to be undertaken by specialist heritage trades in accordance with the recommendations of the Schedule of Conservation Works. A mitigation measure has been included in **Appendix B** requiring the preparation of a Schedule of Conservation Works

2.3.5 Landscape

Landscape plans for Empire Vale Public School have been prepared by Taylor Brammer Landscape Architects (**Appendix G**). The landscape design seeks to reinstate the landscape features that were damaged during the 2022 floods including the gardens along River Drive, replacement of sand within the sandpit and relocation of memorial plaques within the landscape setting.

New concrete hardstand will be provided from the new school entry from River Drive.

A total of seven (7) new trees will be planted on site. All new plants have been selected for their suitability to the local plant communities of the *Far North Estuarine Mangrove-Swamp Oak Forest* and *Far North Floodplain Paperbark-Swamp Oak Forest*. The species are indigenous species, play-friendly and provide educational opportunities for students, as well as being suitable for children in accordance with KidSafe NSW guidelines and the NSW Department of Education's Educational Facilities Standards and Guidelines (EFSG).

Figure 9 is an extract of the proposed landscape plan.

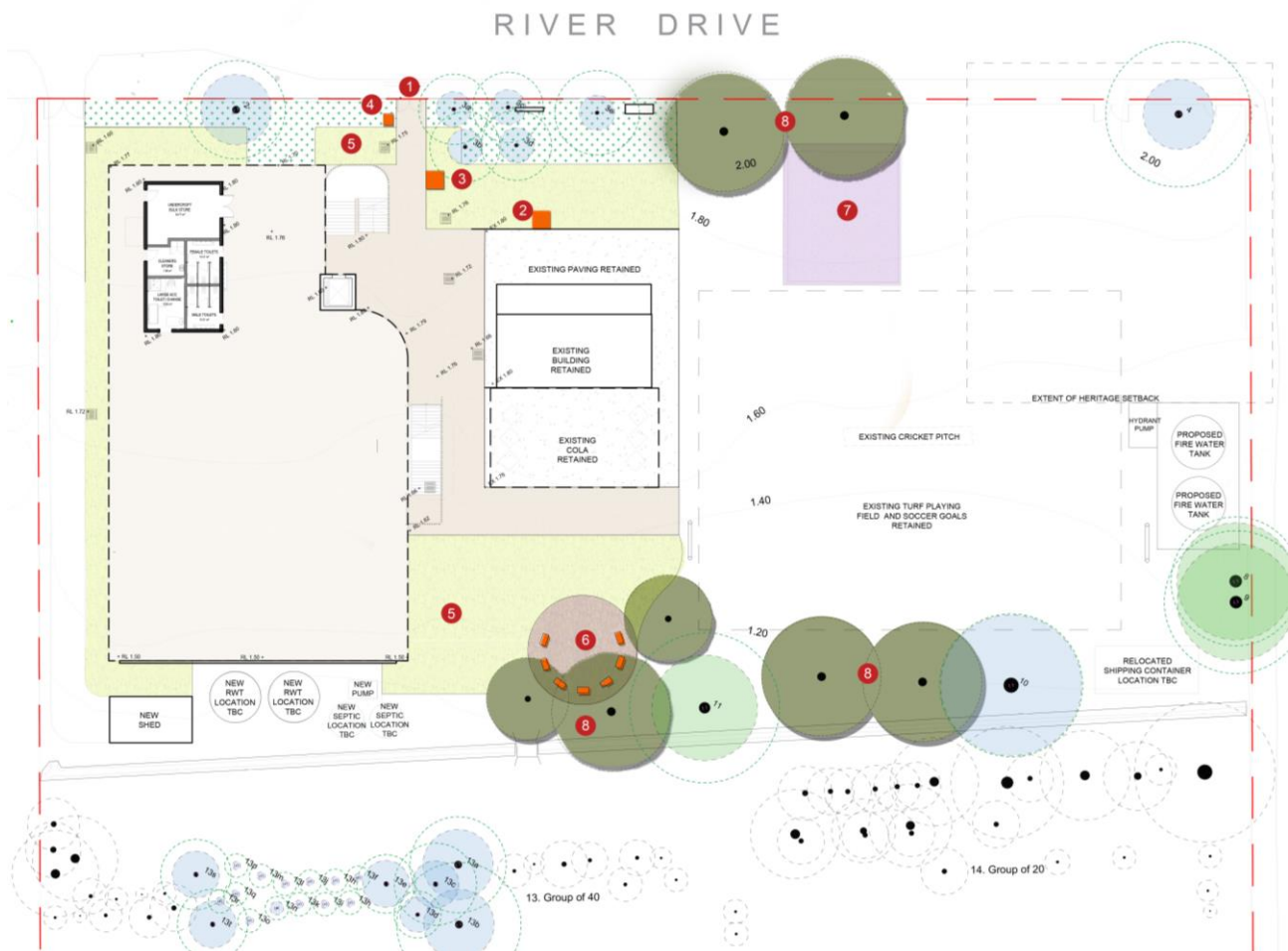


Figure 9 Proposed landscape plan (Source: Taylor Brammer Landscape Architects)

2.3.6 Connecting with Country

The site is located on Bundjalung land. The proposed design is informed by, responds to and provides pathways for connecting to Country, particularly through the architectural and landscape design of the new school. Three potential narratives to Connect with Country have been identified:

- Richmond River: Prior to European settlement, Bundjalung Council was heavily forested with large freshwater lakes and swamps near the coast. Richmond River was an important resource for the Bundjalung people.
- Ceremonial Grounds: Seasonal occasions were an opportunity for groups to gather and share knowledge. Bora grounds are Aboriginal ceremonial places comprising two circles and marked by raised earth banks and connected by a pathway.
- Connection to nature: The lives of the Bundjalung people was intimately linked to the endemic flora and fauna of the region.

These potential narratives will be further developed through consultation with the Bundjalung elders.

2.3.7 Stormwater

A Civil Report has been prepared by Henry & Hymas Consulting Engineers that describes the proposed stormwater system (**Appendix H**). It has been designed to collect all flows from impervious areas as well as any stormwater runoff generated by pervious areas such as landscaping. The network has been designed to cater for the 20-year average recurrence interval (ARI) stormwater event. The system also allows for stormwater generated during the 100-year ARI storm event to be effectively conveyed via piped and overland flow paths with no impacts to existing buildings or surrounding development.

As the site is located within the 1% Annual Exceedance Probability (AEP) floodplain of the Richmond River, no on-site detention is proposed.

Stormwater quality is managed in accordance with Council requirements and includes stormwater quality improvement devices that aim to minimise pollution construction and operation such as stormwater pit basket filters. Other measures such as bioretention basins and swales or infiltration trenches are not suitable due to the impacts of tidal inundation.

The proposed development includes rainwater tanks with a total capacity of 68,000L that will assist with water conservation and provide potable water for the new elevated building.

2.3.8 ESD

A Sustainable Development Plan has been prepared by E-Lab Consulting to describe the ecologically sustainable design (ESD) strategies and measures that have been incorporated into the design of the proposed activity (**Appendix V**). The project is seeking to achieve a 4 Star Green Star Design & As Built v1.3 equivalency.

A number of sustainable design initiatives will be implemented as part of the proposal as follows:

- Resilience – including a site-specific climate change risk assessment and adaptation plan.
- Energy and carbon – energy efficiency across the buildings and the use of on-site renewable energy.
- Water management – water efficient fixtures and fittings, collection, and reuse of water and improved stormwater quality.
- Health and wellbeing – maximising daylight and improving indoor quality through the use of low emissions materials.
- Materials – consideration of the whole of life impact of materials and selection to minimise harm to the environment and efficient construction methods.

2.3.9 Traffic and Parking

There is currently no formal on-site parking at the school. No changes are proposed to the current on-site parking arrangement.

There is an existing driveway along the south-western boundary of the site. It is proposed to extend this driveway along the boundary to provide access to the new shed and waste storage area at the rear of the new elevated building.

A 16-bay bicycle rack is provided within the undercroft area.

2.3.10 Waste Management

A Waste Management Plan has been prepared by MRA Consulting Group to describe the proposed operational waste management practices (**Appendix EE**). The proposed activity does not seek to increase staff or student numbers; therefore, it is not expected that the works will result in an increase in the total waste generated by the school. Nevertheless, ongoing waste management practices will aim to contribute towards the NSW *Waste and Sustainable Materials Strategy 2041* target to achieve an 80% average recovery rate from all waste streams by 2030.

Based on the current school enrolment and the waste generation rates detailed in the NSW Environment Protection Authority (EPA) *Better Practice Guide for Resource Recovery in Residential Developments* (2019), the school requires the following bins:

- Three (3) x 240L general waste bins.
- Two (2) x 240L comingled recycling bins.
- One (1) x 240L green waste bin.

These bins are proposed to be stored at the rear of the new elevated building.

Council is responsible for waste collection. Collection times will be scheduled to occur during early mornings to minimise disruption to students. Bins will be transferred from the waste storage area to the collection point on River Drive.

2.3.11 Infrastructure and Services

An Infrastructure Services Statement has been prepared by JHA (**Appendix CC**).

Water

The site is not currently serviced by water mains. Therefore, two (2) x 34,000L rainwater tanks will be installed at the rear of the proposed elevated school building. An appropriate filtration system will be installed to ensure that the water is suitable for use as potable water.

Power and Communications

Power to the site will be fed from the existing power pole on River Drive and reticulated to the new main switch board (MSB) within the elevated school building.

An existing communications pit is located at the front of the site. New fibre optic cable will be connected to the communications room.

Emergency Fire Fighting Equipment

Under the BCA, a fire hydrant system must be installed in accordance with the requirements of AS 2419.1 *Fire hydrant installations – System Design Installation and Commissioning* in order to facilitate NSW Fire and Rescue's firefighting operations. The fire hydrant system comprises:

- Hydrant booster assembly and external fire hydrant located adjacent to the street frontage on River Drive.
- Hydrant pump house and two (2) x 72,000L fire tank located adjacent to the north-east site boundary.

On-site Sewage Management Systems

An On-Site Wastewater and Effluent Disposal report has been prepared by Taylor Environmental (**Appendix DD**). It is proposed to decommission and remove the existing on-site sewage management system (OSSMS) and install a new OSSMS that comprises the installation of:

- 3,000L all-waste septic tank.
- Advanced secondary nutrient reduction aerated waste treatment system (AWTS).
- New Wisconsin Mound located adjacent to the existing mound with a total area of approximately 32.6m x 9.6m.

2.3.12 BCA and Access

A BCA Design Compliance Report has been prepared by MBC Group that provides an assessment of the proposed works at Empire Vale Public School against the relevant provisions of the BCA (**Appendix T**). The BCA Design Compliance Report confirms that the proposed activity is capable of complying with the relevant provisions of the BCA, subject to the recommendations of the report as well as the performance solutions detailed in the Fire Engineering Brief Questionnaire (FEBQ) prepared by E-Lab (**Appendix U**). A copy of the FEBQ was submitted to Fire and Rescue NSW for consultation on 20 September 2023.

An Access Assessment Report has been prepared by MBC Group to address the relevant requirements of the Commonwealth Disability Discrimination Act 1992, Disability (Access to Premises) Standards 2010, BCA and relevant Australian Standards. The Access Assessment Report confirms that the proposed activity is capable of complying with the relevant accessibility provisions of the BCA, subject to the recommendations of the report. The final activity will be documented as being capable of fulfilling the requirements of section 6.28 of the EP&A Act, as is required for Crown building works.

2.3.13 Operations

The school had an enrolment of 26 students and 5 full-time equivalent (FTE) staff (2022). The school hours of operation are between 8:30am and 3:30pm during school term, with limited usage outside of these hours. The school does not have an out-of-school-hours (OOSH) facility.

The proposed flood recovery works do not seek to increase staff or student numbers at Empire Vale Public School. No changes to the school's existing operations are proposed.

2.3.14 Construction Management

A Construction Management Plan (CMP) has been prepared by ADCO to outline the general construction management principles and controls to be implemented on site (**Appendix FF**). This is supported by the Waste Management Plan prepared by MRA (**Appendix EE**), Construction Traffic Management Plan (CTMP) prepared by ptc (**Appendix GG**) and Construction Noise and Vibration Management Plan prepared by Acoustic Logic (**Appendix HH**).

Construction Sequencing

The activity will be constructed in three (3) stages. Generally, the construction sequencing of the works will comprise:

- Stage 1 – Early Works:
 - Site establishment including installation of temporary fencing, site surveying and substrate testing.
 - Establishment of construction laydown area, construction vehicle entrance and site office and amenities.
 - Decommissioning of the existing flood-affected school buildings from all services.
 - Demolition of the existing flood-affected school buildings and removal of any hazardous building materials.
- Stage 2 – Substructure and Civil works:
 - Construction of building foundations and piling.
 - Removal and disposal of spoil from site including appropriate classification and handling of any contaminated materials.
 - Excavation and installation of underground building services.
- Stage 3 – Main building works and completion:
 - Construction of elevated platform for the new school to be placed on.
 - Off-site construction of new modular school facilities and craned into position.
 - Connection of new building services.
 - Fit-out of new building.
 - Completion of landscape works and any make-good site works.
 - Relocation of students and staff back to school once commissioning and handover is complete.

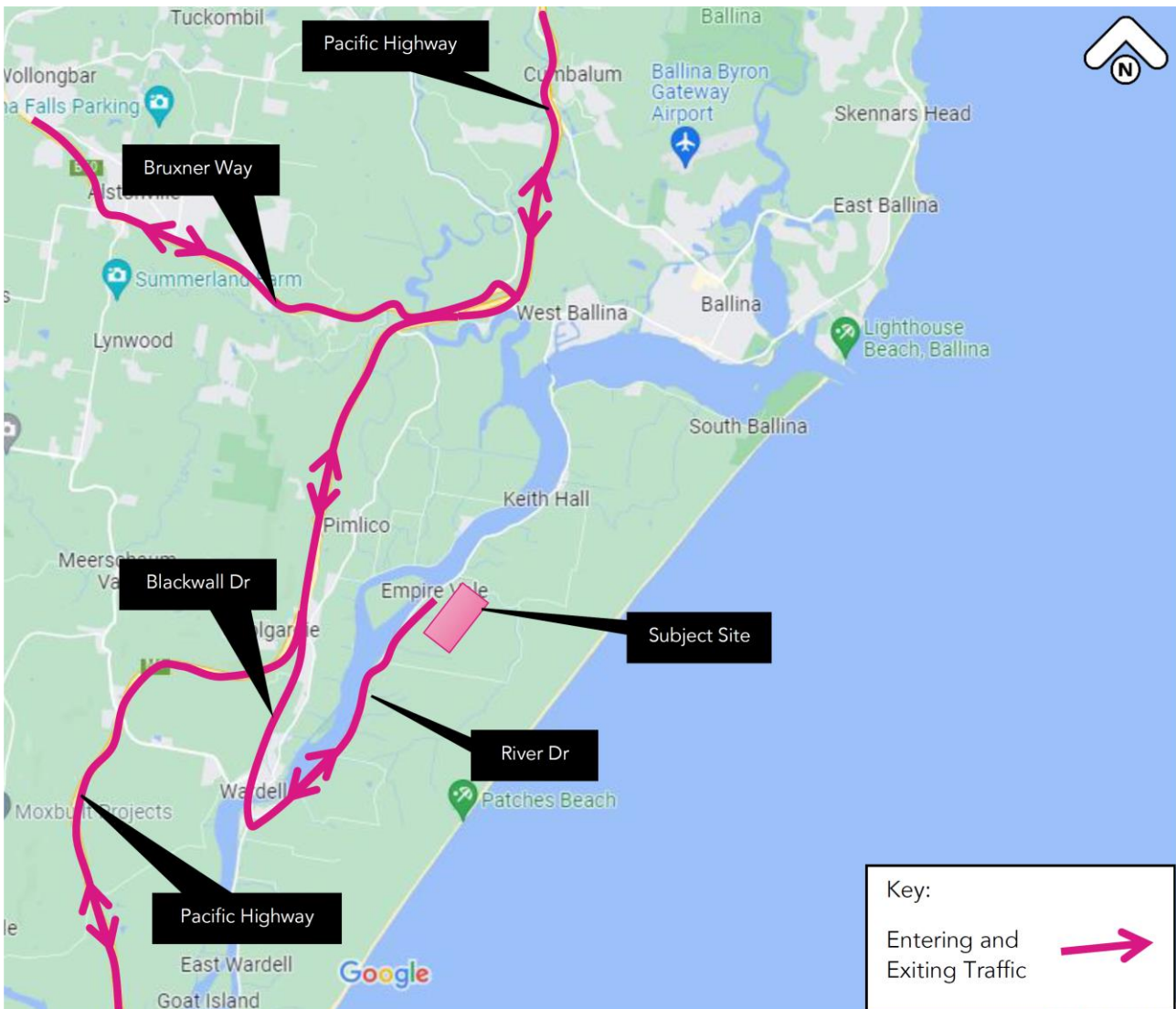


Figure 11 Proposed construction vehicle ingress and egress routes (Source: ptc)

Construction Waste

Construction and demolition waste will be managed in accordance with the requirements of the NSW Environment Protection Authority (EPA). Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling process. A waste storage area will be established on site and will be sufficient to store the various waste streams expected during construction. All materials to be removed from site will be analysed and classified by an appropriately qualified consultation in accordance with the *Protection of the Environment Operations (Waste) Regulation 2014* and the EPA's *Waste Classification Guidelines*.

Working around Staff and Students

The school is currently not in use. No staff and students will be allowed to return to the school until after the new building has been commissioned.

2.4 Alternatives Considered

The Division 5.1 Guidelines require that the REF describe any alternatives considered with sufficient detail to understand the differences between the proposal and the alternatives (including the “do nothing” alternative). The following table provides a summary of alternative options considered by the NSW Department of Education.

Table 6 Alternative Options Considered	
Option	Description
1	Do Nothing: The school was rendered uninhabitable following the February / March 2022 floods. This option would result in the cessation of the use of the site as an educational establishment, which has been operation since 1891 and provides educational (primary school) facilities to the local residents of Empire Vale, Keith Hall, South Ballina and Patchs Beach. This option is unacceptable and has not been pursued.
2	Locate elsewhere: As a result of the 2022 floods, the school has been temporarily relocated to Southern Cross Public School located in Ballina East. The existing Empire Vale Public School provides an important community facility for the local residents. Similar to Option 1, this option would result in the cessation of the use of the site as an educational establishment and therefore, this option is unacceptable and has not been pursued.
3	Re-build / repair existing buildings: The existing buildings at Empire Vale Public School were badly damaged during the 2022 floods. The existing finished floor levels of these buildings doesn't comply with current minimum flood planning levels and therefore, in order to make the existing buildings flood resilient they would need to be raised. This option was considered impractical due to the age and condition of the existing buildings. The exception is that it is proposed to retain Building B and the associated COLA as this building is identified as a heritage item under the Department of Education's section 170 Heritage and Conservation Register.
4	Alternative layouts: A number of alternative layouts were considered for the new elevated school building. However, these options were discarded as they didn't meet Department of Education or school operational requirements, had adverse impacts on the significance of Building B or other environmental impacts that couldn't be adequately mitigated.
5	Preferred option: The preferred option utilises the Department of Education's standardised approach. It has been selected to balance the school's operational requirements with the environmental constraints of the site including flooding, biodiversity, heritage and bushfire. New elevated building is located within a similar footprint to the existing single-storey school buildings and retains the existing play fields on the northern part of the site.

3 Statutory Framework

The proposed works as described in **Section 2** are required to be assessed “to the fullest extent possible” against the applicable statutory framework pursuant to Part 5 of the EP&A Act, and must take into account the environmental factors set out in Section 171 of the EP&A Regulation.

This section of the REF will provide an overview of the planning context of the site.

3.1 Planning Overview

The following table provides an overview of the planning context of the site.

Table 7 Planning Overview	
Planning Matter	Assessment
Local Environmental Plan (LEP)	Ballina Local Environmental Plan 2012 (the Ballina LEP)
Zoning	RU1 Primary Production (the RU1 zone)
Permissibility	Works are located within the boundary of an existing school.
Floor Space Ratio (FSR) Control	N/A
Acid Sulfate Soils	Class 2
Height of Building (HOB) Control	8.5m
Is the site flood prone land?	Yes
Does the site comprise bushfire prone land?	No. The site is not mapped as bush fire prone land on Council’s bush fire prone land map.
Is the site listed as a heritage item or is it within a heritage conservation area?	Yes. The site is mapped as containing a local heritage item listed under Schedule 5 of the LEP being Item I62 ‘Tramlines across River Drive’ (multiple locations). The site is not located in a heritage conservation area. The site contains a local heritage item listed under the Department of Education’s Section 170 Heritage and Conservation Register being Item B00B brick library building.
List any other environmental constraints identified as applying to the site.	Site is mapped as being located within the ‘coastal environmental area’ and ‘coastal use area’ under Chapter 2 of <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> (B&C SEPP). Site is also partially mapped as being located within the “proximity area for coastal wetlands”.

A Section 10.7(2)&(5) Planning Certificate has been obtained from Ballina Shire Council and is provided as **Appendix D** to this REF.

3.2 Environmental Planning and Assessment Act 1979

The proposed activity is consistent with the objects of the EP&A Act as outlined in **Table 8**.

Table 8 Consideration of the Objects of the EP&A Act	
Object	Comment
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and	The proposed activity will result in the demolition of existing school buildings that were damaged in the February / March 2022 floods and are no longer habitable, and construction of a new elevated school building. The activity will reinstate a significant social and

Table 8 Consideration of the Objects of the EP&A Act	
Object	Comment
conservation of the State's natural and other resources,	community asset that provides educational opportunities for local primary-aged students.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The principles of ecologically sustainable development have been integrated into the design and planning of proposed activity. The new building targets a four (4) star Green Star Design & As built v1.3 building certification equivalency, as well as compliance with the sustainability requirements under the Educational Facilities Standards and Guidelines (EFSG) and exceeding the requirements of section J of the NCC (refer to Sections 2.3.8 and 5.2.14).
(c) to promote the orderly and economic use and development of land,	The proposal involves the rebuilding of an existing educational establishment that was damaged in the February / March 2022 floods that provides public educational facilities for primary-aged children that are residents of Empire Vale, Keith Hall, South Ballina and Patch's Beach. The proposal represents orderly and economic use and development of the land.
(d) to promote the delivery and maintenance of affordable housing,	N/A
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The proposal will not result in any adverse impacts on the environment, conservation of threatened and other species of native animals and plants, ecological communities or their habitats (refer to Sections 3.7.1, 3.7.2, 3.7.3 and 5.2.9).
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	<p>A Statement of Heritage Impact (SOHI) has been prepared to assess the impacts of the proposed activity on historical built and cultural heritage. The works include maintenance and conservation works to Building B to ensure its ongoing viability.</p> <p>An Aboriginal Cultural Due Diligence report identified that the possibility of impacting any Aboriginal objects or subsurface archaeological deposits is low (refer to Sections 3.7.5 and 5.2.7).</p> <p>A Connecting with Country consultant has been engaged to provide advice to embed the principles of Country into the planning and design of the proposed activity.</p>
(g) to promote good design and amenity of the built environment,	The proposal has been designed in accordance with the EFSG and the Better Placed – Design Guide for Schools. The proposed activity has been reviewed by School Infrastructure NSW (SINSW) technical stakeholders.
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	<p>The proposed activity has been designed with regard to the requirements of the EFSG and has been subject to Safety in Design reviews to ensure that appropriate control measures are integrated into the design to eliminate, or, if this is not reasonably practicable, minimise risks to health and safety throughout the life of the new buildings.</p> <p>A Construction Management Plan has been prepared to identify relevant management measures during the demolition and construction process (refer to Section 2.3.14 and 5.2.15).</p>
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The proposed activity is being undertaken as 'development permitted without consent' under Part 5 of the EP&A Act, with the NSW Department of Education as the proponent and determining authority.

Table 8 Consideration of the Objects of the EP&A Act	
Object	Comment
	Consultation has occurred with Ballina Shire Council, State Emergency Services and the Rural Fire Service in relation to the proposed activity (refer to Section 4).
<i>(j) to provide increased opportunity for community participation in environmental planning and assessment.</i>	Notification of occupiers of adjoining properties has occurred in accordance with the statutory requirements of the T&I SEPP (refer to Section 4.4). In addition, the Department of Education / School Infrastructure NSW has undertaken consultation with key internal and external community stakeholders (refer to Section 4.5).

Part 5 of the EP&A Act permits activities to be assessed by a determining authority. Pursuant to Section 5.1 of the EP&A Act, the proposal is an “activity”. For the purposes of the proposal, the NSW Department of Education is the proponent and determining authority.

Section 5.5(1) of the EP&A Act states as follows:

For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a determining authority in its consideration of an activity shall, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.

Therefore, Department of Education is required to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.

Section 5.5(3) of the EP&A Act requires consideration of the effects of the activity on any wilderness area (within the meaning of the *Wilderness Act 1987*) in the locality of the activity. The proposed activity is not located within the vicinity of any wilderness areas with Bundjalung National Park being located approximately 40 kilometres to the south of the school.

Section 6.28 of the EP&A Act applies to the works as they are being carried out on behalf of a public authority; and requires that the works do not commence unless it is certified to “comply with the Building Code of Australia”. Pursuant to section 6.28(2) of the EP&A Act, the proposed activity is subject to compliance with the relevant requirements of the BCA as in force at the time of the date of the invitation for tender to carry out the Crown building work. As the date of invitation for tenders was made prior to the 1 May 2023, the BCA in force is BCA 2019 Amendment 1.

A BCA Assessment has been prepared by Modern Building Consultants Pty Ltd (**Appendix T**) which confirms that the proposal has been designed to meet the applicable requirements of the Building Code of Australia (refer to **Section 2.3.12**). This is supported by a Fire Engineering Brief Questionnaire (FEBQ) prepared by E-Lab that provides details of the proposed performance solutions for consultation with the Fire and Rescue NSW (**Appendix U**). The FEBQ was lodged with Fire and Rescue NSW on 20 September 2023.

3.3 Environmental Planning and Assessment Regulation 2021

In conducting its assessment under Part 5 of the EP&A Act, the NSW Department of Education is required to consider the environmental factors listed in the Division 5.1 Guidelines, which are also listed in Section 171(2) of the EP&A Regulation. These are addressed in **Section 5.3** of this REF.

In accordance with Section 171(4) of the EP&A Regulation, a REF must be published on the determining authority's website or the NSW Planning Portal only if:

- (a) the activity has a capital investment value of more than \$5 million, or
- (b) The activity requires an approval or permit as referred to in any of the following provisions before it may be carried out –
 - (i) Fisheries Management Act 1994, section 144, 200, 205 or 219,
 - (ii) Heritage Act 1977, section 57,
 - (iii) National Parks and Wildlife Act 1974, section 90,

- (iv) Protection of the Environment Operation Act 1997, sections 47-49 or 122, or
- (c) The determining authority considers that it is in the public interest to publish the review.

The proposed activity has a CIV of more than \$5 million and it is considered to be in the public interest to publish the review, therefore the REF will be published on the School Infrastructure NSW website.

Section 171A of the EP&A Regulation requires the consideration of the impact of an activity in a regulated catchment. The site is not located within a regulated catchment as defined under Schedule 6 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (B&C SEPP).

3.4 State Environmental Planning Policies

3.4.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The works are proposed to be carried out as development permitted without consent pursuant to the provisions of the T&I SEPP. **Table 9** provides an assessment against Part 3.4 of the T&I SEPP.

Table 9 Part 3.4 Schools – specific development controls		
Relevant Provision	Assessment	Complies
s3.34 Interpretation	The RU1 zone is not a prescribed zone for the purposes of schools pursuant to section 3.34 of the T&I SEPP. The works are permissible pursuant to section 3.37(1) of the T&I SEPP as they are being carried out by a public authority on land within the boundaries of an existing school (refer to Table 10).	N/A
s3.35 Development for the purposes of campus student accommodation	The proposed activity does not comprise campus student accommodation.	N/A
s3.36 Schools – development permitted with consent	The proposed activity does not constitute development permitted with consent. Further assessment against the provisions of section 3.36 of the T&I SEPP is not required.	N/A
s3.37 Schools – development permitted without consent	Refer to Table 10 below.	Yes
s3.38 Notification of carrying out of certain development without consent	Section 3.38 of the T&I SEPP sets out consultation requirements for development permitted without consent including consultation with the Council for the area in which the land is located as well as occupiers of adjoining sites. These provisions are discussed in Section 4 of this REF.	Yes
s3.39 Existing and approved schools – exempt development	The proposed activity does not comprise exempt development pursuant to section 3.39 of the T&I SEPP.	N/A
s3.40 Existing and approved schools – complying development	Complying development is unable to be undertaken on the site as it has high hazard flood affectation and contains Class 2 Acid Sulfate Soils Map.	N/A
s3.41 School-based child care – complying development	The works are not being undertaken as complying development.	N/A
s3.42 Complying development certificates – additional conditions	The works are not being undertaken as complying development.	N/A
s3.43 State significant development for the purposes of schools – application of development standards in environmental planning instruments.	This section relates to development that is being undertaken as State Significant development and therefore, the provisions of this section are not applicable.	N/A

Table 10 provides an assessment of the proposal against the relevant provisions of Section 3.37 of the T&I SEPP is provided in the following table:

Table 10 Assessment against Section 3.37 of the T&I SEPP

Relevant Provision	Assessment	Complies
Section 3.37 Schools – development permitted without consent		
(1) Development for any of the following purposes may be carried out by or on behalf of a public authority without development consent on land within the boundaries of an existing or approved school—	The proposed activity is being carried out by a public authority being the NSW Department of Education within the boundary of the existing Empire Vale Public School.	Yes
(a) construction, operation or maintenance, more than 5 metres from any property boundary with land in a residential zone and more than 1 metre from any property boundary with land in any other zone, of—	The site is zoned RU1 under the Ballina LEP and therefore, the new building must be located a minimum of 1 metre from any property boundary.	Yes
(i) a library or an administration building that is not more than 2 storeys high, or	The proposed activity includes the construction of a library and administration building that is not more than two (2) storeys high and that is located more than 1 metre from any property boundary with land located within a non-residential zone.	Yes
(ii) a portable classroom (including a modular or prefabricated classroom) that is not more than 2 storeys high, or	The proposed activity includes the construction of a modular classroom building that is not more than two (2) storeys high and that is located more than 1 metre from any property boundary with land located within a non-residential zone.	Yes
(v) a cafeteria or canteen that is not more than 2 storeys high and carried out in accordance with AS 4674—2004, <i>Design, construction and fit-out of food premises</i> , published by Standards Australia on 11 February 2004, or	The proposed activity incorporates a canteen that is not more than two (2) storeys high and that is located more than 1 metre from any property boundary with land located within a non-residential zone. The canteen will be carried out in accordance with the requirements of AS 4674 – 2004.	Yes
(e) demolition of structures or buildings (unless a State heritage item or local heritage item).	The proposed activity includes the demolition of structures and buildings. These structures and buildings are not identified as State or local heritage items.	Yes
(2) Subsection (1) applies only if the development does not require an alteration of traffic arrangements, for example, a new vehicular access point to the school or a change in location of an existing vehicular access point to the school.	The proposed activity does not require any alterations to existing traffic arrangements to the site.	Yes
(3) Subsection (1)(a) applies only if the development does not result in a prohibited increase in student or staff numbers	The proposed activity does not seek to increase student or staff numbers. The activity will not result in a 'prohibited increased in student or staff numbers' as defined under section 3.37(7) of the T&I SEPP.	Yes

Table 10 Assessment against Section 3.37 of the T&I SEPP

Relevant Provision	Assessment	Complies
<p>(4) Nothing in this section authorises the carrying out of development in contravention of any existing condition of the development consent currently operating (other than a complying development certificate) that applies to any part of the school, relating to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers.</p>	<p>A review of the development consents currently operating for the site (refer to Section 1.8 and Appendix E) has not identified any relevant conditions of consent relating to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers. Therefore, the proposed activity will not result in the contravention of any existing conditions of any development consent currently operating on the site.</p>	<p>Yes</p>
<p>(5) A reference in this section to development for a purpose referred to in subsection (1)(a), (b) or (c) includes a reference to development for the purpose of construction works in connection with the purpose referred to in subsection (1)(a), (b) or (c).</p>	<p>Noted</p>	<p>Yes</p>
<p>(6) This section does not apply to development for the purposes of campus student accommodation.</p>	<p>Noted. The proposed activity is not for the purposes of campus student accommodation.</p>	<p>N/A</p>
<p>(7) In this section— prohibited increase in student or staff numbers means— (a) an increase in the number of students that the school can accommodate that is more than the greater of 10% or 30 students, compared with the average number of students for the 12 months immediately before the commencement of the development, or (b) an increase in the number of staff employed at the school that is more than 10%, compared with the average number of staff for the 12 months immediately before the commencement of the development.</p>	<p>The proposed activity will replace damaged facilities and will not result in a prohibited increase in student or staff as defined in section 3.37(7) of the T&I SEPP.</p>	<p>Yes</p>

3.4.2 Any other SEPPs that are relevant

Other State Environmental Planning Policies (SEPPs) that are relevant to the proposed activity comprise:

- *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (B&C SEPP)
 - Chapter 3: Koala Habitat Protection 2020
- *State Environmental Planning Policy (Resilience and Hazards) 2021* (R&H SEPP)
 - Chapter 2: Coastal Management
 - Chapter 4: Remediation
- *State Environmental Planning Policy (Primary Production) 2021* (PP SEPP)
 - Chapter 2: Primary production and rural development

The following sections of the REF consider the aims and objectives of the relevant SEPPs.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 3 (Koala Habitat Protection 2020) of the B&C SEPP applies to land zoned RU1 located within the Ballina LGA. The aim of Chapter 3 of the B&C SEPP is to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

As identified in the Flora and Fauna Assessment Report prepared by Kleinfelder, the site contains (potential) koala feed tree species (**Appendix AA**). However, the site is not identified as 'core koala habitat' under the *Ballina Shire Koala Management Strategy* (July 2017) and is located approximately 2.4 kilometres from the closest koala habitat (on the opposite side of Richmond River). The school is located adjacent to cane fields with no connectivity to the closest Koala Habitat. Therefore, it is considered unlikely that the proposed activity will impact upon any koala habitat. Nevertheless, suitable mitigation measures have been identified in **Section 5.2.9** and **Appendix B** to ameliorate any impacts on koala habitat.

State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 2: Coastal Management

The *Coastal Management Act 2016* (CM Act) was gazetted by the NSW Government on 3 April 2018, replacing the *Coastal Protection Act 1979*. It establishes a new strategic framework and objectives for managing NSW coastal areas.

Chapter 2 of the R&H SEPP gives effect to the objectives of the CM Act. The aim of Chapter 2 of the R&H SEPP is to promote an integrated and co-ordinated approach to land use planning in the coastal zone consistent with the objects of the CM Act, including the management objectives for each coastal management area.

The site is mapped as being located within the 'coastal environment area' and 'coastal use area' under Chapter 2 of the R&H SEPP. The site is also partially mapped as being located in the 'proximity area for coastal wetlands' (**Figure 12**).

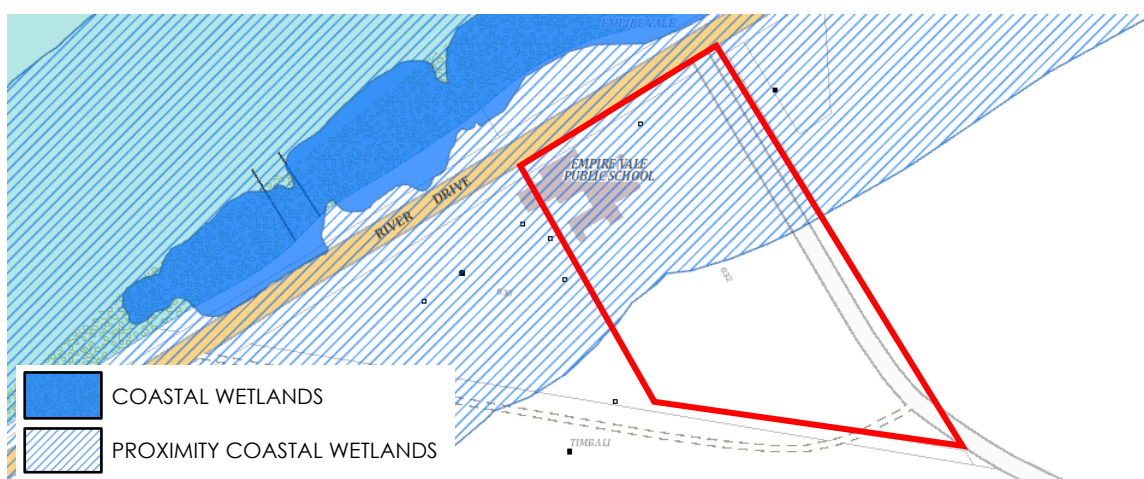


Figure 12 Extract of Coastal wetlands map (Source: ePlanning Spatial Viewer)

Under the CM Act, the following definitions apply to land within the coastal zone:

The **coastal wetlands and littoral rainforests** area means the land identified by a State environmental planning policy to be the coastal wetlands and littoral rainforests area for the purposes of this Act, being land which displays the hydrological and floristic characteristics of coastal wetlands or littoral rainforests and land adjoining those features.

The **coastal environment area** means the land identified by a State environmental planning policy to be the coastal environment area for the purposes of this Act, being land containing coastal features such as the coastal waters of the State, estuaries, coastal lakes, coastal lagoons and land adjoining those features, including headlands and rock platforms.

The **coastal use area** means the land identified by a State environmental planning policy to be the coastal use area for the purposes of this Act, being land adjacent to coastal waters, estuaries, coastal lakes and lagoons where development is or may be carried out (at present or in the future).

Table 11 provides an assessment against the relevant provisions of Chapter 2 of the R&H SEPP.

Table 11 Assessment against relevant provisions of Chapter 2 of the R&H SEPP		
Provision	Assessment	Consistent
<p>s2.8 Development on land in proximity to coastal wetland or littoral rainforest</p> <p>(1) Development consent must not be granted to development on land identified as “proximity area for coastal wetlands” or “proximity area for littoral rainforest” on the <i>Coastal Wetlands and Littoral Rainforests Area Map</i> unless the consent authority is satisfied that the proposed development will not significantly impact on—</p> <p>(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or</p> <p>(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.</p> <p>(2) This section does not apply to land that is identified as “coastal wetlands” or “littoral rainforest” on the <i>Coastal Wetlands and Littoral Rainforests Area Map</i>.</p>	<p>The proposed activity includes works on land identified as ‘proximity area for coastal wetlands’ on the Coastal Wetland and Littoral Rainforests Area map (Figure 12).The proposed activity is located on the part of the site that has been previously disturbed.</p> <p>As noted in the Flora and Fauna Assessment prepared by Kleinfelder (Appendix AA), the proposed development will not have any direct impacts to coastal or aquatic habitats. Suitable mitigation measures have been identified to mitigate any indirect impacts on the biophysical, hydrological or ecological integrity of the adjacent coastal wetlands (refer to Section 5.2.9).</p> <p>Appropriate erosion and sediment control measures will be installed prior the commencement of the works to protect the quantity and quality of surface water to and from the adjacent coastal wetlands during the demolition and construction process (refer to Sections 2.3.7 and 5.2.12).</p> <p>The proposed stormwater drainage system has been designed in accordance with Council’s Stormwater Management Standards for Development Standards (2012). It incorporates water treatments and pollutant control removal devices to achieve Council’s water quality targets and ensure that the proposed activity does not adversely impact on the adjacent coastal wetlands.</p>	Yes
<p>s2.10 Development on land within the coastal environment area</p> <p>(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following—</p> <p>(a) the integrity and resilience of the biophysical, hydrological (surface</p>	<p>All of the site is mapped as being located within the ‘coastal environment area’ under Chapter 3 of the R&H SEPP.</p> <p>Subject to the implementation of the mitigation measures detailed in the Flora and Fauna Assessment, the proposed activity will not adversely impact on the biophysical, hydrological and ecological environment (Appendix AA).</p> <p>The new elevated building replaces existing buildings and therefore will affect any coastal environmental values or natural coastal process.</p> <p>Suitable erosion and sediment control measures will be implemented prior to the commencement of the activity to ensure that there are no impacts on the water quality of the</p>	Yes

Table 11 Assessment against relevant provisions of Chapter 2 of the R&H SEPP

Provision	Assessment	Consistent
<p>and groundwater) and ecological environment,</p> <p>(b) coastal environmental values and natural coastal processes,</p> <p>(c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,</p> <p>(d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,</p> <p>(e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,</p> <p>(f) Aboriginal cultural heritage, practices and places,</p> <p>(g) the use of the surf zone.</p>	<p>marine estate. No marine vegetation is proposed to be removed. Impacts on native vegetation and fauna and their habitats have been assessed by a suitably qualified ecologist who has concluded that the proposed activity will not have any impacts on any threatened ecological communities.</p> <p>The proposed activity will not impact on any existing public open space or impede safe access to and along any public open space including foreshores and beaches.</p> <p>An Aboriginal Heritage Due Diligence report has been completed that concludes that the site has a low archaeological sensitivity and therefore, the risk that the proposed activity may harm Aboriginal objects or subsurface archaeological objects is low. A mitigation measure is included in Appendix B in the event that any items of Aboriginal cultural significance are uncovered during the works. It is therefore considered that the proposed activity will have any adverse impacts on Aboriginal cultural heritage, practices or places. The principles of Connecting with Country have been incorporated into the design of the activity.</p> <p>The proposed activity will not impact upon use of the surf zone.</p> <p>Therefore, it is considered that the proposed activity is unlikely to have an adverse impact on land in the coastal environment area and is consistent with the management objectives set out in section 8(2) of the CM Act.</p>	
<p>s2.11 Development on land within the coastal use area</p> <p>(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority—</p> <p>(a) has considered whether the proposed development is likely to cause an adverse impact on the following—</p> <p>(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,</p> <p>(ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,</p> <p>(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,</p>	<p>The site is mapped as being in the coastal use area under Chapter 2 of the R&H SEPP. The proposed activity will not have any adverse impacts on existing, safe access to and along any foreshore, beach, headland or rock platform. The proposed activity will not result in any overshadowing, wind funnelling or loss of views from public places.</p> <p>There will be short terms impacts on the visual amenity and scenic qualities of the area during the demolition and construction works. These will be managed through the implementation of appropriate mitigation measures as set out in Appendix B. Long term, the proposed new elevated building and associated works will have a moderate impact on the visual amenity of the rural character of the precinct. However, this is considered to be appropriate as the design of the building responds to the flood constraints of the site (Section 5.2.8)</p> <p>The proposed activity will not have any impacts on Aboriginal cultural heritage, practices and places (refer to Section 5.2.7).</p> <p>A Statement of Heritage Impact (SOHI) has been prepared by EMM that provides an assessment of the impacts of the proposed activity on the heritage significance of the site and its surrounds. The SOHI concludes that the works will have a moderate heritage impact and provides recommendations to ameliorate these impacts (Section 5.2.6). In addition, an</p>	Yes

Table 11 Assessment against relevant provisions of Chapter 2 of the R&H SEPP		
Provision	Assessment	Consistent
(iv) Aboriginal cultural heritage, practices and places, (v) cultural and built environment heritage, and	Archaeological Research Design and Methodology provides recommendations in relation to an area of archaeological sensitivity located within the site.	
s2.12 Development in coastal zone generally – development not to increase risk of coastal hazards Development consent must not be granted to development on land within the coastal zone unless the consent authority is satisfied that the proposed development is not likely to cause increased risk of coastal hazards on that land or other land.	Coastal hazards are defined under section 4 of the CM Act as including beach erosion, shoreline recession, coastal lake or water entrance instability, coastal inundation, coastal cliff or slope instability, tidal inundation and erosion and inundation of foreshores caused by tidal waters and the action of waves. The site is subject to tidal inundation during the highest astronomical tide (HAT). The HAT for the period 1995 – 2014 at Balina Breakwall (mouth of the Richmond River) is RL 1.16m AHD. It is anticipated that potential sea level rise due to climate change will increase the HAT to RL 2.0m AHD (2100 sea level rise). The finished floor level of the elevated level is at RL 5.1m AHD which is above the HAT. The Civil Report prepared by Henry & Hymas (Appendix H) notes that the proposed activity will not have any impacts on tidal inundation as the proposed activity has a similar footprint to the existing school. In addition, the proposed activity will not increase the frequency of inundation.	Yes

Chapter 4: Remediation of Land

Chapter 4 of SEPP RH relates to remediation of contaminated land and requires, amongst other things, investigations to be undertaken as part of the development assessment process, to determine whether the subject land is likely to be contaminated and if so, what remediation work is required.

Depending on the level of contamination, remediation may be required with the consent (Category 1) or without the consent (Category 2) of the consent authority.

The State Government's publication *Managing Land Contamination: Planning Guidelines* sets out the process for consideration of land contamination. Based on an initial consideration of known historical land uses, the guidelines may require, in certain circumstances, one or more of the following steps:

- A Preliminary Investigation – where contamination is likely to be an issue.
- A Detailed investigation – where a Preliminary Investigation highlights the need for further detailed investigations or where it is known that the land is likely to be contaminated and/or that the proposed use would increase the risk of contamination.
- A Remedial Action Plan (RAP) – to set the objectives and process for remediation.
- Validation and Monitoring – to demonstrate that the objectives of the RAP and any conditions of development consent have been met.

A Contamination Investigation has been prepared by Tetra Tech Coffey to identify any potential contamination issues on the site and provide recommendations to manage these issues (**Appendix P**). Based on a desktop review of available records and observations, the following potential contamination sources were identified:

- Potential for hazardous building materials to impact the ground surface from flood damaged buildings.
- Likely presence of hazardous materials in existing flood impacted buildings.
- Potential for floodwaters to have deposited contaminated material on site.

Intrusive site investigations were undertaken at nine (9) sampling sites comprising five (5) surface samples and four (4) boreholes (**Figure 13**). Following laboratory testing, all results were below the site assessment criteria (SAC). Therefore, Tetra Tech Coffey concluded that:

- No unacceptable human health soil impacts were identified within the investigation area.
- No unacceptable ecological soil impacts were identified within the investigation area.

No site remediation is required and the site is suitable for the proposed activity subject to the implementation of an unexpected finds protocol (contamination) and appropriate waste/soil management. These have been incorporated into the mitigation measures in **Appendix B**.

In relation to Acid Sulfate Soils, the Contamination Investigation noted that no Acid Sulfate Soils (ASS) or Potential Acid Sulfate Soils (PASS) were detected in the shallow soil samples. However, it is likely that ASS could be present at depths of more than 1m below the existing ground level and these could be disturbed as a result of the use of driven piles. Therefore, an Acid Sulfate Soils Management Plan (ASSMP) has been prepared by Tetra Tech Coffey to mitigate the potential environmental impacts associated with ASS (**Appendix Q**). Mitigation and management measures detailed in the ASSMP have been incorporated in Appendix B of the REF (refer to **Section 5.2.5**).



Figure 13 Borehole and sampling locations Empire Vale (Source: Tetra Tech Coffey)

State Environmental Planning Policy (Primary Production) 2021

Chapter 2: Primary production and rural development

The aims of Chapter 2 of *State Environmental Planning Policy (Primary Production) 2021* (PP SEPP) include to facilitate the orderly use and development of primary production land; to reduce land use conflicts and sterilisation of rural land by balancing the requirements of primary production, residential development and the protection of native vegetation, biodiversity and water resources; and to consider the effects of development on oyster aquaculture.

Section 2.27 of the PP SEPP requires a consent authority to consider whether development may have an adverse impact on oyster aquaculture development or a priority oyster aquaculture development. This includes consideration of the Department of Primary Industries NSW *Oyster Industry Sustainable Aquaculture Strategy* (2021 Fourth Edition) (OISAS). In accordance with section 2.27 of the PP SEPP, a development may be incompatible with or impede oyster aquaculture if, for example, the development will limit access to oyster leases or have an impact on water quality and, consequently, on the health of oysters and consumers of those oysters.

The site is located approximately 5.1 kilometres from three (3) Priority Oyster Aquaculture Areas (POAA) and approximately 1.4 kilometres from two (2) available lease areas (**Figure 14**).

It is considered that the proposed activity is compatible with oyster aquaculture as follows:

- Appropriate water quality measures have been incorporated into the design of the stormwater management system (refer to **Section 5.2.12**).
- Appropriate erosion and sediment control measures will be established during demolition and construction to prevent contamination of the Richmond River.
- The on-site sewage management system (OSSMS) has been designed with regard to the environmental constraints of the site and includes mitigation measures to ensure flood immunity and minimise the potential for contamination in the event of a flood or tidal inundation (refer to **Section 5.2.18**).



Figure 14 Location of Priority Oyster Aquaculture Area (POAA) and available lease areas (Source: Fisheries NSW Spatial Data Portal)

3.5 Ballina Local Environmental Plan 2012

The site is zoned RU1 Primary Production (the RU1 zone) under the Ballina LEP. As the proposed development is proposed to be undertaken under Part 5 of the EP&A Act, the provisions of the T&I SEPP supersede any provisions under the LEP. Nevertheless, the following provisions of the LEP are relevant to the environmental assessment of the proposed activity:

- Clause 4.3 Height of Buildings: The site is subject to a maximum height of buildings development of 8.5m. The building has a maximum height of 8m (top of the lift overrun) above the existing ground level and therefore the proposed elevated building complies with this clause.
- Clause 4.3A Exceptions to height of building: This clause applies to land identified as "Minimum Level Australian Height Datum (AHD)" on the 'Building Height Allowance Map'. Under this clause, the maximum height of a building is measured from the minimum level AHD. For Empire Vale Public School, the minimum

level AHD is 2.7m AHD. Therefore, the maximum height of buildings is RL 11.2m AHD. The top of the lift overrun is RL 9.77m AHD and complies with clause 4.3A of the Ballina LEP.

- Clause 5.10 Heritage Conservation: The site is mapped as containing a local heritage item (Item 162 "Tramlines across River Drive"). The site also contains a local heritage item listed under the Department of Education's Section 170 Heritage and Conservation Register. A Statement of Heritage Impact (SOHI) has been prepared by EMM that provides an assessment of the impacts of the proposed activity on the heritage significance of the site with regard to the requirements of clause 5.10 of the Ballina LEP (**Sections 3.7.6 and 5.2.6**). An Archaeological Research Design and Methodology (ARDM) has been prepared by EMM in relation to an area of moderate to high archaeological potential located on the site and provide a methodology for undertaking subsurface investigations. An Aboriginal Heritage Due Diligence report has been prepared by EMM to consider the impacts of the proposed activity on any Aboriginal cultural heritage values located on the site (**Section 5.2.7**).
- Clause 5.21 Flood planning: The site is located within the flood planning area. A Civil Report that includes a flood impact assessment has been prepared by Henry & Hymas that assesses the impact of the proposed activity on flood function and behaviour including impacts on adjoining development as well as the safe occupation and efficient evacuation of people in the event of a flood (**Section 5.2.1**)
- Clause 7.1 Acid Sulfate Soils: The site is mapped as containing Class 2 Acid Sulfate Soils. An Acid Sulfate Soil Management Plan (ASSMP) has been prepared by Tetra Tech Coffey to assess the potential to encounter ASS and to reduce the potential environmental impacts associated with ASSS (**Section 5.2.5**).
- Section 7.7 Essential Services: The site will be supplied with adequate and appropriate levels of infrastructure servicing (**Section 5.2.18**).

3.6 Ballina Development Control Plan 2012

Ballina Development Control Plan 2012 (the Ballina DCP) provides a broad range of development and precinct planning controls. There are no controls which apply specifically to educational establishments, although general controls apply to all development including bushfire, heritage, flood and stormwater management.

It is noted that assessment against the DCP is not a mandatory consideration as the T&I SEPP is the relevant planning instrument for the proposed works and development without consent is not subject to local planning controls. Nevertheless, **Table 12** provides an assessment against key provisions with the Ballina DCP.

Table 12 Assessment against Ballina DCP	
Provision	Assessment
Chapter 2 – General and Environmental Considerations	
3.1 Land Use Conflict	<p>The site is zoned RU1 Primary Production under the Ballina LEP. The objective of Section 3.1 of the Ballina DCP is to minimise conflicts between agricultural land uses and other land uses, protect lawful agricultural land uses as well as significant environmental and natural resources. The proposed activity is consistent with the planning objectives of Section 3.1 for the following reasons:</p> <ul style="list-style-type: none"> • The site has been used as an educational establishment since 1891 and the land uses of school, rural residential and agricultural industry have co-existed since this time. • The school provides educational facilities for local residents of the Empire Vale, Keith Hall, South Ballina and Patches Beach. • The new elevated school building replaces existing school buildings and is located within a similar footprint to the existing school buildings. This maintains existing buffer distances between the school and the surrounding agricultural land uses to the north, east and south of the site. • The proposed activity doesn't involve any intensification of the current use of the school site, as it is not proposed to increase staff or student numbers. <p>The proposed activity does not encroach on any agricultural land or impact on the agricultural activity of the adjoining land.</p>
3.3 Natural Areas and Habitat	<p>The site is mapped in the '50m Buffer – Natural Areas & Habitat' on the Natural Areas & Habitat map under the Ballina DCP. A Flora and Fauna Assessment report has been prepared by</p>

Table 12 Assessment against Ballina DCP

Provision	Assessment
	Kleinfelder that provides an assessment of the impact of the proposed activity on the ecological and biodiversity values of the site (Appendix AA). The Flora and Fauna Assessment provides mitigation measures to protect the adjoining natural areas and habitat (Section 3.7.2 and Table 15).
3.4 Potentially Contaminated Land	As discussed in Section 3.4.2 , a Contamination Investigation has been undertaken by Tetra Tech Coffey (Appendix P) that identify any potential contamination issues on the site. The Contamination Investigation concludes that no site remediation is required, and that the site is suitable for its continuing use as an educational establishment, subject to the implementation of an unexpected finds protocol (contamination) and appropriate waste / soil management in accordance with EPA guidelines (Section 5.2.3).
3.5 Land Slip / Geotechnical Hazard	A Geotechnical Investigation has been prepared by Tetra Tech Coffey (Appendix O), which provides information about general subsurface ground conditions and groundwater. The Geotechnical Investigation provides recommendations into subgrade preparation and design of earthworks, retaining wall design and building foundations. Due to the highly compressible clayey soil, it is proposed to use driven piles to support the new elevated building. Recommendations from the Geotechnical Investigation have been integrated into the design of the new building, pavements and other structures (Section 5.2.4).
3.6 Mosquito Management	The site is mapped as 'coastal plains and lowlands' on the Mosquito Management map under the Ballina DCP. The proposed activity is not listed as a high-risk development under section 3.6.3(i) of the Ballina DCP, nevertheless all openings will be fitted with insect screening. In addition, consistent with section 3.6.3(iv), the new rainwater tanks will be fitted with appropriate screening to prevent entry to the tank by mosquitos. A mitigation measure has been identified in Appendix B requiring all insect screening to be adequately maintained. In addition, the stormwater management system should be designed to not hold water for longer than 48 hours so as to minimise the potential for the creation or enhancement of mosquito habitat and allow for easy maintenance.
3.7 Waste Management	A Waste Management Plan has been prepared by MRA Consulting Group to identify best practice waste management and promote sustainable outcomes at the demolition, construction and operational phases of the development (Appendix EE) (Section 5.2.13).
3.8 On-site sewage management systems	The site is not connected to Council's reticulated sewerage system. The proposed activity includes the removal of the existing septic tanks and installation of a new on-site sewage management system (OSSMS) (Section 5.2.18). The new OSSMS has been designed in accordance with the <i>Ballina Shire Council On-Site Sewage Management Strategy 2022</i> and <i>Ballina Shire Council On-site Sewage Management Guidelines 2017</i> (Section 5.2.18).
3.9 Stormwater management	A Stormwater Management Plan has been prepared by Henry & Hymas Consulting Engineers (Appendix H) in accordance with the requirements of the Ballina Shire Council Stormwater Management Standards for Development (Section 5.2.12).
3.10 Sediment and Erosion Control	A Sediment and Erosion Control Management Plan has been prepared by Henry & Hymas Consulting Engineers (Appendix H). It has been designed in accordance with the requirements of Landcom's <i>Managing Urban Stormwater – Soils and Construction</i> (the Blue Book). These measures will be applied prior to the commencement of the demolition and construction works.
3.11 Provision of Services	An Infrastructure Services Statement has been prepared by JHA (Appendix CC) that provides a description of the proposed infrastructure services to the site including potable water, power, communications, fire hydrant system and on-site sewage management system (Section 5.2.18).
3.12 Heritage	A Statement of Heritage Impact has been prepared by EMM to assess the impacts of the proposed activity on the heritage significance of the site (Sections 3.7.6 and 5.2.6). An Archaeological Research Design and Methodology has been prepared by EMM to provide

Table 12 Assessment against Ballina DCP	
Provision	Assessment
	<p>recommendations in relation to an area on the site identified as having moderate to high archaeological potential.</p> <p>An Aboriginal Heritage Due Diligence report has been prepared by EMM in relation to the potential for Aboriginal objects to be present on the site (Section 5.2.7).</p>
3.15 Crime Prevention Through Environmental Design	Section 5.2.17 of this REF provides an assessment against the principles of Crime Prevention Through Environmental Design (CPTED).
3.19 Car Parking and Access	<p>Under Section 3.19 of Chapter 2 of the Ballina DCP, the following car parking rates are required for educational establishments (primary):</p> <ul style="list-style-type: none"> • 1 space per 12 students; and • 1 space per 2 employees. <p>Based on these rates and a student population of 40 students and nine (9) staff, a total of eight (8) spaces are required.</p> <p>The existing school doesn't have any existing off-street car parking. The proposed activity comprises replacement of existing school facilities that were damaged in the 2022 floods and does not seek to increase the number of staff or students on the site. Therefore, no changes to existing parking arrangements are proposed.</p> <p>The existing driveway along the south-west boundary will be retained, which provides access for service and maintenance vehicles to the site.</p>
3.20 Vibration	A Construction Noise and Vibration Management Plan (CNVMP) has been prepared by Acoustic Logic (Appendix HH) to identify likely sources of noise and vibration generation during the demolition and construction process and the impacts on adjoining development. The CNVMP provides recommendations to mitigate any potential noise impacts during demolition and construction. (Section Figure 28).
3.21 Bushfire Management	Whilst the site is not currently mapped as bushfire prone land on Council's bushfire prone land map, a Bushfire Impact Assessment report has been prepared by BlackAsh Bushfire Consulting that provides an assessment against the relevant provisions of Planning for Bushfire Protection 2019 (refer to Section 5.2.2).
Chapter 2b – Floodplain Management	
	<p>The school was badly damaged as a result of the February / March 2022 floods. The site is located within the 'high' flood risk precinct under Chapter 2b of the Ballina DCP, which is defined as:</p> <p style="padding-left: 40px;"><i>Areas outside of Extreme Flood Risk areas which, if completely filled or developed, would cause an unacceptable change in flood behaviour. Filling or development would not normally be acceptable. Dangerous flood conditions occur here.</i></p> <p>The proposed elevated building has been designed in accordance with the development controls under Chapter 2b the Ballina DCP including determination of Flood Planning Levels and Design Floor Levels, development standards and material selection. A detailed assessment against Chapter 2b of the Ballina DCP is provided in the Civil Report prepared by Henry and Hymas (Appendix H).</p>
Chapter 7 – Rural living and activity	
3.8 Building Lines and Setback	<p>Under section 3.8.3 of Chapter 7 of the Ballina DCP, the following setbacks are required:</p> <ul style="list-style-type: none"> • Front Boundary = 20m (sealed road) • Side Boundary = 10m

Table 12 Assessment against Ballina DCP

Provision	Assessment
	<p>Whilst the proposed activity doesn't comply with these setbacks, it is considered that the location of the elevated school building is consistent with the planning objectives under section 3.8.2 because:</p> <ul style="list-style-type: none"> • The setbacks comply with the minimum setback requirements under section 3.37(1)(a) of the T&I SEPP. • The new building is in a similar location as the existing school buildings and does not increase the potential for land use conflict. • The new elevated building does not result in unacceptable amenity impacts on the adjoining properties.

3.7 Additional Relevant Legislation

3.7.1 Environment Protection and Biodiversity Conservation Act 1999

Under the Commonwealth EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land.

The EPBC Act aims to protect the environment, especially matters of national environmental significance (MNES), conserve Australian biodiversity and heritage, provide a co-operative approach to the protection and management of the environment to assist in the co-operative implementation of Australia's international environmental responsibilities, promote ecologically sustainable development, recognise the role of Indigenous people and promote the use of their knowledge of biodiversity.

As outlined in **Table 13** and within the Flora and Fauna Assessment Report prepared by Kleinfelder (**Appendix AA**), a referral for assessment and approval under the EPBC Act is not required in this instance as the proposed activity will not significantly affect any nationally listed species, populations, endangered ecological communities, and migratory species. Further, the proposed activity will not significantly impact a Commonwealth marine area, the Great Barrier Reef Marine Park, or water resources, and will not involve a nuclear action.

Further, the provisions of the EPBC Act do not affect the proposed activity as it is not development that takes place on or affects Commonwealth land or waters, is not development carried out by Commonwealth agencies, nor will the proposed activity significantly impact a matter considered to be of national environmental significance.

An assessment against the relevant MNES is provided in the table below.

Table 13 Matters of National Environmental Significance

Factor	Triggered
Any significant impact on a declared World Heritage Property?	Nil
Any significant impact on a National Heritage place?	Nil
Any significant impact on a declared RAMSAR wetland?	Nil
Any significant impact on Commonwealth listed threatened species or endangered community?	Nil
Any significant impact on Commonwealth listed migratory species?	Nil
Does any part of the proposal involve nuclear actions?	Nil
Any significant impact on Commonwealth marine areas?	Nil
Any significant impact on the Great Barrier Reef Marine Park?	Nil
Any significant impact on Commonwealth land?	Nil

3.7.2 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (the BC Act) commenced on 25 August 2017 and repealed the *Threatened Species Conservation Act 1995*, *Nature Conservation Trust Act 2001* and *Native Vegetation Act 2003*.

Section 7.8 of the BC Act relates to biodiversity assessment for a Part 5 activities and provides that an activity under Part 5 of the EP&A Act that is “likely to significantly affected threatened species” is considered to be an activity that is “likely to significantly affect the environment”. In this circumstance, an environmental impact statement (EIS) is required and must include or be accompanied by a species impact statement (SIS) or Biodiversity Development Assessment Report (BDAR). However, an EIS is not required if the likely significant effect on threatened species is the only likely significant effect on the environment. In this situation, a SIS or BDAR is still required.

In accordance with section 7.2 of the BC Act, an activity is likely to significantly affect threatened species if it is:

- (a) likely to “significantly affect threatened species or ecological communities, or their habitats” in accordance with section 7.3 of the BC Act; or
- (b) carried out in a declared area of outstanding biodiversity value.

In accordance with section 7.2(2) of the BC Act, the biodiversity offsets scheme does not apply to an activity under Part 5 of the EP&A Act. Under the Division 5.1 Guidelines, a REF must record how the test of significance under section 7.3 of the BC Act has been applied and the conclusions reached. This is detailed in the following discussion.

Existing flora and fauna

A Flora and Fauna Assessment Report has been prepared by Kleinfelder that provides an assessment against sections 7.3 and 7.8 of the BC Act (**Appendix AA**).

Based on desktop research and a site survey carried out on 11 August 2022, the following vegetation communities have been identified on the site:

- Zone 1: Planted Vegetation (0.2290 hectares)
- Zone 2: Managed Lawns (0.8415 hectares)
- Zone 3: Exotic Grassland (0.3784 hectares)
- Zone 4: Overgrown Dam (0.0033 hectares)

The location of these vegetation communities is provided in **Figure 15**. None of these vegetation communities correspond to Plant Community Types (PCTs) and there are no Threatened Ecological Communities (TECs) identified on the site.

A total of 25 native flora species were detected on the site. However, none of these flora species are threatened flora species. A search of the NSW BioNet Atlas returned 22 records of threatened plant species within a five (5) kilometre radius of the site. An EPBC Protected Matters search provided a list of 19 additional threatened plant species predicted to occur within the locality. A ‘likelihood of occurrence’ (LoO) assessment undertaken by Kleinfelder determined that no threatened flora species have a moderate or high likelihood of occurrence within the school site.

All existing vegetation on the site is highly managed and there is no leaf litter, logs, trees or shrub cover that would otherwise provide habitat for fauna. A total of 25 native fauna species were identified during the site survey. However, none of these fauna species are threatened fauna species. A NSW BioNet Atlas search returned a list of 41 terrestrial threatened fauna species within five (5) kilometres of the site. An EPBC Protected Matters Search returned an additional 21 threatened fauna species predicted to occur within the locality. A LoO assessment determined that no threatened fauna species had a moderate or high likelihood of occurrence within the site, based on the site having largely unsuitable habitat.

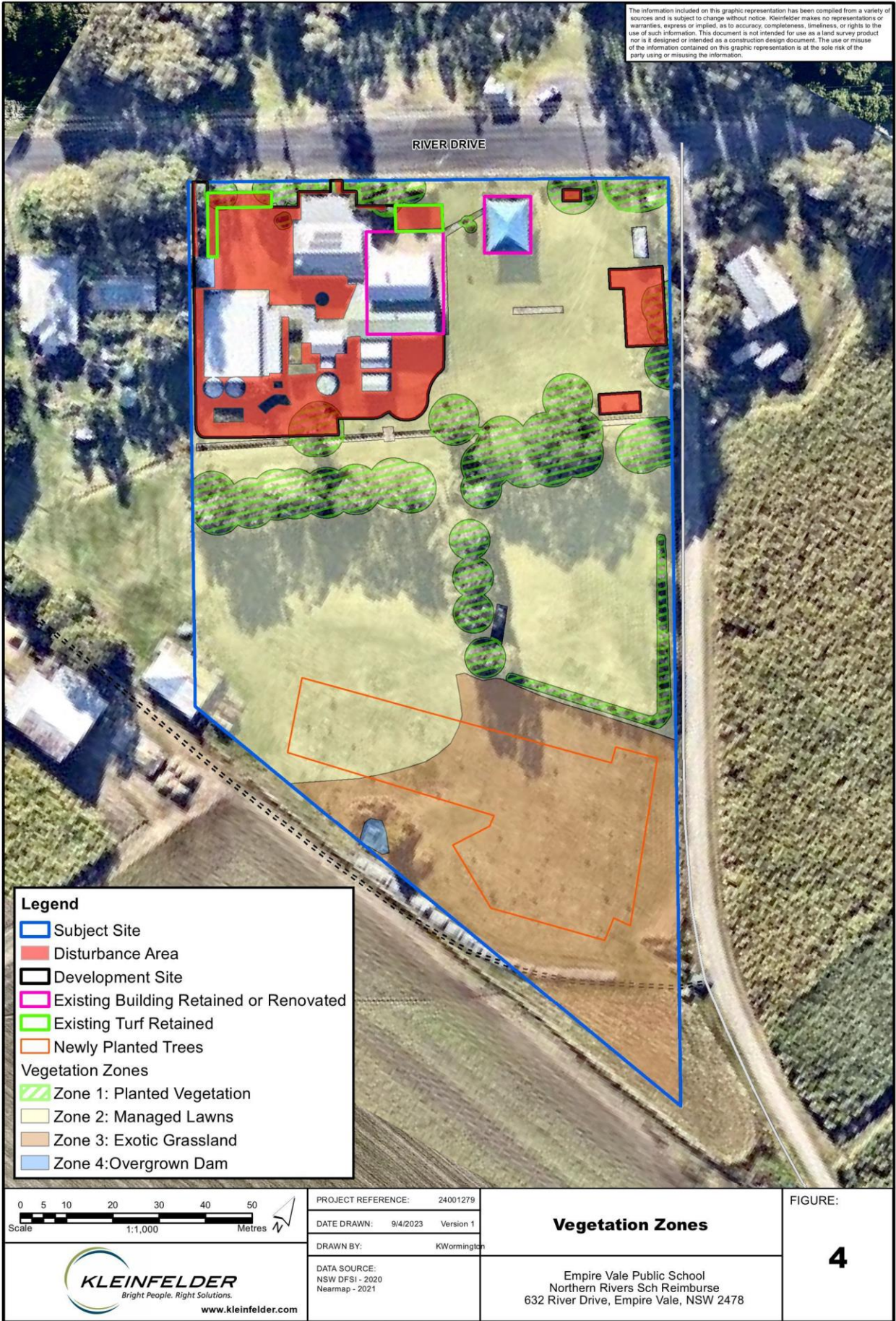


Figure 15 Vegetation zones at Empire Vale Public School (Source: Kleinfelder)

In relation to koala habitat, it is noted that whilst the site contains two (2) Koala food tree species, there is no Koala habitat located within the vicinity of the site. The site is not mapped as koala habitat under the *Ballina Shire Koala Management Strategy* (2017). The site is surrounded by farmland (sugar cane) with no connectivity to the closest Koala habitat. It is therefore considered that the site is not used by Koalas for foraging. Due to the removal of one (1) Koala feed tree from the site (*Eucalyptus robustus*), a Test of Significance was undertaken by Kleinfelder in accordance with section 7.3 of the BC Act and the Significant Impact Guidelines under the EPBC Act. The Test of Significance determined that there would not be significant impacts on the Koala.

Impact Assessment

The proposed activity will result in the removal of 0.1394 hectares of planted vegetation (Vegetation Zone 1) and managed lawn (Vegetation Zone 2). The proposed development will not directly impact any PCTs including any Threatened Ecological Communities. The proposed development will not impact upon any threatened flora or fauna species.

In order to determine whether the proposal is likely to “significantly affect threatened species or ecological communities, or their habitats”, the following factors listed in section 7.3 of the BC Act must be taken into account. **Table 14** provides an assessment against the provisions of Section 7.3 of the BC Act.

Table 14 Assessment against Section 7.3 of the BC Act		
Factor	Impact Assessment	Satisfied
(1) The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats—		
(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	No threatened flora or fauna was identified on the site. No threatened flora or fauna species were identified as having a moderate or high likelihood of occurrence on the site. Therefore, the proposed activity is unlikely to have an adverse effect on the life cycle of any threatened species such that a viable local population is likely to be placed at risk of extinction.	Yes
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity— (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	No endangered ecologically communities or critical endangered ecological communities have been identified on the site. It is considered that the proposed activity is not likely to have an adverse effect on any endangered ecological community or critically endangered community nor is it likely to substantially and adversely modify the composition of any ecological community.	Yes
(c) in relation to the habitat of a threatened species or ecological community— (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and (iii) the importance of the habitat to be removed, modified, fragmented or isolated	The site does not include habitat of a threatened species or ecological community. The proposed activity results in the removal of 0.1394 hectares of managed lawn. Therefore, it is considered that the activity will not result in any adverse impacts in relation to the habitat of a threatened species or ecological community. Any impacts during demolition and construction on existing vegetation will be short term, limited and will be “made-good” at the end of the construction works.	Yes

Table 14 Assessment against Section 7.3 of the BC Act		
Factor	Impact Assessment	Satisfied
to the long-term survival of the species or ecological community in the locality,		
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The site is not located within or within the vicinity of any declared areas of outstanding biodiversity value.	Yes
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The proposed activity is not part of a key threatening process or likely to increase the impact of a key threatening process as defined under Schedule 4 of the BC Act.	Yes

It is therefore, considered that pursuant to section 7.3 of the BC Act that the proposed activity is not likely to significantly affect any threatened species or ecological communities or their habitats.

Mitigation Measures

Section 5.2.2 of the Flora and Fauna Assessment (**Appendix AA**) identifies the following mitigation measures to minimise any indirect impacts to biodiversity values on the site and its vicinity (**Table 15**).

Table 15 Ecological Mitigation Measures	
Erosion Control	<p>Mitigation measures to reduce soil erosion and pollutant run-off during construction activities should include:</p> <ul style="list-style-type: none"> • Installation of erosion and sediment control structures surrounding the Planted Vegetation area and excavation works within the development site prior to any construction works and in accordance with <i>Managing Urban Stormwater: Soils and Construction (The Blue Book)</i>. • Regular inspection of erosion and sediment control measures, particularly following rainfall events to ensure their ongoing functionality. • Avoid stockpiling of materials adjacent to native vegetation, but instead use areas that are already cleared/disturbed. • Undertake maintenance of silt fences and other mitigation measures to isolate runoff. • Any trenching activities for services should aim to minimise open trenches and ensure appropriate sedimentation management of the excavated material and any open entry / exit points of the trench.
Dust Control	<p>Specific measures to minimise the generation of dust and associated impacts on adjacent natural environments should include:</p> <ul style="list-style-type: none"> • Setting maximum speed limits for all traffic within the Subject Site to limit dust generation. • Application of dust suppressants or covers on soil stockpiles.
Chemical Spills	<p>Specific measures to minimise the potential for chemical spills and associated impacts on adjacent natural environments should include the following:</p> <ul style="list-style-type: none"> • All chemicals must be kept in clearly marked bunded areas. • Regularly inspect vehicles and mechanical plant for leakage of fuel or oil.
Tree and Habitat Protection Measures	<p>Specific measures to minimise the impacts to trees, fauna habitat and Threatened Ecological Communities within the Subject Site should include:</p> <ul style="list-style-type: none"> • Clearly delineate the boundaries of the project footprint to prevent any unnecessary clearing beyond its extent. • All retained trees are to be protected in accordance with AS 4970 – 2009.

Table 15 Ecological Mitigation Measures

	<ul style="list-style-type: none"> • It is recommended that all civil contractors that enter the site are made aware of the importance of preserving retained trees and understand the tree protection measures that are put in place to preserve retained trees. Appropriate signage such as 'no go zone' or 'environmental protection area' should be installed. • Prior to demolition works Tree Protection Fencing (TPF) and/or zones as identified in AS 4970 – 2009 is recommended to be located under the guidance of an appointed site arborist. Unless specified otherwise the location of tree protection fencing is to be positioned to allow for adequate work access and/or be located at the extremity of the Tree Protection Zone (TPZ) (approximately 12.6m for the subject site). Where design and construction access may be restrictive timber beam trunk protection is recommended to be installed, with ground protection mats provided to protect underlying tree roots within tree protection zones or designated protection areas. • Unless approved otherwise, activities prevented within the TPZ (12.6m) include machine excavation, including trenching, storage & work preparation, wash down areas, soil level change, utility services and physical damage to trees. • In accordance with AS4970 - 2009 a Project or Site Arborist (at least AQF 5) is to be engaged to monitor, supervise excavation within TPZ setbacks, if required, advise and provide certification of protection works conducted. • Where approved by the arborist the pruning of roots at or below 30mm in diameter is to be conducted in accordance with AS4970 – 2009. Root protection during works within the TPZ, will occur such that tree roots are not damaged or ripped beyond the point of excavation by site machinery. Where larger roots have been encountered, they are to be referred to the arborist for further advice. • For deep excavations exposed roots at the excavated cut face are to be protected with jute mesh, geotextile fabric or similar being secured in place to avoid drying of roots and the exposed soil profile. • Any additional works outside of the area assessed as part of this report, if required, will be referred to any arborist before works commence. • Any pruning of tress to comply with AS4373 Pruning Standards, and specifically be conducted in accordance with Safe Work Australia – Guide to managing risks of tree trimming and removal works 2016. • Should there be any uncertainty with tree protection requirements the development site superintendent shall contact the appointed qualified arborist for advice prior to works occurring. • Ensure vehicle and equipment parking areas and stockpile areas are identified and positioned to avoid areas containing ecological value. • Limit the use of pesticides in the project footprint where possible to avoid contamination of nearby watercourses/wetland areas. • Increased human activity (from workers and traffic levels) directly adjacent to sensitive habitat areas may cause disturbance to flora and fauna species in adjoining habitat. • Levels of lighting within the site will be reduced to a minimal level to reduce any adverse effects upon the essential behavioural patterns of light-sensitive fauna. Lighting should comply with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting.
<p>Weed Management</p>	<p>Specific measures to minimise the impacts of weed invasion to retained native vegetation areas within the Subject Site should include:</p> <ul style="list-style-type: none"> • The fungal pathogens <i>Phytophthora cinnamomi</i> and Myrtle Rust (<i>Puccinia psidii</i>) are known to occur in the Ballina LGA however, it is unknown if they occur within

Table 15 Ecological Mitigation Measures	
	<p>the Development Site. These pathogens can have devastating impacts on native plant communities and inhabiting fauna if not properly managed.</p> <ul style="list-style-type: none"> • Ensure soil and seed material is not transferred in accordance with measures outlined in the CEMP. • Weed infestations within the construction footprint are to be identified and mapped prior to construction.
Management of Displace Fauna	<p>There is unlikely to be displaced fauna species unless there are species that nest in open ground, or species exposed to open trenches from service installations:</p> <ul style="list-style-type: none"> • Should a native species nest in the Managed Lawns, this area should be fenced until the use of the nesting by the species is complete, or it has been inspected by a suitably trained Ecologist. • Trenches should ideally be filled the same day of excavation. If they are left open overnight they should be inspected the following morning by an appropriately qualified person, and any trapped fauna extracted and released. • All handling of fauna species should be conducted by a suitably trained Ecologist. • Displaced fauna species are to be relocated to adjacent bushland. • If any injured fauna species are found during the construction period, construction must stop immediately so that the injured animal can be safely removed and taken to a vet or wildlife carer.

These mitigation measures have been incorporated into the mitigation measures in **Appendix B** of the REF.

3.7.3 Fisheries Management Act 1994

The *Fisheries Management Act 1994* (FM Act) governs the management of fish and their habitat in NSW. Part 7A of the FM Act regulates the provision of permits required in relation to harm to protected marine vegetation (seagrass, macroalgae, mangroves and saltmarsh), dredging, reclamation or obstruction of fish passage.

Under section 221ZX of the FM Act, an activity under Part 5 of the EP&A Act that is “likely to significantly affect threatened species, populations or ecological communities, or their habitats” or is “carried out in critical habitat” is considered to be an activity that is “likely to significantly affect the environment” in accordance with the test set out in section 220ZZ of the FM Act.

Under Schedules 4, 4A and 5 of the FM Act, “threatened species, populations or ecological communities” relate to species of fish, marine vegetation and aquatic ecological communities.

A Flora and Fauna Report has been prepared by Kleinfelder (**Appendix AA**) that assesses the impact of the proposed activity in accordance with the requirements of the FM Act. The site is located approximately 20m from the Richmond River but does not contain any watercourses or waterbodies. As required under Division 5.1 Guidelines, an assessment against the provisions of section 220ZZ of the FM Act is provided in **Table 16**.

Table 16 Assessment against Section 220ZZ of the FM Act		
Factor	Impact Assessment	Satisfied
(2A) The following factors must be taken into account in making a determination under this section –		
(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	No threatened species listed under the FM Act are located on the site.	Yes
(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population	No endangered ecological community or critically endangered community listed under the FM Act are located on the site.	Yes

Table 16 Assessment against Section 220ZZ of the FM Act		
Factor	Impact Assessment	Satisfied
such that a viable local population of the species is likely to be placed at risk of extinction,		
(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed— (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	The site does not contain any endangered ecological communities or critically endangered ecological communities listed under the FM Act.	Yes
(d) in relation to the habitat of a threatened species, population or ecological community— (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,	The site does not contain any habitat of a threatened species, population or ecological community that is listed under the FM Act.	Yes
(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	The activity is not likely to have an adverse effect on critical habitat as listed under the FM Act.	Yes
(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	There are no relevant recovery plans or threat abatement plans.	Yes
(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	The proposed activity does not constitute and is not part of a key threatening process and is not likely to result in the operation of or increase the impact of a key threatening process as defined under the FM Act.	Yes

Mitigation measures to ameliorate any indirect impacts on any threatened species or communities listed under the FM Act are detailed in **Table 15**.

3.7.4 Rural Fires Act 1997

Under section 63 of the *Rural Fires Act 1997* (the RF Act), public authorities must take all practicable steps to prevent the occurrence and spread of bush fires on or from land vested in or under its control or management.

The site is not mapped as bushfire prone land on Council's bushfire prone land map. Therefore, there is no requirement to obtain a Bushfire Safety Authority (BSA) under Section 100B of the RF Act. Nevertheless, the sugar cane fields to the north, east and south of the school, as well as the vegetation along Richmond River have been identified as potential bush fire hazard. In addition, on 23 June 2023, NSW Rural Fire Service (RFS) advised that under the draft Ballina Bushfire Prone Land map that the site will be mapped as 'Vegetation Category 3' (**Figure 16**).



Figure 16 Extract of Draft Ballina Bushfire Prone Land map (Source: Rural Fire Service)

An assessment of the proposed activity against the relevant aims and objectives of *Planning for Bushfire Protection 2019* (PBP 2019) has been undertaken by BlackAsh Bushfire Consulting (**Appendix X**). Based on the site assessment methodology outlined in section 100B of the RF Act, section 45 of the Rural Fires Regulation 2022 and the PBP 2019, a bushfire threat assessment was undertaken to determine the application of bushfire protection measure such as the location of asset protection zones (APZ) and Bushfire Attack Levels (BAL).

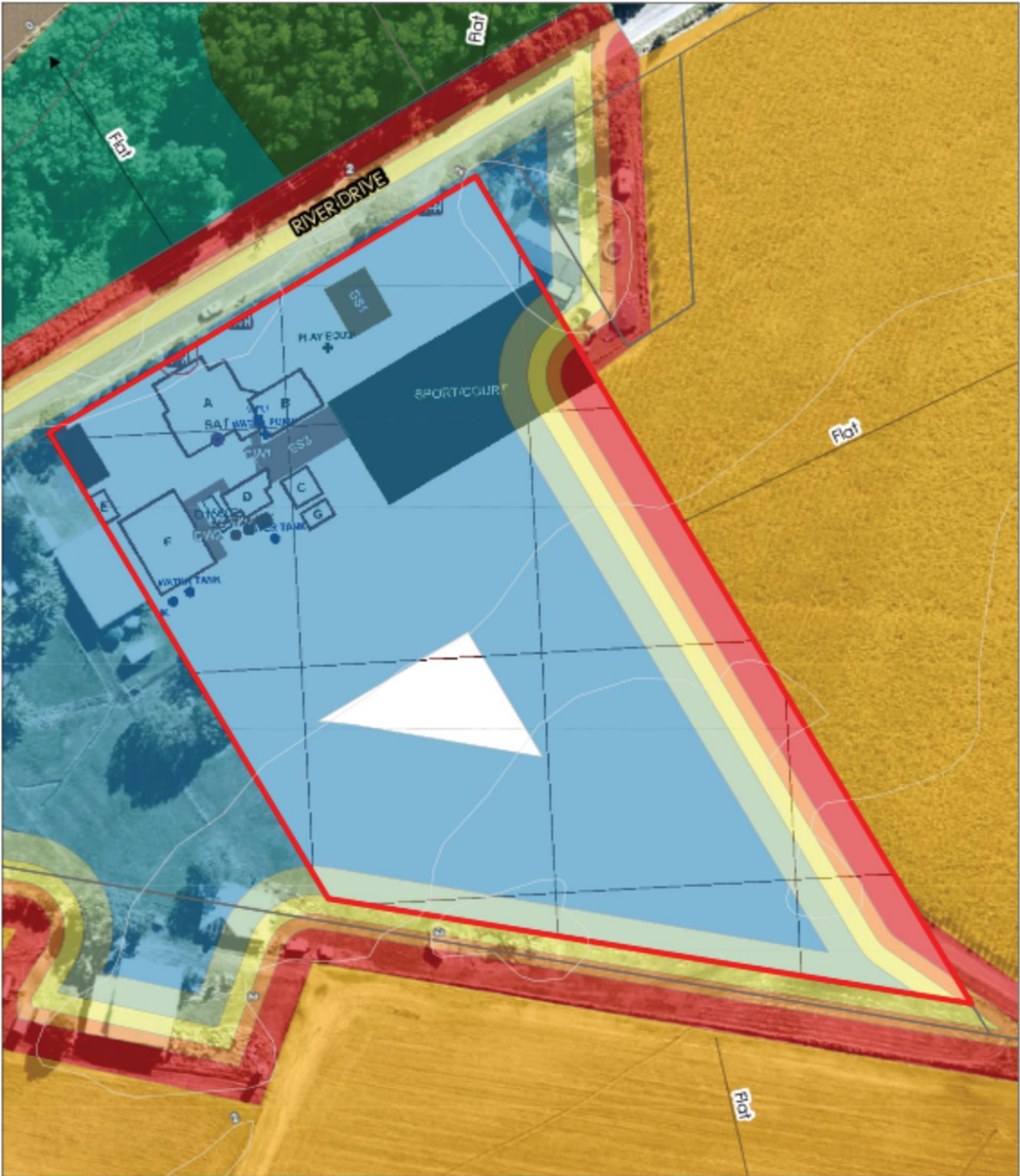
Figure 17 identifies the BAL for the site. The site of the existing and proposed new buildings are affected by BAL 12.5.

The Bushfire Assessment Report concludes that the proposed development is generally consistent with the relevant aims, objectives and performance criteria set out in Chapter 6 of the PBP 2019, subject to the implementation of the following recommendations:

Recommendation 1: New buildings will be built in accordance with **Figure 17** and or to minimum BAL 19 within the site.

Recommendation 2: Any upgrades to water, electricity and gas supplies through the proposed development must comply with section 6.8.3 of PBP (pages 59-60).

Recommendation 3: All Asset Protection Zones and landscaping within the site are to be maintained in accordance with Appendix 4 of PBP 2019 and the NSW RFS "Asset protection zone standards". No trees or additional vegetation is to be removed.



Legend

- Watercourse
 - Contour - 2m
 - Subject Land
 - Cadastre
 - Vegetation Assessment Buffer
 - Managed Land
- | | |
|------------------------------------|------------------|
| Vegetation Class | BAL - 40 |
| Coastal Swamp Forest | BAL - 29 |
| Grassland | BAL - 19 |
| Mangrove Swamps | BAL - 12.5 |
| Bushfire Attack Level (BAL) | BAL - Flame Zone |

N

DKGIS

Date: 19/10/2022

0 20 40

Meters

Coordinate System: GDA 1994 MGA Zone 56

Imagery: © Nearmap

Figure 17 Bushfire Attack Levels – Empire Vale Public School (Source: BlackAsh Bushfire Consulting Services)

3.7.5 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by Heritage NSW, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Director General of Heritage NSW responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined under the Act as follows:

- an Aboriginal object is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- an Aboriginal place is a place declared so by the Minister administering the NPW Act because the place is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects.

Section 90 of the NPW Act requires an Aboriginal Heritage Impact Permit (AHIP) to be granted by Heritage NSW for any works likely to destroy, deface, damage or knowingly cause or permit the destruction or defacement of a relic or Aboriginal place or object. In addition, section 87 provides that it is a defence to a prosecution if harm or desecration to a relic or Aboriginal place or object was authorised by an Aboriginal heritage impact permit and the conditions to which that permit was subject were not contravened.

An Aboriginal Heritage Due Diligence report was prepared by EMM (**Appendix M**) in accordance due diligence process outlined within the former Department of Environment, Climate Change and Water (DECCW) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010). The Aboriginal Due Diligence report found that the site has a low archaeological sensitivity, as the site has been significantly altered due to significant floods, land clearance, agricultural use and construction activity associated with the school. Therefore, it is considered that the risk of that demolition or construction activities may harm Aboriginal objects and subsurface archaeological deposits is low and that an Aboriginal Cultural Heritage Assessment (ACHA) is not required. The Aboriginal Due Diligence report provides the following recommendations and mitigation measures:

1. *As the proposed buildings on the site of the school grounds will be built within the existing disturbance footprint, it is likely that the landforms have been previously impacted and therefore works can proceed with caution without the need of an ACHA.*
2. *It is considered that there is a low risk of Aboriginal objects being impacted in the subject site. However, the nature of disturbance and previous intensive survey does not preclude the potential for unexpected heritage finds. In the event of unexpected Aboriginal objects, sites, or places (or potential Aboriginal objects, site or places) being identified during the activity, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the relevant State government agency as appropriate; and*
3. *If human skeletal material is discovered, the Coroners Act 2009 requires that all works should cease, and the NSW Police and the NSW Coroner's Office should be contacted. Traditional Aboriginal burials (older than 100 years) are protected under the National Parks and Wildlife Act 1974 and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the skeletal material prove to be Aboriginal remains, notification to Heritage NSW and the Local Aboriginal Land Council will be required.*
4. *Prepare an unexpected finds procedure in the event that Aboriginal objects are uncovered during the site preparations and constructions. If any artefacts are found, works will need to stop, and it is likely that an ACHA will need to be prepared.*

Mitigation measures requiring the preparation of an unexpected finds protocol (Aboriginal Heritage) have been incorporated into **Appendix B**.

3.7.6 Heritage Act 1977

The *Heritage Act 1977* contains provisions relating to the protection of items of heritage significance. Section 58 of the Heritage Act requires that approval from the Heritage Council of NSW is obtained prior to undertaking any development likely to have an impact on an item listed on the State Heritage Register or subject to an interim heritage order.

The site is not identified as an item of State heritage significance on the State Heritage Register under the Heritage Act. The site is not subject to an interim heritage order.

Section 139 Excavation Permit

Under section 139 of the Heritage Act, a person may not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or likely to result in the relic being discovered or disturbed unless the excavation is carried out in accordance with an excavation permit or a section 139(4) excavation permit exception. A 'relic' is defined under the Heritage Act as:

relic means any deposit, artefact, object or material evidence that—

- (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- (b) is of State or local heritage significance.

In January 2023, a Baseline Historical Assessment report prepared by EMM identified that archaeological resources that could meet the threshold of 'relics' are located in the north-east corner of the site (**Figure 18**). As the proposed fire tanks and pump room are proposed to be located in this part of the site, EMM prepared an Archaeological Research Design and Methodology (ARDM) report to investigate the archaeological potential of the site and to develop an archaeological research design and methodology for undertaking subsurface investigations.



Figure 18 Historical Archaeological Potential (Source: EMM)

The area of archaeological potential is associated within the former schoolteacher's residence. The following archaeological resources could be uncovered in the area of the proposed fire tanks and hydrant pump house:

- Concrete foundations associated with the ancillary structure to the south of the former schoolteacher's residence, likely to be the washhouse and bathroom.
- A low-density yard deposit, consisting of lost or discarded items.
- Demolition building rubble.

EMM undertook an assessment of the potential resources of the former Empire Vale Public School teacher's residence against DPE's *Assessing Heritage Significance Guidelines* (2023) and prepared the following Statement of Significance:

The former Empire Vale Public School teacher's residence is an archaeological site that has the potential to meet the threshold for local significance. Schooling was occurring in Empire Vale prior to the establishment of a government-recognised provisional school in 1877 and the residence and schoolhouse (currently the school's library) were constructed on the current site in 1891 after the first public school, built in 1880, had been outgrown by the community and had become inhospitable.

The Empire Vale Public School site has been a community institution in the township for over 130 years and the former teacher's residence is associated with over 70 years of this history. The residence represented the historical practice of Government-funded teachers being billeted in rural communities following the implementation of compulsory schooling in the state. The teachers who came to Empire Vale ingrained themselves in the local community and their home would have been a landmark in the community prior to its demolition in 1954.

There are few written and photographic resources regarding the teacher's residence, as such, archaeological investigation may uncover evidence of the residence, its associated structures, and artefact deposits, which may increase our understanding of the site and the lives of the teachers who resided there. While teacher's residences are a common form of built heritage in NSW, few are listed around the North Coast of the NSW, and archaeological excavation of these sites is uncommon.

It is proposed to undertake archaeological investigations in two (2) phases as set out in section 6 of the ARDM:

- **Phase 1 – Archaeological Testing:** To be undertaken prior to the commencement of construction in accordance with the Heritage NSW's guideline *Relics of local heritage significance a guide for archaeological test excavation* (2022). If the archaeological test excavation is undertaken in accordance with this guideline, it is exempt from requiring an excavation permit in accordance with section 139(4) of the Heritage Act. Should any archaeological resources be uncovered during the test excavations, then an on-site assessment will determine if they meet the threshold for relics. If the resources are assessed as being relics, then an excavation permit will be required to be issued pursuant to section 140 of the Heritage Act.
- **Phase 2 – Salvage of archaeological relics:** Salvage of archaeological relics will be undertaken in accordance with the excavation permit, the guidelines and standards of the NSW Heritage Office and the methodology detailed in the ARDM.

A mitigation measure has been included in **Appendix B** requiring archaeological investigations to be undertaken in accordance with the requirements of the ARDM.

Section 170 Heritage and Conservation Register

Building B is listed on the NSW Department of Education's section 170 Heritage and Conservation Register under the Heritage Act (Listing #5067902).

Section 170A of the Heritage Act states as follows:

- (1) *A government instrumentality must give the Heritage Council not less than 14 days written notice before the government instrumentality—*
 - (a) *removes any item from its register under section 170, or*
 - (b) *transfers ownership of any item entered in its register, or*
 - (c) *ceases to occupy or demolishes any place, building or work entered in its register.*
- (2) *Each government instrumentality is responsible for ensuring that the items entered on its register under section 170 and items and land to which a listing on the State Heritage Register applies that are under its care, control or management are maintained with due diligence in accordance with State Owned Heritage Management Principles approved by the Minister on the advice of the Heritage Council and notified by the Minister to government instrumentalities from time to time.*
- (3) *The Heritage Council can from time to time issue heritage asset management guidelines to government instrumentalities, being guidelines with respect to the conservation of the items entered on registers under section 170 and items and land to which a listing on the State Heritage Register applies that are under the care, control or management of the government instrumentality. The guidelines can relate to (but are not limited to) such matters as maintenance, repair, alteration, transfer of ownership and demolition. A government instrumentality must comply with the guidelines.*
- (4) *(Repealed)*

Pursuant to section 170A(1) of the Heritage Act, the Department of Education does not seek to remove the item from its Heritage and Conservation Register, transfer ownership of the item nor demolish the item, and therefore there is no requirement to provide the NSW Heritage Council with written notice. Pursuant to section 170A(2) of the Heritage Act, it is proposed to undertake appropriate maintenance and conservation works to Building B to ensure that the heritage item is maintained in accordance with the requirements of the NSW Heritage Council's *State Agency Heritage Guide (2005)* including *Part 1: State-owned Heritage Management Principles* and *Part 2: Heritage Asset Management Guidelines*. A mitigation measure requiring the preparation of a Schedule of Conservation Works is included in **Appendix B**.

A Statement of Heritage Impact (SOHI) has been prepared by EMM that provides an assessment of the impacts of the proposed activity on the heritage significance of Building B (refer to **Section 5.2.6**).

3.7.7 Water Management Act 2000

The objects of the WM Act are generally "to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations...."

Part 3 of Chapter 3 of the WM Act relates to Approvals and section 91 (2) requires a 'controlled activity approval' for works at a specified location in, on or under 'waterfront land'. The requirement for an approval of this nature triggers the integrated approval provisions of the EP&A Act. 'Controlled activity' and 'waterfront land' are defined by the WM Act as follows:

controlled activity means:

- (a) the erection of a building or the carrying out of a work (within the meaning of the Environmental Planning and Assessment Act 1979), or
- (b) the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or
- (c) the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or
- (d) the carrying out of any other activity that affects the quantity or flow of water in a water source.

...

waterfront land means:

- (a) the bed of any river, together with any land lying between the bed of the river and a line drawn parallel to, and the prescribed distance inland of, the highest bank of the river, or
- (a1) the bed of any lake, together with any land lying between the bed of the lake and a line drawn parallel to, and the prescribed distance inland of, the shore of the lake, or
- (a2) the bed of any estuary, together with any land lying between the bed of the estuary and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the estuary, or
- (b) if the regulations so provide, the bed of the coastal waters of the State, and any land lying between the shoreline of the coastal waters and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the coastal waters,

where the prescribed distance is 40 metres or (if the regulations prescribe a lesser distance, either generally or in relation to a particular location or class of locations) that lesser distance. Land that falls into 2 or more of the categories referred to in paragraphs (a), (a1) and (a2) may be waterfront land by virtue of any of the paragraphs relevant to that land.

The proposed activity occurs on waterfront land or within 40m of a watercourse and therefore, the provisions of the WM Act do apply to the proposed activity. However, pursuant to clause 41 of the *Water Management (General) Regulation 2018*, public authorities are exempt from requiring approval under the WM Act for controlled activities that it carries out in, on or under waterfront land. Therefore, a controlled activity approval is not required to be used by the Department of Planning and Environment – Water (DPE – Water) in relation to the proposed activity.

If groundwater is encountered during the construction, the approval for removal will be required to be obtained under the WM Act.

3.7.8 Local Government Act 1993

Under section 68 of the Local Government Act 1994 (LG Act), approval is required from Council to:

- Carry out sewerage work
- Carry out stormwater drainage work
- Install, construct or alter a waste treatment device or human waste storage or a drain connected to any such device or facility.
- Operate a system of sewage management (within the meaning of section 68A)

Under Section 68A of the LG Act, to operate a system of sewage management “means hold or process, or re-use or discharge, sewage or by-products of sewage (whether or not the sewage is generated on the premises on which the system of sewage management is operated)”. A sewage management facility is defined as:

sewage management facility means—

- (a) a human waste storage facility, or
 - (b) a waste treatment device intended to process sewage,
- and includes a drain connected to such a facility or device.

The works include stormwater drainage works as well as removal of the existing septic tanks and installation of a new on-site sewage management system (OSSMS) that would require under section 68 of the LG Act. However, section 69 of the LG Act states as follows:

Section 68 does not require the Crown or a person prescribed by the regulations to obtain the approval of a council to do anything that is incidental to the erection or demolition of a building.

As the NSW Department of Education is a statutory body representing the Crown and the proposed stormwater drainage works are incidental to the erection or demolition of a building, approval is not required under s68 of the LG Act.

On 7 July 2023, Ballina Shire Council's Environmental Officer provided the following advice in relation to the installation of an OSSMS on the site:

Whilst Council is aware that the Crown is exempt from requiring Council approval, in past instances the Crown has sought Council's direction and approval with respect to Section 68 Applications. Council strongly believes that due to Council's specific expertise in on-site sewage management (OSSM) that it would be prudent and in the communities' best interest to seek such approval and/or advise prior to proceeding with the application especially in consideration of the overall size of the OSSM system and the sensitive location on which it is installed.

At a minimum you will be required to consult and refer the application to the Department of Primary Industries (DPI) (Emma Wilkie cc'd in this email) if any part of the OSSM system falls within 100m of a River/Drain and within 10km of a Priority Oyster Aquaculture Area (POAA). Council also recommends that if Council is to have no part in the review and assessment of the application that this is clearly communicated to the DPI upon referral.

Further, as the community relies on Council to manage OSSM systems and provide information to the public, Council would appreciate provision of documents pertaining to the design and installation of the OSSM system.

Based on this feedback from Council, it is proposed to lodge a Section 68 with Council. Approval of the Section 68 application will be required prior to the installation of the OSSMS.

3.7.9 Local Land Services Act 2013

The *Local Land Services Act 2013* (LLS Act) in conjunction with the BC Act regulate the clearing of native vegetation on rural land in NSW. The site is zoned RU1 Primary Production under the Ballina LEP and is therefore classified as rural land. A total of nine (9) trees are proposed to be removed at the school to facilitate the proposed activity as set out in **Table 5**.

Section 60O(b) of the LLS Act provides that:

For the purposes of this Part, the clearing of native vegetation in a regulated rural area is authorised under other legislation in any of the following cases—

- (b) *Other planning authorisation*

The clearing was—

- (i) *a part of or ancillary to the carrying out of exempt development within the meaning of the Environmental Planning and Assessment Act 1979, or*

- (ii) *an activity carried out by a determining authority within the meaning of Part 5 of that Act after compliance with that Part, or*
- (iii) *authorised by an approval of a determining authority within the meaning of Part 5 of that Act granted after compliance with that Part.*

The tree removal will be authorised by the NSW Department of Education as the determining authority for the proposed activity the subject of this REF. Therefore, no further approvals are required in relation to tree removal. All other trees will be protected in accordance with the recommendations of the Arboricultural Report prepared by Northern Tree Care (**Appendix Z**).

3.7.10 Roads Act 1993

Section 138(1) of the *Roads Act 1993* provides that:

- (1) *A person must not—*
 - (a) *erect a structure or carry out a work in, on or over a public road, or*
 - (b) *dig up or disturb the surface of a public road, or*
 - (c) *remove or interfere with a structure, work or tree on a public road, or*
 - (d) *pump water into a public road from any land adjoining the road, or*
 - (e) *connect a road (whether public or private) to a classified road,*
- otherwise than with the consent of the appropriate roads authority.*

The proposed activity includes temporary construction access across River Drive and this will require approval from Council as the appropriate roads authority.

Section 138(3) provides that if the applicant is a public authority such as DoE, then the roads authority must consult with the applicant before deciding whether or not to grant consent. A mitigation measure requiring the contractor to obtain approval under the Roads Act has been incorporated into the mitigation measures (**Appendix B**).

3.7.11 Protection of the Environment Operations Act 1997

The *Protection of Environment Operations Act 1997* (the PoEO Act) seeks to protect, restore and enhance the environment in NSW and to promote public access to information and involvement in the environment protection.

If a pollution event that causes or threatens material harm to the environment occurs while carrying out the activity, the person carrying out that activity must notify the appropriate regulatory authority (as defined under section 148 of the PoEO Act).

Mitigation measures are provided in **Appendix B** to this REF to ensure that construction activities will not cause a pollution event that causes or threatens material harm to the environment. A preliminary Construction Management Plan has been prepared by ADCO (**Appendix FF**) to outline the relevant management measures required. A licence under the PoEO Act is not required.

3.8 Strategic Context

Section 171(2)(g) of the EP&A Regulation and the Division 5.1 Guidelines require that any applicable local strategic planning statement (LSPS), regional strategic plans or district strategic plans made under Division 3.1 of the EP&A Act are taken into account as part of the environmental assessment of the proposed activity.

The following strategic plans are relevant to the proposed activity:

- *North Coast Regional Plan 2041* (December 2022).
- *Ballina Shire Local Strategic Planning Statement 2020 – 2040*.

Table 17 provides a summary of any issues, objectives, policies and actions that are relevant to the proposal in the applicable local and regional strategic plans.

Table 17 Strategic Context	
Strategic Plan	Summary
<p>North Coast Regional Plan 2041</p>	<p>The <i>North Coast Regional Plan 2041</i> (the Regional Plan) guides the land use planning priorities and decisions to 2041 for the North Coast Region. There is a total of 12 Local Government Areas (LGAs) located within the North Coast Region including Ballina Shire LGA.</p> <p>The Regional Plan identifies three (3) goals for the region:</p> <ul style="list-style-type: none"> • <u>Goal 1</u>: Liveable, sustainable and resilient. • <u>Goal 2</u>: Productive and connected. • <u>Goal 3</u>: Growth change and opportunity. <p>The three (3) goals are supported by 20 objectives, along with strategies, actions and collaborative activities.</p> <p>The proposed activity is consistent with the following objectives under the Regional Plan:</p> <ul style="list-style-type: none"> • Objective 5: Manage and improve resilience to shocks and stresses, natural hazards and climate change. • Objective 19: Public spaces and green infrastructure support connected and healthy communities.
<p>Ballina Shire Local Strategic Planning Statement 2020 - 2040</p>	<p>The <i>Ballina Shire Local Strategic Planning Statement 2020 – 2040</i> (Ballina LSPS) establishes a 20-year land use vision for the Ballina Shire LGA. The LSPS sets immediate (0 to 2 years), short (3 to 5 years), medium (5 to 10 years) and long-term (10 years plus) actions in which to deliver strategic land use planning priorities. The Ballina LSPS is based around four (4) themes which are supported by 14 planning priorities and 56 Actions.</p> <p>The four (4) themes are:</p> <ul style="list-style-type: none"> • Connected Community • Prosperous Economy • Engaged Leadership • Healthy Environment <p>The activity at Empire Vale Public School is consistent with the following planning priorities and actions under the Ballina LSPS:</p> <ul style="list-style-type: none"> • <u>Planning Priority 9: Protect the Shire's historic heritage.</u> The proposed activity will ensure the ongoing operation of the existing school by providing modern fit-for-purpose facilities, whilst retaining the c1891 school building. • <u>Planning Priority 10: Ensure that new development enhances local character and is of a high standard in accordance with best practice design guidelines applicable to Northern and Regional NSW.</u> The new elevated school building has been designed with regard to the environmental constraints of the site and the design quality principles outlined in the Government Architect NSW's <i>Better Placed: an integrated design policy for the built environment in NSW</i> (2017) and <i>Design Guide for Schools</i> (2018). • <u>Planning Priority 11: Ballina Shire Council will provide leadership in mitigating and adapting to climate change.</u> The proposed elevated school building has been designed to be climate-change resilient with flood resilient materials below the flood planning level and a minimum habitable floor level above the probable maximum flood extent (PMF). • <u>Planning Priority 14: Focus development to areas of least biodiversity sensitivity and least exposure to natural hazards such as flooding and bush fire risk.</u> The proposed activity will not have any impacts on the biodiversity values of the site. Suitable mitigation measures have been incorporated into the design of the new elevated building to minimise risks from natural hazards such as flooding and bush fire.

Table 17 Strategic Context

Strategic Plan	Summary
	<p><u>Rural Settlement Character Statements</u></p> <p>In 2014, Ballina Shire Council prepared Rural Settlement Character Statements (RSCS) for the rural hamlets and localities located within the LGA including Empire Vale / Keith Hall. The following description of Empire Vale / Keith Hall is provided in the Ballina LSPS:</p> <p><i>Empire Vale / Keith Hall is a small rural locality at the tip of the South Ballina peninsula. The locality has a strong history of agriculture. It is characterised by large areas of open flat sugar cane land and areas of native vegetation along the Richmond River. The areas also contains intensive horticultural enterprises with large scale greenhouse hydroponic production of salad vegetables including cucumbers and lettuce.</i></p> <p><i>The area is characterised by dwellings located either on significant cane farms or on small clusters of concessional lots cut from cane farms in the past.</i></p> <p><i>Local residents value the tranquillity of this location as well as the proximity of the river and beach for recreation.</i></p> <p>The following strategic action was identified as having relevance to the Ballina LSPS:</p> <p><i>Protect viable and important agriculture and horticulture from encroachment from lifestyle lots.</i></p> <p>The proposed activity is consistent with this strategic action as the works are contained within the existing school site and will not impact upon the viability of the existing agricultural and horticultural enterprises.</p>

4 Consultation and Notification

4.1 General

Part 3.2 Division 1 of the T&I SEPP establishes the requirements for consultation with Council and other public authorities for development undertaken as development permitted without consent by public authorities.

Table 18 provides an assessment of the relevant consultation and notification requirements under the T&I SEPP.

Table 18 Consultation and Notification Requirements		
Provision	Assessment	Complies
Part 3.2 General Division 1: Consultation and Notification		
s3.8 Consultation with Councils – development with impacts on council-related infrastructure or services	<p>The proposed activity will not have a substantial impact on any Council managed stormwater management services (Section 5.2.12). The proposed activity is not likely to generate traffic that will adversely impact the capacity of the existing road network (Section 5.2.11).</p> <p>The site is not connected to a Council owned sewage system or water supply system.</p> <p>The proposed activity does not involve the installation of any temporary structures or enclosing of public places that would likely cause a disruption to pedestrian or vehicular traffic.</p> <p>The proposed activity does not include any excavation adjacent to a public road.</p> <p>Therefore, consultation with Council is not required pursuant to this section.</p>	N/A
s3.9 Consultation with Councils – Development with impacts on local heritage	<p>The site is located adjacent to a local heritage item (Item I62 'Tramlines across River Drive') listed under Schedule 5 of the LEP. A SOHI has been prepared by EMM that provides an assessment of the impacts of the proposed activity on the heritage significance of the item (Appendix L). The SOHI concludes that the proposed development will have a negligible impact on the heritage significance of the 'Tramlines' and therefore, consultation is not required pursuant to this section.</p>	N/A
s3.10 Notification of councils and State Emergency Services – Development on Flood Liable Land	<p>The proposed activity is located on flood liable land and comprises the demolition of existing buildings and construction of a new elevated building. Therefore, notification of Council and State Emergency Services (SES) is required pursuant to this section.</p>	Yes (refer to Sections 4.2.2 and 4.3.2)
s3.11 Consideration of Planning for Bush Fire Protection	<p>The site is not mapped as bush fire prone land under Ballina Council's bush fire prone land mapping. Nevertheless, in accordance with section 3.11 of the T&I SEPP, an assessment against the relevant provisions of PBP 2019 has been undertaken by BlackAsh Bushfire Consulting (Appendix X).</p>	Yes (refer to Sections 3.7.4, and 5.2.2)
s3.12 Consultation with public authorities other than councils.	<p>The site is not located adjacent to land reserved under the <i>National Parks and Wildlife Act 1974</i> (NPW Act) or a rail corridor. The site is not located within the dark sky region and is not located within a mine subsidence district.</p> <p>Consultation with Transport for NSW (TFNSW) is not required:</p> <ul style="list-style-type: none"> As the development will not result in the school being able to accommodate 50 or more students; and 	N/A

Table 18 Consultation and Notification Requirements		
Provision	Assessment	Complies
	<ul style="list-style-type: none"> The site does not have access to a classified road and is not located within 90m of an access point to a classified road; and The site will not result in the provision of 200 or more car parking spaces; and The proposed activity will not result in a new or relocated vehicular or pedestrian access point to the school; and The proposed activity does not involve excavation to a depth of three (3) or more metres on land within or adjacent to a classified road. 	

In addition, Section 3.38 provides additional notification requirements for development to which Section 3.37(1)(a) applies. In this case, the proponent must –

- (2)(a) give written notice of the intention to carry out the development to the council for the area in which the land is located and to the occupiers of adjoining land, and
- (b) take into consideration any response to the notice that is received within 21 days after the notice is given.

As discussed in **Section 3.4.1**, the proposed activity is being undertaken pursuant to sections 3.37(1)(a)(i), 3.37(1)(a)(ii) and 3.37(1)(a)(v), written notice is required to be given to Council and the occupiers of adjoining land.

4.2 Consultation – Council

4.2.1 Meeting November 2022

On 10 November 2022, a meeting was held between representatives of the project team and Ballina Shire Council officers to discuss the proposed works at Empire Vale Public School. **Table 19** identifies the key matters discussed at this meeting and a response to these matters.

Table 19 Meeting with Ballina Shire Council 10 November 2022	
Matter	Response
<p><u>Flooding:</u></p> <ul style="list-style-type: none"> Updates to existing flood studies and flood planning levels are currently underway following the February 2022 floods. Council have existing flood evacuation plans for different locations across the LGA. State Emergency Services (SES) to development future flood evacuation plans for Ballina Shire. 	<p>As of August 2023, no updates to existing flood studies or flood planning levels have been exhibited by Ballina Shire Council. It is noted that Richmond Valley Council (located upriver) recently exhibited the Draft Richmond Valley Flood Study 2023 and that it has been reviewed by Henry & Hymas in the preparation of Civil Report (Appendix H).</p> <p>Consultation has taken place with the SES in relation to the proposed activity on 24 January 2023 and as part of the REF process (Section 4.3).</p>
<p><u>Assessment timeframes:</u></p> <ul style="list-style-type: none"> Council DA assessment timeframes are currently 5 – 6 months. 	<p>Noted. It is proposed to undertake the works as "development permitted without consent" under Part 5 of the EP&A Act.</p>
<p><u>Infrastructure / Utilities:</u></p> <ul style="list-style-type: none"> School is currently on-site water tanks and sewerage system. No plans by Council to provide town water or sewer to the site. 	<p>Noted. The proposed activity includes the installation of new rainwater tanks (total capacity 68,000L) and a new on-site sewerage management system.</p>

Table 19 Meeting with Ballina Shire Council 10 November 2022

Matter	Response
<p><u>Traffic and Parking:</u></p> <ul style="list-style-type: none"> Council would like to see improved car parking and pick-up and drop-off zones located at the front of the school (River Drive). 	<p>Noted. However, as the proposed activity doesn't seek to alter existing traffic or transport arrangements on the site, no changes are proposed to car parking or pick-up and drop-off zones along River Drive.</p>

4.2.2 Consultation under T&I SEPP

To facilitate a meaningful consultation with Council, the following consultation strategy is proposed:

- Commencement of 21-day consultation period: An email to Council on 16 August 2023 with a planning cover letter, copy of architectural plans, flood impact assessment and other key REF documentation (**Appendix II**)
- During 21-day consultation period. Organise a meeting with Council to facilitate direct feedback and engagement with specialist consultants.
- Provide a copy of the full REF package for Council's review.
- Take into consideration any feedback received from Council during the 21-day notification period including detailing in the REF how this feedback has been addressed.

On 30 August 2023, a meeting was held with Council officers to discuss the proposed works at Empire Vale Public School. A copy of the meeting minutes is provided as **Appendix LL**. On 5 September 2023, Council emailed feedback on the proposed activity (**Appendix MM**). **Table 20** provides a response to the matters raised in relation to Empire Vale Public School during the meeting.

Table 20 Meeting with Ballina Shire Council – 30 August 2023

Matter	Response	Reference
The site is mapped as containing ASS Class 2, consideration of Clause 7.1 of the BLEP 2012.	An Acid Sulfate Soils Management Plan has been prepared to provide recommendations to ensure that the proposed activity does not disturb, expose or drain acid sulfate soils and cause environmental damage.	Section 5.2.5 Appendix Q
The site is mapped within the natural areas and habitat 50m buffer – consideration on the requirements listed under BDCP 2012 Chapter 2 General and Environmental Consideration Control 3.3 Natural Areas and Habitat.	A Flora and Fauna Assessment has been prepared by Kleinfelder that assesses the impact of the proposed activity against the relevant provisions of the EPBC Act, BC Act and FM Act. Subject to the implementation of the mitigation measures outlined in the Flora and Fauna Assessment, the proposed development will not have any adverse impacts on any natural areas or habitats located within the vicinity of the site.	Sections 3.7.1, 3.7.2, 3.7.3 and 5.2.9. Appendix AA
The site is mapped partially with the coastal wetlands buffer and is mapped as being within a coastal use and coastal environment area. Consideration of the relevant controls in SEPP Resilience and Hazards	An assessment against the provisions of sections 2.8, 2.10, 2.11 and 2.12 of the R&H SEPP has been undertaken in Table 11 of the REF.	Sections 3.4.2 and 0
Consideration on the location of any air conditioning, heat pump heaters or rainwater tanks to ensure that it does not result in any offensive noise as defined in the <i>Protection of the Environment Operations Act 1997</i> and comply with the requirements of the <i>Protection of the</i>	A Concept Design Acoustic Report has been prepared by Acoustic Logic which provides recommendations to ensure that any mechanical and hydraulic plant does not result in any adverse acoustic impacts on the adjoining neighbours. Subject to the	Section Figure 28 Appendix Y

Table 20 Meeting with Ballina Shire Council – 30 August 2023

Matter	Response	Reference
<p><i>Environment Operations (Noise Control) Regulation 2017.</i></p>	<p>recommendations of the Concept Design Acoustic Report the proposed activity will not result in any offensive noise.</p>	
<p>Consideration of the adjoining sugar cane agricultural use and whether any suitable land use conflict risk assessment should be undertaken, as per BDCP 2012 Chapter 2 General and Environmental Consideration control 3.1 Land Use Conflict.</p>	<p>As detailed in Table 12 of this REF, it is considered that the proposed activity does not increase the risk of land use conflict between the school and the adjoining agricultural land uses, and is consistent with the planning objectives of Section 3.1 of Chapter 2 of the Ballina DCP.</p>	<p>Section 3.6</p>
<p>A BCA capability report authored by a Registered Certifier (or other suitably qualified person) should be considered to ensure the building is capable of compliance with all relevant sections of the Building Code of Australia.</p>	<p>A BCA Design Compliance Report has been prepared by MBC Group that confirms that proposed activity complies with the relevant provisions of the BCA. This is supported by a Fire Engineering Brief Questionnaire prepared by E-Lab that details the proposed performance solutions. It is a requirement of section 6.28(2) of the EP&A Act, that all Crown Building work is certified to comply with the BCA in force at the date of the invitation for tenders.</p>	<p>Sections 0 and 3.2 Appendix T Appendix U</p>
<p>The subject site, as being zoned as RU1 Primary Production has an applicable front boundary setback of 20 metres and side boundary setbacks of 10 metres.</p>	<p>The works are being undertaken as 'development permitted without consent' under section 3.37(1)(a) of the T&I SEPP, which prevails over the provisions of the Ballina DCP. Under section 3.37(1)(a) of the T&I SEPP, the new building must be setback more than 1 metre from any property boundary with land not in a residential zone. The new elevated building is setback 5.17m from River Drive and 5.48m from the south-west site boundary, which complies with the section 3.37(1)(a) of the T&I SEPP.</p>	<p>Section 3.4.1 Appendix A</p>
<p>Design of OSSM should be consistent with Council's OSSM Strategy and Guidelines</p>	<p>The design of the proposed OSSMS is consistent with Council's OSSMS Strategy and Guidelines</p>	<p>Section 5.2.18 Appendix DD</p>
<p>Consideration to on-site parking for staff</p>	<p>The proposed activity proposes to replace existing school buildings damaged as a result of the 2022 floods and therefore, it is not proposed to provide any on-site parking for staff.</p>	<p>Section 5.2.11 Appendix BB</p>
<p>A stormwater management plan would be required, as outlined in the Civil Engineer report prepared by Henry & Hymas – Rev 1.2 – August 2023</p>	<p>A Stormwater Management Plan and Report has been prepared by Henry & Hymas Consulting Engineers</p>	<p>Section 5.2.12 Appendix H</p>
<p>Flooding and Site Filling</p> <ul style="list-style-type: none"> • The observed flood level in 2022 was 3.15m AHD • The site is flood affected and no site filling is proposed for the main building • There are minimum ground/fill levels required for the wastewater area and the new GA shed 	<p>Section 6.1 of the Civil Report prepared by Henry & Hymas Consulting Engineers has been updated to reflect that the flood planning levels is the 1% AEP for 2100 climate change scenario being RL 3.7m AHD.</p> <p>The Civil Report has been updated to include commentary in relation to the ancillary shed at the rear of the new elevated building. It is noted that the ancillary shed is required to be located</p>	<p>Section 5.2.1 Appendix H</p>

Table 20 Meeting with Ballina Shire Council – 30 August 2023

Matter	Response	Reference
<ul style="list-style-type: none"> The new school building is elevated on columns with an undercroft area. The H & H report (sec 6.1) states 2050 climate change scenario applies. This is <u>not</u> the case, and the flood planning levels for the 100yr 2100 climate change scenario apply. The flood planning level is FPL2 100 yr 2100 = 3.2m AHD The minimum Design Floor Level DFL = FPL2 + 0.5m = 3.7m AHD The proposed undercroft floor level is 1.8m AHD. The proposed first floor level is 5.1m AHD. this first-floor level is above the PMF and acceptable. It was indicated during the meeting that the proposed GA shed would be constructed at ground level. The shed is considered a non-habitable space and therefore requires a floor level to be a minimum of FPL1 50yr 2100 = 2.5m AHD. 	<p>at the existing ground level to match exiting sites levels and minimise the quantity of filling required in the floodplain. The ancillary shed is proposed to constructed from flood compatible building materials and components below the flood planning level of RL 3.7m AHD as detailed in the Chapter 2b of the Ballina DCP.</p>	
<p>Sewer Servicing</p> <ul style="list-style-type: none"> The site requires an OSSMS. As per DCP Chapter 2b, sec 3.8 (v) – FPL1 2050 applies to areas for the on-site sewage management system (OSSMS) and effluent land application areas. FPL1 50yr 2050 = 2.4m AHD 	<p>The proposed on-site sewer management system has been designed with regard to the requirements of Section 3.8(v) of the Chapter 2B of the Ballina DCP. The new Wisconsin Mound has been designed so that the gravel bed within the mound is not below the 50 year flood level of RL 2.4m AHD. The top of the mound is RL 3.075m AHD.</p>	<p>Section 5.2.18 Appendix DD</p>
<p>The site is not connected to Council's reticulated water supply and is serviced by on-site tanks.</p>	<p>The proposed activity includes the removal of the existing rainwater tanks and installation of two (2) new rainwater tanks to provide potable water and two (2) new fire tanks to provide a water supply in the event of a fire.</p>	<p>Section 5.2.18 Appendix CC</p>
<p>Contributions</p> <ul style="list-style-type: none"> Section 7.11 Contributions for roads are applicable for a school development based on the number of students. As this development is a rebuild to provide a like for like development, no contributions are applicable. Section 64 DSP Charges for water and sewer headworks are not applicable as the site is not connected to Council's water or sewer. 	<p>Noted.</p>	<p>N/A</p>
<p>General comments for both Schools (Empire Vale Public School and Wardell Public School)</p>		
<p>Consideration of hazardous material (such as asbestos) handling during demolition</p>	<p>An Asbestos and Hazardous Materials Pre-Demolition Assessment has been prepared by Tetra Tech Coffey that identifies procedures to</p>	<p>Sections 3.4.2 and 5.2.3 Appendix R</p>

Table 20 Meeting with Ballina Shire Council – 30 August 2023		
Matter	Response	Reference
	appropriately manage any hazardous materials encountered on site including asbestos management.	
Management of student drop off/buses/parking etc.	As the proposed development does not seek to increase staff or student numbers, no changes are proposed to the existing management of student drop-off / buses and parking.	Section 5.2.11 Appendix BB
Although not discussed at the meeting, the first floor for both schools is only serviced by stairs and a small lift. Consideration should be given to have an accessible ramp to the first-floor level for general access, assist with the moving of large items and for use in times of power interruptions	<p>The school is served by stairs and a 13-person lift. This complies with BCA and accessibility requirements. The use of a ramp was explored during the design development but discarded for the following reasons:</p> <ul style="list-style-type: none"> • Ramp would be approximately 50m long to achieve a compliant gradient. • A long ramp is impracticable for young children. • The ramp takes up a large area and reduces the usable play space. • The ramp would form a barrier between the play spaces and the undercroft. • The lift is suitable for transporting reasonably sized items. 	N/A

4.3 Consultation – State Emergency Service

4.3.1 Meeting January 2023

On 24 January 2023, a meeting was held between representatives of the project team and State Emergency Service (SES) to discuss the Northern Rivers Flood Recovery Schools. Key matters discussed at this meeting that are relevant to Empire Vale Public School are identified in **Table 21**.

Table 21 Meeting with State Emergency Service 24 January 2023	
Matter	Response
<p><u>General</u></p> <ul style="list-style-type: none"> • In order to improve flood resilience and reduce risks, SES encourage investigation of historical flood studies to understand when flood waters have surrounded schools or cut off the road network. In some cases, this can happen at the 5% or 10% Annual Exceedance Probability (AEP) events. • During design development, consider the risk for younger children who have much lower tolerance to emergency events than adults or older children. With regard to the FERP, SES encourage schools to close early, well before the onset of flooding and closure of roads. 	<p>The Flood Impact Assessment (August 2022) (Appendix J), Civil Report (Appendix H) and Flood Emergency Response Plan (FERP) (Appendix K) provide a review of historical flood studies and information.</p> <p>In accordance with the FERP, it is recommended Empire Vale Public School is closed and evacuated when the river height at the Coraki River gauge is forecast to exceed Minor level (RL 3.4m) or approach Moderate level (RL 5.0m). This provides 12 hours of flood warning time, with an effective warning time of six (6) hours. Procedures have been identified in the FERP to assist with evacuation of all students from the site, well before the onset of flooding and closure of local roads.</p>
<p><u>Water velocities</u></p>	<p>The Civil Report prepared by Henry & Hymas (Appendix H) has identified that the 1% AEP flood velocity is up to 1.5m/second. The structure has been designed in consideration of all</p>

Table 21 Meeting with State Emergency Service 24 January 2023

Matter	Response
<ul style="list-style-type: none"> SES suggest considering water velocities around the proposed elevated buildings. Faster velocities carry more debris possibly impacting the buildings structural integrity. 	<p>additional forces and loads imposed from flood waters including the impact from debris.</p>
<p><u>Warning Times</u></p> <ul style="list-style-type: none"> In terms of triggers for the FEMP, consider if there are better warning systems in the event of sustained heavy rainfall to mitigate flash flood warning timeframe. Road closure information is available for some schools, SES can provide information on this. 	<p>The site has 12 hours of flood warning time, with an effective warning time of six (6) hours. In addition to the publicly available warning systems provided by the SES, Bureau of Metrology (BOM), HazardWatch web application, Council and ABC radio, the FERP requires the school to subscribe to the Early Warning Network. The school will establish communications database to provide information and regular updates to the school community.</p>
<p><u>Shelter in Place</u></p> <ul style="list-style-type: none"> SES do not endorse 'shelter in place' strategies. However, if a refuge is to be provided in the school as an emergency back up, it must be above the estimated PMF level. Any 'shelter in place' strategy must consider: <ul style="list-style-type: none"> The risk of rescue to SES volunteers in addition to the fact that human behaviour is likely to lead parents to cross flood waters to rescue children, thereby exposing both to increased risk; How to manage staff and students on site when all essential utilities and services are lost, especially water, power and sewer. 	<p>A 'shelter in place' strategy is not proposed for Empire Vale Public School.</p>

4.3.2 Consultation under T&I SEPP

Pursuant to section 3.10 of the T&I SEPP, written notification of the intention to carry out the proposed activity was provided in the NSW SES on 16 August 2023 (**Appendix JJ**). This written notification included a planning cover letter, copy of the architectural plans and copies of the Civil Report, Flood Impact Assessment and Flood Emergency Response Plan.

On 6 September 2023, SES provide a response to the notification (**Appendix NN**) that concluded that:

The NSW SES have also reviewed existing flood information held by NSW SES including Richmond River Flood Mapping Study 2010, Ballina Floodplain Risk Management Study 2012 and Ballina Flood Study Update 2008 available to the NSW SES, noting the proposed development is at risk of flooding in a 5% Annual Exceedance Probability (AEP) flood extent and the adjacent roads may be cut by floodwaters.

In summary, as the school is subject to high hydraulic hazard flooding, all buildings are vulnerable to failure. Ideally, the school would be situated on a more suitable location, appropriate for sensitive uses. However, noting the site is an existing school, the design should consider this hazard, and where possible be built to withstand the forces of flooding, up to a PMF. Further, as a consequence of the high flood risk, all school occupants must be evacuated prior to the onset of flooding, where the preferred emergency strategy for the school is early closure prior to the commencement of flooding and before the start of the school day.

In response to the feedback from SES, Acor Consultants prepared a response letter (dated 19 September 2023) to the matters raised in the SES letter as follows (**Appendix OO**):

ACOR Consultants responds to the following items raised in the NSW SES letter:

- 'Principle 4 Decisions on development within the floodplain does not increase risk to life from flooding.** NSW SES stated 'the draft Richmond Valley Flood Study 2023 by BMT is currently under exhibition and recommend the draft report is reviewed for consistency and accuracy of current flood information.'

- ACOR Consultants spoke with Peter Brown (Stormwater Engineer at Ballina Shire Council) on 18 Sep. 23 who stated that the draft Richmond Valley Flood Study 2023 by BMT does not extend as far as Ballina. A separate flood study is in progress and Flood Planning Levels within the Ballina Shire won't change until the study is finalised sometime in 2024. Flood levels for Empire Vale Public School presented in ACOR's Flood and Civil Engineering Assessment (DESIGN_DOC - 220830 - Empire Vale - Flood Assessment Revision 02) are the current applicable levels.
- Principle 7 Ongoing community awareness of flooding is critical to assist effective emergency response. NSW SES stated 'Of note, in the FERP the correct acronym to use for the NSW State Emergency Service is NSW SES and on page 21, 3.5.3 Bureau of Meteorology we recommend stating, This information is.... used by the NSW SES to release relevant warning products which instruct the community to take certain actions that support warning products issued by the BoM. Also, on page 31 of the FERP the emergency assembly point is the school playing field. This should be reviewed, to ensure that it is not already inundated, and outdoor conditions may not be favourable.'
- ACOR Consultants has incorporated the above updates into the Empire Vale Public School Flood Emergency Response Plan (DESIGN_DOC-230919-EMPIRE_VALE_FERP_REV04 Revision 04).

The feedback from NSW SES has been incorporated in the Flood Emergency Response Plan (FERP) in **Appendix K**.

4.4 Consultation – Occupiers of adjoining land

Section 3.38 of the T&I SEPP requires written notice of the intention to carry out the proposed activity to occupiers of adjoining land, when the works include development to which section 3.37(1)(a) of the T&I SEPP applies. On 17 August 2023, written notice was delivered to occupiers of adjoining land (**Appendix KK**). The written notice included a description of the proposed activity, along with architectural plans.

During the notification period, no feedback was received from any of the adjoining properties.

4.5 Other Engagement

4.5.1 Community Engagement Channels and Activities

The NSW Department of Education uses a range of standard community channels, tools and activities on an as-needs basis across all projects as identified in **Table 22**.

Table 22 Community Engagement Tools	
Activity	Strategic Intent
School community engagement (project review group, meetings, workshops, school tours, and design user group sessions)	<ul style="list-style-type: none"> • Discuss aspects of the design, consultation and construction approach and seek feedback and input from members. • Design user groups seek input from end users including staff and students about the proposed design and its applicability.
Community information sessions	<ul style="list-style-type: none"> • Provide an opportunity for face-to-face engagement between residents, school community, staff and members of the project team. Allow for Q&A and concerns to be raised. • Information sessions are widely advertised through the communication channels listed in this table. • May be virtual, with the same materials available and feedback/question forms (depending on public health advice)
Communications (project webpage, information pack, project updates and works notifications)	Distribution of project information to stakeholders delivered via letterbox drop and school newsletter.
Contact channels (emails and project information number)	Direct responses to stakeholder and community contact.

Table 22 Community Engagement Tools

Activity	Strategic Intent
School community communication (newsletter input, Parents and Citizens' Association meetings)	Ongoing updates as required and direct responses to questions.

In relation to the works at Empire Vale Public School, a dedicated project website is hosted through the School Infrastructure NSW website. The following updates have been provided:

- April 2022: Flood recovery update following the February 2022 floods.
- May 2022: Update on flood recovery works and next steps. An Information Package was circulated to the school community.
- October 2022: Update on the progress of the flood recovery works including the completion of due diligence studies and consultation with the School Principal.
- December 2022: Project update including indicative programme for the next stages of work.
- May 2023: Project update on status of the master planning process and consultation with stakeholders.
- August 2023: A community information session was held on 23 August 2023 to provide an opportunity for the local community to review the plans.
- September 2023: Project update following to the community information session. The update noted the following response from the community information session:

The Empire Vale Public School Information Session was an amazing success with over 60 people viewing the designs. Most of the feedback from the community was extremely positive, with people commenting on the curved design, how great the undercroft will be for community events and the wonderful incorporation of the heritage building into the design.

4.5.2 Department of Education Stakeholders

Engagement has been undertaken with the following Department of Education / School Infrastructure NSW project working groups including:

- The Project Reference Group (PRG) is a key governance group that provides feedback on critical design elements and the overall project direction. The PRG is comprised of the Director Educational Learning, the Principal, Deputy Principal, teacher representatives, a parent representative, project team members and the project architect.
- The Project Control Group (PCG) oversees the planning and delivery of a project. The group ensures project objectives, communications, stakeholder engagement, key deliverables, program, budget, scope and risk are considered. The PCG is comprised of the Director of Operational Readiness, Director Educational Leadership, the Principal, Deputy Principal, Information and communications technology (ICT) advisors, project team members and the project architect.
- The Technical Support Group (TSG) is comprised of technical experts within SINSW in the areas of design, heritage, disability access and standards, sustainability, IT services, safety and school transport. The TSG ensures that the project meets education facility standards and operational needs.
- The Expert Review Group (ERG) is comprised of a panel of experts who advise across all SINSW projects regarding design, buildability and, compliance to ensure the teaching and learning needs of every student are met.
- The Design Advisory Group is comprised of a group of experts who advise on Educational Facilities Standards and Guidelines (EFSG) compliance of the project.
- School Operations and Performance (School Ops) includes Director/s Educational Leadership and teacher/ Principal representatives.

Feedback from these stakeholders has been incorporated into the design.

5 Environmental Assessment

This section of the REF will carry out an environmental impact assessment of the proposed works, applying an assessment methodology of considering the potential for environmental risk arising from the site constraints, identifying potential risks associated with the carrying out of the proposed works, and identifying mitigation procedures and control measures appropriate to respond to these risks.

An assessment of the works against the factors which must be taken into account when assessing the impact of an activity on the environment pursuant to Section 171 of the EP&A Regulation is then provided in the following section.

5.1 Assessment method

Under the Division 5.1 Guidelines, the proponent is required to identify, analyse and evaluate the activity's likely environmental impacts of the proposed activity including the direct, indirect and cumulative impacts. Each likely environmental impact has been assessed individually for its level of significance. Key assessment considerations include:

- Type of impact – The characteristics of the impact likely to affect the environment.
- Extent – The area and population expected to be affected.
- Size – The estimated area, amount, quantity or volume of impact.
- Duration – When the impact is expected to occur, for instance, whether only over particular project phases or permanent.
- Severity – The likely degree of change (e.g. negligible, minor, moderate, major), which could depend on how vulnerable or resilient the affected environment, feature or population is to the impact. It may be appropriate to consider how the change compares with relevant standards, codes and/or policies.
- Importance – Any long-held values; whether the environment is rare, unique or readily replaceable; the importance to the community's identity, health and/or welfare; or any listings as being of national, state or local significance.
- Level of concern/interest – The concern or interest of the community and whether information is available to enable people to understand the impacts.

Each of the potential impacts of the proposed activity is evaluated by considering the significance of the impact, considering the aggregation of all of the impacts of the activity and consideration of the cumulative impacts. This will enable the consideration of the impacts of the proposed activity to the fullest extent possible.

Measures to mitigate the impacts of the proposed activity are detailed in **Appendix B** of the REF.

5.2 Detailed Environmental Assessment

5.2.1 Flood

Flood Impact Assessment

The February / March 2022 flood that damaged the existing buildings at the school reached a height of approximately 3.15m AHD (**Figure 19** and **Figure 20**).



Figure 19 Building B Original school building (library) with blue line indicating the approximate height of the 2022 floods with a blue line (Source: Acor Consultants)



Figure 20 Building F – learning spaces with blue line indicating the approximate height of the 2022 floods with a blue line (Source: Acor Consultants)

In August 2022, Acor Consultants prepared a Flood and Civil Assessment (**Appendix J**) for Empire Vale Public School that identified the following flood levels of relevance to the site (**Table 23**).

Table 23 Summary of flood and floor levels for Empire Vale Public School	
Minimum Habitable Floor Level (MHFL)	3.4m AHD
Design Flood Event	1% AEP Climate Change Year 2100
MHFL (including Climate Change Year 2100) / Flood Planning Level (FPL)	3.7m AHD
February / March 2022 peak flood level	3.15m AHD
Probable Maximum Flood (PMF) level	4.4m AHD

Table 23 Summary of flood and floor levels for Empire Vale Public School	
Usable undercroft floor level	5.1m AHD
Minimum Habitable Floor Level recommended	4.7m AHD (0.3m above PMF)
Flood velocity (1% AEP)	1.5m/second
Flood Risk Precinct	High
Highest Astronomical Tide (HAT) (1995 – 2014)	1.16m AHD
HAT (Climate change to 2100)	2.0m AHD

The NSW Flood Inquiry 2022 provided a series of recommendations for flood affected sites, including taking a risk-based approach to setting minimum habitable floor levels (*Recommendation #18*). The recommendation provides that the 1% AEP level plus 500mm freeboard, which has been traditionally used to set habitable floor levels, is not an adequate measure. The proposed buildings will provide a useable undercroft space with a habitable floor level of 5.1m AHD (**Figure 21**), which is 0.4m above the minimum habitable floor level recommendation of 4.7m AHD. The proposed design is consistent with Recommendation #18.

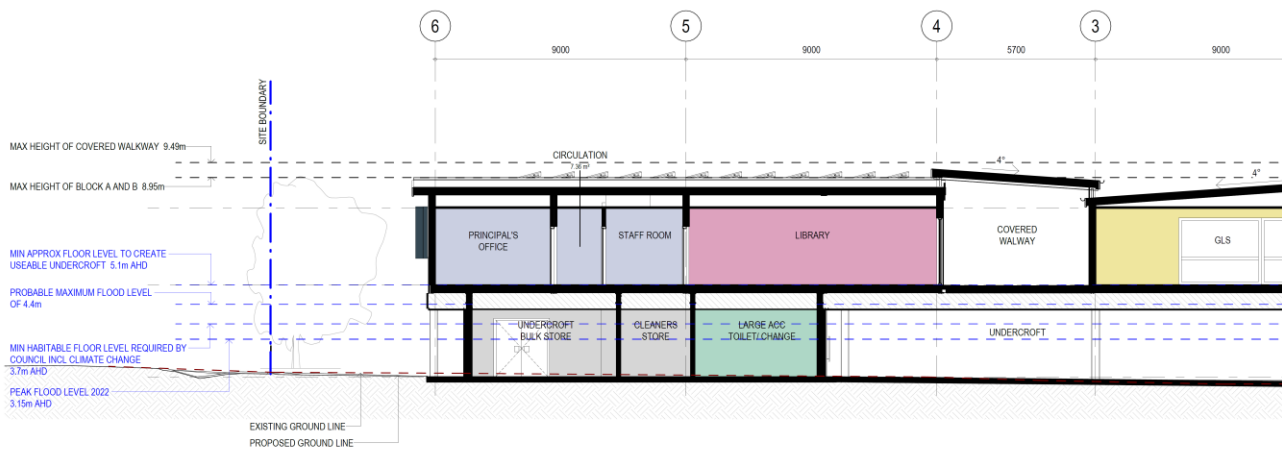


Figure 21 Section through elevated buildings showing flood levels and proposed elevated flood level (Source: Pedavoli Architects)

A Civil Engineering Report has been prepared by Henry & Hymas Consulting Engineers (**Appendix H**) that provides a review of the Flood and Civil Assessment prepared by Acor, along with an assessment against the following guidelines and studies:

- NSW Department of Planning and Environment (2023) *Flood Risk Management Manual* and associated toolkit including:
 - *Flood Impact and Risk Assessment LU01*
- NSW State Emergency Services *Ballina Shire – Local Flood Plan*
- BMT WBM (2010) *Richmond River Flood Mapping Study*
- BMT WBM (2012) *Ballina Floodplain Risk Management Study*
- Chapter 2B (Floodplain Management) of Ballina DCP 2012.
- Australian Building Codes Board (2012) *Construction of Buildings in Flood Hazard Areas*.
- Hawkesbury-Nepean Floodplain Management Steering Committee (2006) *Reducing vulnerability of buildings to flood damage: Guidance on Building in Flood Prone Areas*.

Flood Behaviour

In relation to the impacts of the proposed activity on existing flood behaviour, the Civil Report notes that the proposed site works will only generate minor modifications to the existing topography. The proposed new elevated building is generally located in a similar position to the existing buildings and is generally located outside of the major flood paths, flood conveyance zones and other major constraints. The new elevated building has undercroft areas without enclosed sides that allow flood waters to pass beneath the building.

A comparison between the existing building footprints (red) and proposed building footprints (blue) is shown in **Figure 22**. The proposed activity results in a reduction in building footprint from 694m² (existing) to 408m² (proposed), which has negligible impact on local flood conveyance and storage.

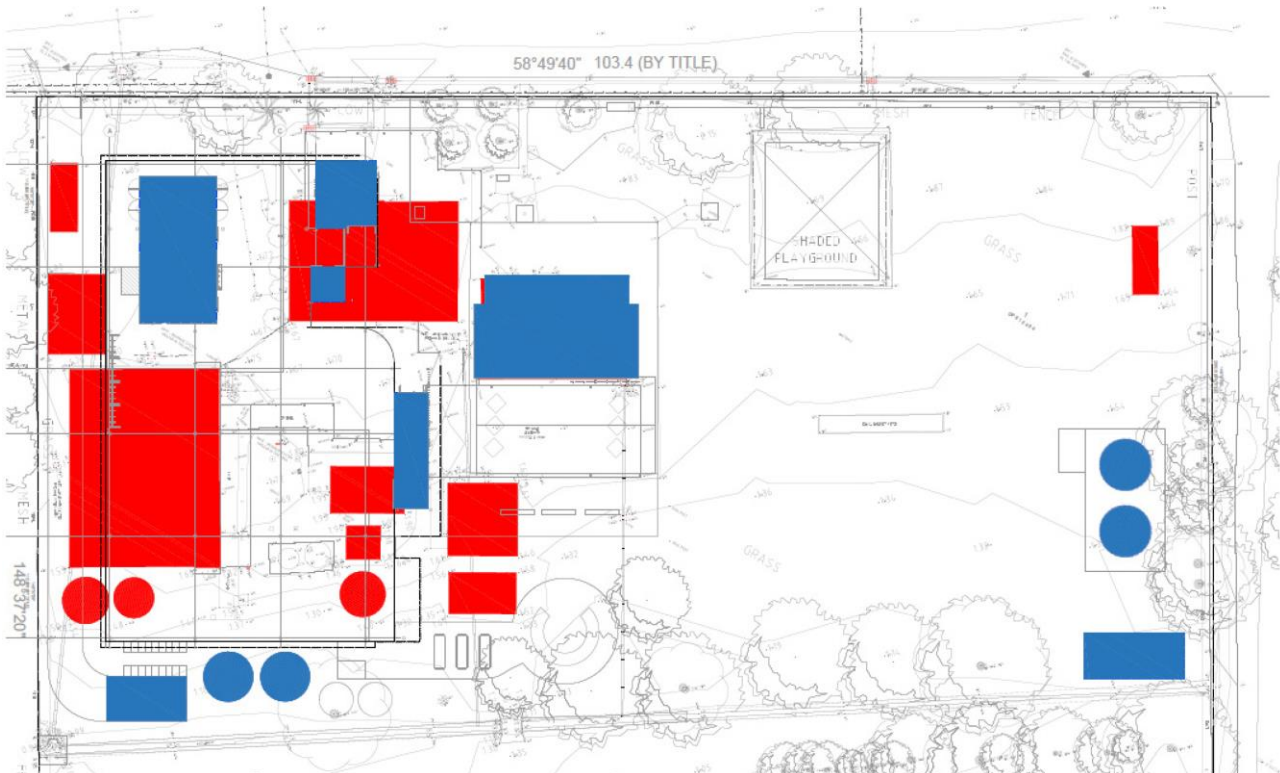


Figure 22 Comparison between the existing and proposed footprints at Empire Vale Public School (Source: Henry & Hymas)

Accordingly, the Civil Report provides the following conclusion in relation to the impacts of the proposed activity on existing flood behaviour:

- The proposed development will not result in significant changes to the existing flood level.
- The proposed development will not result in significant changes to the existing the duration of flooding.
- The proposed development will not result in meaningful or significant changes to existing flood velocity or existing flow path.
- The proposed development does not decrease available warning time and time available for evacuation.
- The proposed development does not increase the frequency of inundation.

Flood Resilience - Structure

In relation to the structural flood resilience of the new elevated building, the undercroft area (including the storage areas and amenities) adopts a 'wet flood proofing' methodology. Under the wet flood proofing methodology, the flood water is allowed to enter the building to reduce the build up of hydrostatic pressure between the flood water and the inside of the building. The structural materials used below the flood level must be water resistant to minimise the resulting damage (refer to discussion below).

The structural design has taken into account all relevant provisions of National Construction Code (NCC) as well as relevant Australian Standards relating to the design of buildings subject to flooding. The structure has been designed to consider all additional forces and loads from flood waters including hydrostatic actions (buoyancy), hydrodynamic (drag forces), debris actions, wave actions, erosion and scour, as well as combinations of these actions. In addition, consideration has been given to the impacts from debris and the 1% AEP flood velocity of up to 1.5m/s. The structural design is capable of withstanding floodwater up to the PMF flood level of 4.4m AHD.

In order to provide a flood resilient modular design, the following structural design is proposed in the Civil Design Report:

- The wall structure is comprised of external and internal reinforced concrete blockwork walls.
- The external reinforced blockwork has been designed to resist the forces imposed by floodwaters and debris impact.
- The external reinforced blockwork wall has been designed to include regular removeable vent blocks or weep holes to equalise water pressures.
- The undercroft floor is proposed to be reinforced concrete slab construction which is poured following construction of the external and internal walls, columns and associated footings. The internal floor is proposed to be finished higher than the surrounding flood level to provide a level difference across the external wall to promote water to drain water externally. The ground floor slab is proposed to include a subsurface drainage system to mitigate uplift forces from receding floodwaters.
- The internal wall systems have been designed using approved flood resilient material and strength suitable to withstand pressure differential forces that will occur between the internal and external water levels. Internal and external walls are proposed to include small weepholes to relieve pressure between external and internal areas minimising pressure differential between internal and external walls. Cavities and internal wall linings (excluding render) are not proposed due to the additional burden of maintenance following a flood event.
- As recommended in the NCC and reference documentation. The design has been undertaken to reduce moisture traps in design of the building. I.e. avoid non ventilated or non free draining cavities etc.

Flood Resilience - Materials

The proposed materials have been reviewed for their suitability and flood resilience. The following materials should not be used:

- Materials that are weakened when wet.
- Materials that are stable but porous and require drying out after a flood.
- Materials that are prone to absorption.
- Materials prone to fouling, rusting or rotting when exposed to water.

Materials selection has been undertaken in accordance with the NCC, relevant Australian Standards and guidelines in particular the Hawkesbury-Nepean Floodplain Management Steering Committee's *Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas (2006)* (the Building in Flood Prone Areas Guidance). The Building in Flood Prone Areas Guidance provides detailed information on the vulnerability, absorbency and suitability of materials following prolonged immersion.

Table 24 provides a review of the proposed materials against the relevant standards and guidelines.

Table 24 Flood Resilience - Proposed Undercroft Materials		
Component	Material	Discussion
Floor	Concrete ground floor slab	<ul style="list-style-type: none"> • Low vulnerability classification. • 96-hour immersion classification as suitable (these materials or products are relatively unaffected by submersion and flood exposure and the best available for the particular application) • Material absorbency classification A (minimal damage under most circumstances) • Consistent with Schedule C of Chapter 2b of the Ballina DCP.
Internal and external walls	Reinforced core filled blockwork	<ul style="list-style-type: none"> • Lowest vulnerability classification. • 96-hour immersion classification as suitable (these materials or products are relatively unaffected by submersion and flood exposure and the best available for the particular application) • Material absorbency classification A (minimal damage under most circumstances) • Consistent with Schedule C of Chapter 2b of the Ballina DCP.

Table 24 Flood Resilience - Proposed Undercroft Materials		
Component	Material	Discussion
		<ul style="list-style-type: none"> • Other benefits: <ul style="list-style-type: none"> ○ Unaffected by immersion. ○ Minimal clean-up and repair ○ No chance of decay, distortion or rusting of supporting frame. ○ No wall insulation required. ○ No skirtings or architraves required. ○ Durable.
Interior lining of walls (non-structural)	Cement Render	<ul style="list-style-type: none"> • Lowest vulnerability classification. • 96-hour immersion classification as suitable (these materials or products are relatively unaffected by submersion and flood exposure and the best available for the particular application) • Material absorbency classification C (subject to damage after prolonged immersion, but will recover when effectively dried) • Consistent with Schedule C of Chapter 2b of the Ballina DCP. • Other benefits: <ul style="list-style-type: none"> ○ Unaffected by immersion. ○ Not prone to impact damage. ○ Easy to clear or repaint.

Flood Resilience – Services Design

The following recommendations are to be incorporated into the services design of the proposed elevated building. These recommendations focus on improving flood resilience, minimising damage during a flood event and reducing required replacement, maintenance and cleaning of key infrastructure following a flood event (Table 25).

Table 25 Flood resilience – Building services	
Building Service	Recommendations
Lighting and Electrical	<ul style="list-style-type: none"> • <i>The most effective flood-resistant option for electrical systems in new buildings in flood prone areas is elevation of electrical components to the highest practical or regulatory level.</i> • <i>Where possible, wiring should be placed above the FPL. A practical option could be to place wiring in the roof space or the floor above and extend down the wall. The power points and switches in particular should be elevated above the FPL to gain extra protection. Conduits should be installed to ensure that water will be drained freely if subject to immersion.</i> • <i>Sensor lighting should be provided in the undercroft toilets and store rooms to prevent additional switches below the FPL.</i> • <i>Fixed electrical equipment such as non submergible pumps, water filtration units, air conditioners and hot water systems should be mounted above the FPL to reduce the chance of inundation.</i> • <i>Where possible, electrical switches must be placed above the FPL. Electrical conduits and cables installed below the FPL must be waterproofed or placed in waterproofed enclosures.</i> • <i>In two-storey construction, lighting and power on each level on separate circuits, any electrical power outlets below the FPL should be provided on a separate circuit. Ground</i>

Table 25 Flood resilience – Building services

Building Service	Recommendations
	<p>and first floor electrical services should be provided on a separate circuit. Note: This control relates to lift electrical.</p> <ul style="list-style-type: none"> • Where possible, all cable runs should be of one length. If junction boxes are unavoidable, they should be located in easily accessible, yet elevated, locations. • Conduits should be installed in such a manner to ensure any water will drain freely as the floodwaters recede. Similarly, where the mains supply is located underground, it should be installed to ensure that water can drain from the conduit. Sag points in any conduits should be avoided. • All wiring, power outlets, switches, etc., should, to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous components. Earth core leakage systems (or safety switches) are to be installed. Only submersible-type splices should be used below the relevant flood level. All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding. • All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly. • Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection. • Buried systems must be placed at a depth sufficient to prevent damage due to scour and erosion during the flood event. Exposed systems must be designed to withstand the flood related actions (buoyancy, flow, debris and wave).
Stormwater	<ul style="list-style-type: none"> • Selection of water quality management system as per recommendations in Civil Report. • No on-site stormwater detention required. • Consideration of flood levels for hydraulic modelling.
Hydraulic, Fire and other services	<ul style="list-style-type: none"> • Water filtration and non-submergible pump equipment should be located above the FPL. • Buried systems must be placed at a depth sufficient to prevent damage due to scour and erosion during the flood event. Exposed systems must be designed to withstand the flood related actions (buoyancy, flow, debris and wave). • Both above and under ground tanks need to be designed for any likely buoyancy forces. All tanks need to be designed with appropriate hold down capability and to resist impact loads from debris. • Any restraints should be of corrosion resistant material to reduce the chance of corrosion weakening the support. The number and capacity of these restraints required can be calculated after determining the net buoyancy force. • Where feasible, above ground tanks should be elevated as much as possible to reduce the buoyancy forces but the support structures need to be designed to resist the forces. The supporting posts or columns should have deep concrete footings embedded below expected erosion and scour lines. • If high velocities are expected in an area, flow deflector walls can be constructed around the tank to protect it from debris impact and the forces of velocity flow. The walls should be as high as practical but they do not have to be watertight. Should they fully circle the tank, there must be drainage holes at the base of the walls for rain and floodwater to drain. • During a flood, settlement of a structures such as pits can occur, especially those placed on fill, can occur due to soil saturation. This can lead to breakage of pipework and or the

Table 25 Flood resilience – Building services	
Building Service	Recommendations
	<p>connections. Accordingly, pipework connections should have some flexibility to reduce the chance of breakage.</p> <ul style="list-style-type: none"> To reduce the possibility of the water in rainwater tanks becoming contaminated, the inlet should be located as high as possible so it does not become submerged. Exposed components or pipework at risk from flowing water and debris should be securely fastened or located in sheltered areas to reduce the chance of damage. Hot water heaters are likely to need replacing if immersed in water and should be mounted as high as practical. Rainwater tanks (both in ground and below ground) are design for all relevant flood forces e.g. buoyancy and dynamic forces from flood waters. The main issue with sewerage systems during flooding is the potential for the backflow of sewage into the building. Refer to plumbing regulations or separate State/Territory requirements to determine whether backflow protection devices should be fitted for this purpose. The main issue with storage tanks is the possibility that they may float or pop out of the ground due to buoyancy and therefore they should be designed to resist the uplift forces. Above ground tanks should be placed above the FHL if possible.
Building B (Library Building)	<ul style="list-style-type: none"> Internal contents should be protected through the use of raisable shelving. Any remediation of the existing building should utilise flood resilient building materials and flood resilient construction methodology / structural design. <p>(Note: The above recommendations are to be reviewed as part of the Schedule of Conservation Works for Building B)</p>
Other considerations	<ul style="list-style-type: none"> Undercroft area should not be used for storage or vulnerable equipment or assets in cages. Floatable items such as tables and/or bench seating should be fixed securely (such that movement is not easily possible) to the undercroft ground slab or footpaths.

Emergency Evacuation

A Flood Emergency Response Plan (FERP) has been prepared by Acor Consultants (**Appendix K**). This report has been prepared in accordance with DPE's Flood Risk Management Manual (June 2012) in particular the Flood Risk Management Guideline EM01: Support for Emergency Management Planning.

A FERP is defined by the Australian Institute for Disaster Resilience (2020) as:

Flood emergency response (management) plan - A flood emergency plan is a set of agreed arrangements that provide a framework for the management of a flood. A flood emergency plan provides a robust and adaptable framework that outlines the progression of emergency management functions and the parts that each actor will play. This includes defining the roles and responsibilities of different agencies and outlining the strategies for the performance of key flood management capabilities.

A summary of the key features of the FERP is as follows:

- An evacuation strategy is adopted for Empire Vale Public School due to the flood warning time being approximately 12 hours, and the effective warning time being at least 6 hours.
- In an emergency, a direction to evacuate is made by the Incident Controller (NSW SES) in consultation, where possible, with the NSW Police Force. The Department of Education is to co-ordinate the evacuation of schools if not already closed. The school principal may close the school for the purpose of evacuation.
- Closure and evacuation of Empire Vale Public School is recommended when the river height at Coraki River gauge is forecast to exceed Minor level or approach Moderate level. It is important to understand that the first Flood Warning issued by the BOM may refer to Major flood level being reached (and not refer to Minor or Moderate level). BOM Flood Classifications (metres at gauge) Minor 3.40m AHD, Moderate 5.00m AHD and Major 5.70m AHD.

- The primary vehicular evacuation route from Empire Vale to higher ground is via River Drive, Blackwall Drive, Wardell Bridge over Richmond River and Wardell Road.
- The preferred evacuation destination for students is to their homes or homes of relatives if they are not flood prone. Evacuation centres in the vicinity of Empire Vale are in Alstonville, Goonellabah and Woodburn.
- Students are largely unable to self-evacuate and require assistance from parents/carers and multiple methods of evacuation must be available for the FERP to be effective, such as:
 - Arrangement with a local bus service to be on-call and available for the evacuation of all students to a pre-determined evacuation location is required.
 - By parents and carers
 - By teachers and school staff
- Evacuation to safe areas must be complete within 6 hours of receiving an 'Evacuate now' warning from the SES.
- Procedures for contacting NSW SES if transportation cannot be achieved.
- The Flood Emergency Response Plan provides further information around roles and responsibilities of different parties for different stages of the flood responses.

The FERP identifies the following further actions that should be undertaken to ensure the effective implementation of the FERP:

- School administration to subscribe to the Early Warning Network to provide alerts for severe weather forecasts and catchment river height gauge levels.
- School to undertake annual evacuation preparations prior to the commencement of the wet season (November to April)
- Installation of a flood warning notice (as illustrated in **Figure 23**)
- School administration and staff to be made aware of their roles and responsibilities as detailed in the FERP.
- Head contractor to be aware of their responsibilities during the demolition and construction process.

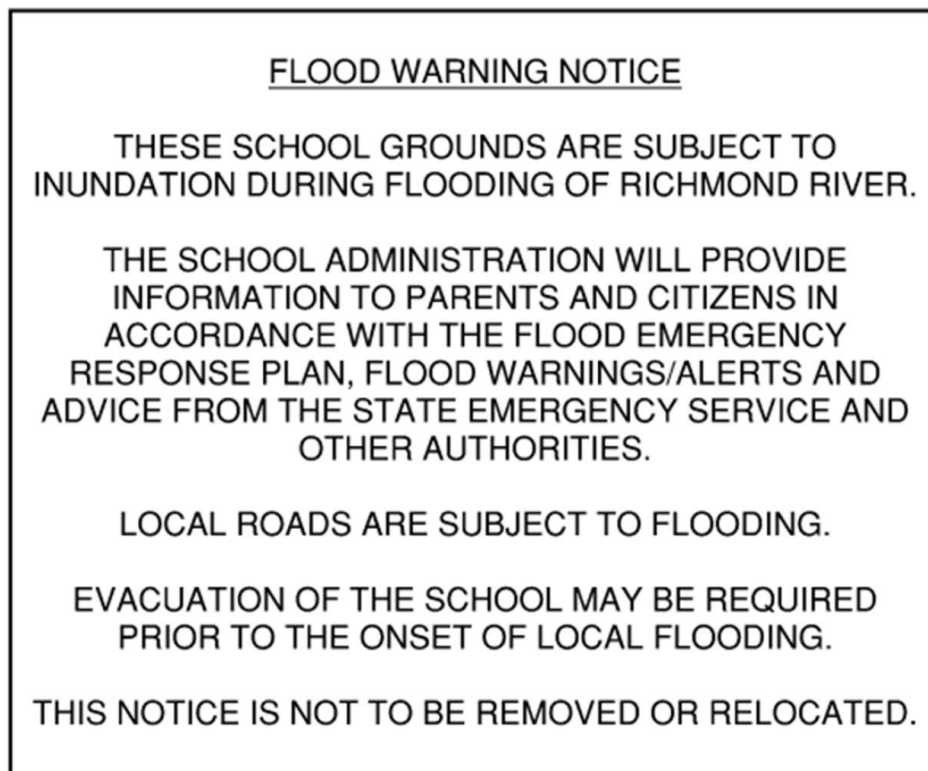


Figure 23 Sample flood warning notice sign to be installed at Empire Vale Public School (Source: Acor Consultants)

Mitigation measures relating to flood resilience and emergency evacuation have been incorporated into **Appendix B.**

5.2.2 Bushfire

The site is not mapped as bushfire prone land under the Ballina Bushfire Prone land map. Therefore, a Bushfire Safety Authority (BSA) is not required for the proposed activity under section 100B of the RF Act.

Nevertheless, based on advice from RFS, a Bushfire Assessment Report has been prepared by BlackAsh Bushfire Consulting to provide an assessment against the relevant provisions of Planning for Bushfire Protection 2019 (PBP 2019) (**Section 3.7.4**). Recommendations arising from the Bushfire Assessment Report have been incorporated into the mitigation measures in **Appendix B**.

5.2.3 Contamination and Hazardous Materials

Contamination

As discussed in **Section 3.4.2**, a Contamination Investigation report was prepared by Tetra Tech Coffey (**Appendix P**). Based on desktop research and intrusive site investigation, the Contamination Investigation report found that there were:

- No unacceptable human health soil impacts were identified in the investigation area.
- No unacceptable ecological soil impacts were identified in the investigation area.

Therefore, no site remediation is required, and the site is suitable for the proposed activity with respect to contamination, subject to the implementation of the following mitigation measures during demolition and construction:

- Implementation of unexpected finds protocol (contamination) in the event that any contaminated soils are uncovered during the works.
- Implementation of appropriate waste/spoil management measures in accordance with the relevant standards and guidelines including the NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

The Contamination Investigation report also recommended the preparation of an Acid Sulfate Soils Management Plan (ASSMP) (refer to **Section 5.2.5**). These mitigation measures have been incorporated into **Appendix B**.

Hazardous Materials

An Asbestos and Hazardous Materials Pre-Demolition Assessment has been prepared by Tetra Tech Coffey to identify and assess the health risk posed by hazardous materials, including asbestos containing materials (ACM) that could be encountered during the demolition of the existing buildings and structures on site (**Appendix R**).

The following hazardous materials were identified within buildings on the site (**Figure 24**).

Property	Asbestos Containing Materials		Lead Based Paint	Lead Containing Dust	Synthetic Mineral Fibre	Poly-chlorinated Biphenyls	Ozone Depleting Substances
	Non-Friable	Friable					
Empire Vale Public School	✓	✓	✓	-	✓	✓	✓

Figure 24 Summary of hazardous materials at Empire Vale Public School (Source: Tetra Tech Coffey)

A detailed Asbestos and Hazardous Materials Register is appended to their report.

Generally, the Asbestos and Hazardous Materials Pre-Demolition Assessment notes that all hazardous materials should be managed in accordance with the requirements of the NSW *Work Health and Safety Act 2011* (WHS Act), NSW *Work Health and Safety Regulation 2017* (WHS Regulation) and all relevant Codes of Practice, Australian Standards and Guidelines. The Assessment provides specific recommendations in relation to each hazardous materials identified on the site. Prior to any demolition, all asbestos and hazardous materials identified and likely to be disturbed should be removed in accordance with the recommendations of the Asbestos and Hazardous Materials Pre-Demolition Assessment and relevant Codes of Practices, compliance codes and legislation (refer to **Appendix B**).

Hazardous Chemicals

A Hazardous Chemicals Assessment has been prepared by Tetra Tech Coffey to identify any hazardous chemicals that are stored on site and evaluate the effectiveness of risk control measures implemented on the site to manage hazardous chemical storage (**Appendix S**). All hazardous chemicals should be stored on site in accordance with the recommendations of the Hazardous Chemicals Assessment.

5.2.4 Geotechnical, Land Stability and Groundwater

Geotechnical and Land Stability

A Geotechnical Investigation has been prepared by Tetra Tech Coffey that provides information about general subsurface ground conditions and groundwater (**Appendix O**). The geotechnical investigation included the drilling of two (2) deep geotechnical boreholes with the proposed elevated building footprint and two (2) environmental boreholes for contamination investigation purposes (**Figure 13**).

The site is underlain by Quaternary alluvium, which consists of “fluviually deposited to medium grained lithic to quartz-rich sand, silt, clay”. The site is located within the Empire Vale soil landscape group (9540ep). The encountered ground profile comprises relatively shallow fill up to 0.8m thick overlying a deep layer of very soft to soft clay and localised band of loose sand, extending up to 20.3m depth, and underlain by medium dense sand.

The proposed activity involves minimal excavation. There will be site grading to create suitable and compliant transitions between existing and new hardstands and structures. In addition, site grading will be undertaken to improve onsite drainage and direct overland flow away from existing and proposed buildings. Any minor earthworks batters (less than 0.3m high) will be designed in accordance with the geotechnical recommendations.

Due to the presence of highly compressive clayey layers, shallow footings are not suitable for the site. The Geotechnical Investigation report recommends the use of driven piles. It also provides recommendations in relation to subgrade preparation, engineering fill compaction, re-use of soils, design of temporary batters and pavements. Subject to the recommendations of the geotechnical investigation being implemented, it is considered that the proposed activity will not result in any land instability.

Groundwater

In relation to groundwater, the Geotechnical Investigation found that groundwater was observed at depths between 1.4m and 2.2m below the existing ground surfaces levels (equivalent to RL 1.0m to 1.5m AHD). It is anticipated that groundwater levels vary due to climatic conditions and tidal influences from the Richmond River. Therefore, whilst any shallow excavation is unlikely to encounter groundwater, the driven piles may. In the event that groundwater is encountered during the works, works are to cease immediately. If groundwater needs to be removed, an approval will be required under the *Water Management Act 2000*.

5.2.5 Acid Sulfate Soils

The site is mapped as containing Class 2 Acid Sulfate Soils (ASS) and is located within an area having a high probability of encountering acid sulfate (ASS) soils at 1 – 2m below ground level. During the geotechnical and contamination site investigations, no ASS or Potential Acid Sulfate Soils (PASS) were detected in the shallow soils. However, it is likely that ASS, if present, may be disturbed by excavation and piling work. If not appropriately managed, exposure and oxidation of potential ASS may lead to the generation of acidic leachate, which can be detrimental to the environment and the quality of any in-ground structures and services. It can also make materials and machinery more susceptible to acidic corrosion. Therefore, an Acid Sulfate Soils Management Plan (ASSMP) is required to identify relevant procedures to manage any potential issues associated with ASS.

The ASSMP has been prepared by Tetra Tech Coffey with reference to the Acid Sulfate Soils Management Advisory Committee’s *Acid Sulfate Soils Manual* including the *Acid Sulfate Soils Assessment Guidelines* (1998) and *Acid Sulfate Soils Management Guidelines* (1998) (**Appendix Q**). The ASSMP provides a framework for the approach and methodology of ASS management at the site during the construction phases to be followed by the contractor.

The following general management processes have been identified for the site:

- i. *Appoint an appropriately qualified person to manage the acid sulfate soil issues during the construction activities;*

- ii. Excavation and temporary stockpiling of excavated material;
- iii. Assess the potential presence of acid sulfate soils and liming rates within stockpiled soils for treatment and disposal purposes;
- iv. Undertaking liming (if required);
- v. Dispose of the limed stockpile to an appropriately licensed landfill.

It is considered that subject to the implementation of the recommendations of the ASSMP, that any ASS or PASS encountered during the works can be appropriately managed and will not result in any adverse impacts on the environment of the site or Empire Vale locality (refer to **Appendix B**).

5.2.6 Heritage

Built Heritage

The site is mapped as containing a local heritage item (Item I62 "Tramlines across River Drive") under Schedule 5 of the Ballina LEP. The site also contains a heritage item (Item "B00B Brick library building") listed under the Department of Education's Section 170 Heritage and Conservation Register. Therefore, a Statement of Heritage Impact (SOHI) has been prepared by EMM to assess the impacts of the proposed activity on the heritage significance of these items (**Appendix L**).

The following Statement of Significance has been prepared by EMM in relation to the "Tramlines across River Drive":

The tramlines on River Drive Road hold local heritage significance due to their historical, associative, social, research, and representative value. Dating back to the 1860s, these transportation routes played a crucial role in facilitating the movement of cane and other produce, significantly shaping the economic landscape and cultural history of the community. They are associated with the lives of farmers and laborers involved in cane cultivation and processing, representing their contributions to the region's development during that era.

Moreover, the tramlines' research significance provides valuable insights into the historical development of the cane industry, transportation methods, and the economic and social activities of the local area during that period. Their presence along River Drive Road highlights their representative value as fundamental aspects of the region's cultural history, serving as principal means of transporting cane and other produce.

The following Statement of Significance has been prepared by EMM in relation to Item "B00B, brick library building":

Empire Vale Public School, specifically the library building holds local heritage significance based on its historical, aesthetic, and social value. As a longstanding educational institution, it played a central role in the social development of the area during the late 19th century and continues to adapt to the changing needs of the community. The building's architectural design, including its Victorian features, showcases a moderate degree of creative achievement and contributes to its aesthetic value. Its continuous operation since 1880 demonstrates a direct and enduring association with the local area, making it historically and socially significant. Furthermore, Empire Vale Public School has the potential to yield valuable information for research and analysis, enhancing our understanding of the local area's cultural history.

While it does not possess rare or uncommon aspects, it is representative of education buildings from the late Victorian period, further emphasising its local significance. Overall, Empire Vale Public School holds a special place within the community, serving as a symbol of education, socialisation, and community identity throughout its longstanding presence.

The SOHI concludes that:

The proposed development presents positive impacts by facilitating the continued use of the library through planned conservation and repair efforts. This preservation approach ensures the retention of its historical fabric, functionality, and local significance, thereby upholding its overall heritage value.

The planned demolition of non-significant structures does not bear discernible heritage impact, as these structures lack historical significance and do not contribute to the subject site's heritage values. Similarly, the introduction of fire tanks poses no impact to the significance of the tramlines, as their placement has been selected to avoid encroachment upon the mapped curtilage of the tramlines. The potential archaeological impacts of the proposed fire tanks, booster assembly and hydrant pump house are addressed in a separate document (EMM Consulting, 2023).

However, the proposed development does exert a minor impact on the movable heritage items, through their relocation and the rural setting, through the placement of the fire tanks, booster assembly and hydrant pump house. To address these impacts, measures have been proposed to minimise the visual impact of the fire tanks and ensure the protection and proper reinstallation of movable heritage items, minimising potential dissociation and loss.

The primary source of adverse impact can be attributed to the spatial arrangement, height, and setting of the proposed A and B Block development, which deviates from the historical context of the library building. These factors have adverse implications for the appreciation of the library building in its historical setting, i.e. the views and vistas.

The site constraints dictating the placement and height of the new development include:

- A drainage swale: the placement of the new development to the south of the swale would result in substantial civil works.
- Existing site access.
- Council requirement to construct a habitable floor level above 3.7 metres (m) Australian Height Datum (AHD).
- Desire to have a usable undercroft space raising the floor level to 5.1 m AHD.

In this context, it is important to note that the new development cannot be situated elsewhere on the site, nor can its overall height be reduced. Therefore, relocating the proposed development to an area that would not affect the library building has not been feasible. While an adverse impact has been identified, management measures can be implemented to ameliorate these.

The following mitigation measures have been identified to manage any adverse impacts on the heritage significance of the site:

MANAGEMENT MEASURE 1: Engage in consultation with relevant stakeholders, including the heritage consultant and NSW Fire and Rescue, to determine the optimal arrangement and location of the fire tanks, booster assembly and hydrant pump house. Minimise visual intrusions to preserve Empire Vale's rural character. Implement appropriate screen and lighting design measures accordingly.

MANAGEMENT MEASURE 2: During the finalisation of the design, give special attention to the integration of all external services. To maintain an unobtrusive appearance, situate these services on the farthest elevation from Item 'B00B' Brick Library Building to ensure their unobtrusive appearance.

MANAGEMENT MEASURE 3: Prior to commencing any project-related work and upon its completion, create an archival recording of Item 'B00B' Brick Library Building, adhering to the guidelines outlined in the Photographic Recording of Heritage Items Using Film or Digital Capture (NSW Heritage Office 2006).

MANAGEMENT MEASURE 4: A Schedule of Conservation / Restoration Works for Item 'B00B' Brick Library Building should be developed for the NSW Department of Education, following State Owned Heritage Management Principles and heritage asset management guidelines (Heritage Act 1977, Section 170A(1) and Section 170A(2)). This should be done in consultation with a built heritage consultant and specialist contractor to develop a detailed conservation scope, considering the building's fabric and heritage significance.

MANAGEMENT MEASURE 5: Mandatory consultation with a built heritage consultant is required prior to undertaking any demolition involving fabric that currently penetrates Item 'B00B' Brick Library Building. The consultation is essential to ensure the proper consideration of the building's heritage significance and preservation requirements.

MANAGEMENT MEASURE 6: New development within the minimum curtilage of Item 'B00B' Brick Library Building should only be considered if it is essential for the site's operation. Any such development must align with the cultural and natural heritage recommendations and exhibit a sympathetic approach.

MANAGEMENT MEASURE 7: An additional moveable heritage item, the Great War and World War II honour rolls, has been identified. These honour rolls appear to have been removed from the library building. It is strongly recommended that the honour rolls be located and necessary conservation measures are undertaken, in consultation with a built heritage consultant or conservator. Additionally, it is advisable to temporarily and sympathetically integrate the honour rolls into the new proposed development until its final location is determined.

Subject to the implementation of the recommendations of the SOHI, it is considered that the proposed activity will have an acceptable impact on the heritage significance of the site.

As described in **Section 2.3.4**, it is proposed to undertake conservation and remediation works to Building B in accordance with a Schedule of Conservation Works. An Existing Conditions report has been prepared by Henry & Hymas Consulting Engineers to identify the structural elements within the building and whether any structural repairs are required (**Appendix PP**). The Existing Conditions report concludes that Building B is in reasonable condition for its age and provides structural recommendations.

Historical Archaeology

As detailed in **Section 3.7.6**, the site is identified as having a moderate to high archaeological potential for the historical archaeological resources associated with the former schoolteacher's residence in the north-east corner of the site. The Archaeological Design Research and Methodology prepared by EMM provides an assessment of the potential significance of these archaeological resources and a methodology for undertaking subsurface investigations in accordance with the relevant Heritage NSW guidelines. If the archaeological resources meet the threshold for relics as defined under the Heritage Act, then a section 140 excavation permit will be required. These recommendations have been included in the mitigation measures in **Appendix B**.

5.2.7 Aboriginal Cultural Heritage

As discussed in **Section 3.7.5**, an Aboriginal Heritage Due Diligence report was prepared by EMM in accordance with the former DECC *Due Diligence Code of Practice of the Protection of Aboriginal Objects in New South Wales* (2010). The Due Diligence report found that the site has a low archaeological sensitivity, as the site has been significantly altered and the risk that demolition and construction activities may harm Aboriginal objects or subsurface deposits is low. Detailed recommendations are provided in the Due Diligence report in the event that any unexpected finds (Aboriginal Cultural Heritage) are uncovered during the works. These have been incorporated into the mitigation measures detailed in **Appendix B**.

A Connecting with Country consultant has been engaged to develop narratives, symbols and stories to establish connections to Country and acknowledge the life and culture of Indigenous people past and present.

5.2.8 Built Form and Visual Impacts

Built Form and Visual Impacts

The proposed activity comprises the demolition of existing one (1) storey school buildings and replacement with a new elevated school building. It is therefore considered that the proposed activity will have a significant visual impact on the adjoining streetscape and will be a prominent and large-scale building within the locality (**Figure 25**).



Figure 25 Birdseye 3D Photomontage (Source: Pedavoli Architects)

It is considered that the visual impact of the proposed new elevated building is acceptable for the following reasons:

- The new elevated building complies with the 8.5m height limit under the Ballina LEP and the finished floor level of the elevated level exceeds the height of the probable maximum flood (PMF).
- The new building adopts a contemporary architectural language that is sympathetic to the rural character of the locality. In particular, the building is reminiscent of the traditional building typology of Northern NSW and Queensland, which comprises elevated buildings with wide verandas.
- The use of the coloured vertical feature screening creates visual interest and assists in articulating the new building.
- The new elevated building will improve views from River Drive towards Building B (Original library building).
- The elevated building allows for filtered views through the undercroft towards the cane fields to the east of the school.
- The existing trees and garden along the River Drive boundary will be retained. New landscape planting will help to soften the appearance of the new elevated building.
- The proposed activity will ensure the continuing operation of a long-established educational establishment.

Overshadowing

Shadow diagrams have been prepared by Pedavoli Architects for 9am, noon and 3pm on 21 June (**Figure 26**). The proposed activity will result in the overshadowing of a small portion of the swimming pool at 630 River Drive at 9am on 21 June. However, there will be no additional overshadowing of any adjoining properties or public domain at noon or 3pm.



Figure 26 Shadow Diagrams (Source: Pedavoli Architects)

Visual Privacy

The design of the new elevated building minimises the number of windows located along the south-western elevation facing 630 River Drive (**Figure 27**). The use of vertical sun shading devices on the windows also reduces the potential for overlooking from the elevated level onto the adjoining residential property.

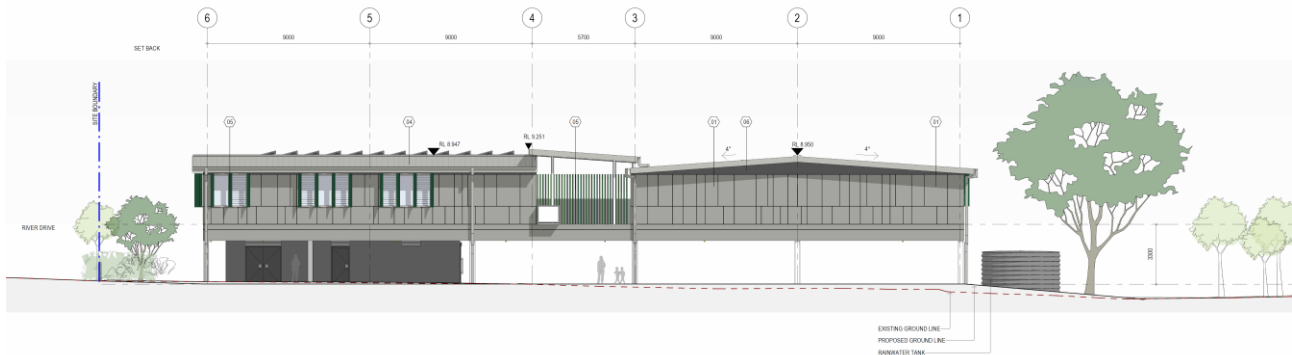


Figure 27 Proposed south-western elevation (Source: Pedavoli Architects)

5.2.9 Biodiversity

Biodiversity

A Flora and Fauna Assessment has been prepared by Kleinfelder that provides an assessment of the proposed activity against the provisions of the EPBC Act, BC Act and FM Act (**Appendix AA**). The Flora and Fauna Assessment concludes that:

The proposed development will not require the removal of any native vegetation consistent with PCTs or TECs. Only 0.0166 ha of Vegetation Zone 1 (Native and exotic trees and shrubs) will be cleared under the proposed development. The main vegetation clearing will be 0.1274 ha of Managed Lawns.

No threatened communities, flora or fauna species were recorded within the Subject Site or are considered to have a moderate to high likelihood of occurrence except the Koala. However, it was determined the Koala would not be significantly impacted. As such, the proposed development is unlikely to cause a significant impact to any threatened communities, species or populations listed under the NSW BC Act or the EPBC Act.

Avoidance and mitigation measures have been presented to reduce potential impacts to the biodiversity values within the Subject Site and the environment.

The mitigation measures are outlined in **Table 15** and have been included in **Appendix B**. It is considered that the proposed activity has been appropriately design and sited to avoid, minimise and mitigate impacts on existing vegetation, ecological communities and species habitat.

Tree Removal and Protection

A total of nine (9) trees are required to be removed to facilitate the proposed development (**Table 5**). These trees are identified as having nil, low or moderate landscape significance. No trees proposed to be removed are of high landscape significance. The removal of the nine (9) trees will be offset by the planting of seven (7) trees. The new trees have been selected from local plant communities and are suitable for use within an educational establishment.

All other trees are to be retained and protected in accordance with the recommendations of the Arboricultural Report prepared by Northern Tree Care (**Appendix Z**) and the requirements of AS 4970 (2009) *Protection of trees on development sites*. The Arboricultural Report identifies the location of tree protective fencing at Empire Vale Public School (**Figure 28**). These recommendations have been included in the mitigation measures in **Appendix B**.

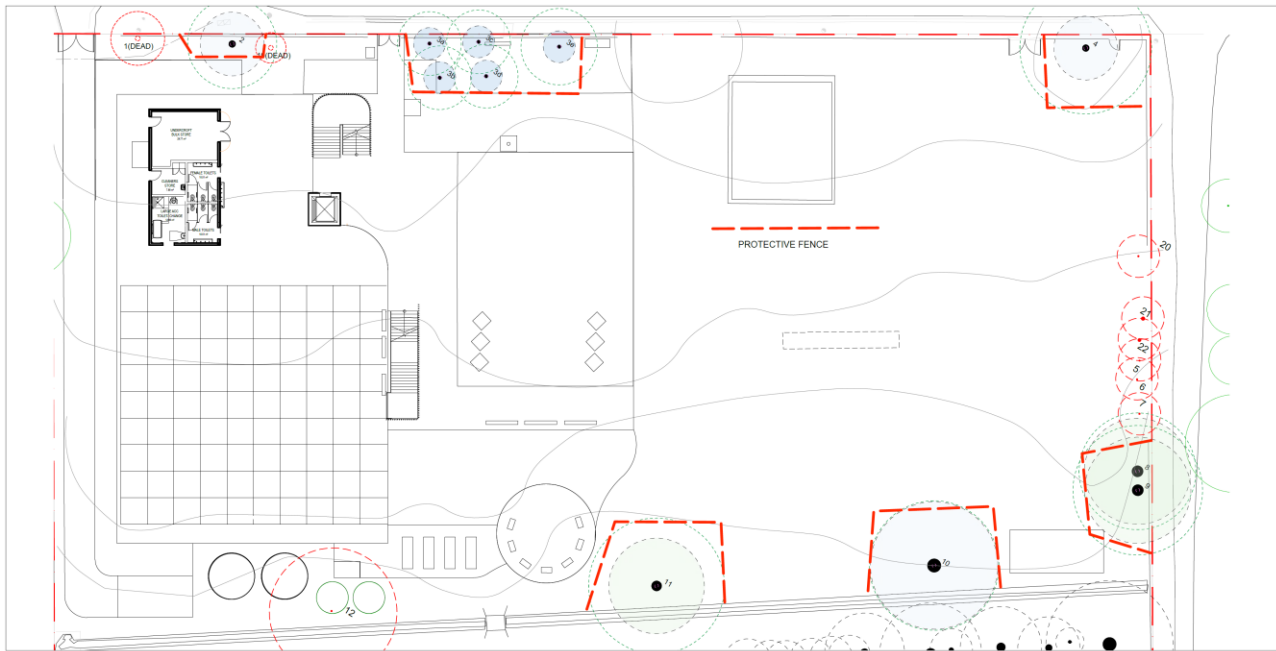


Figure 28 Location of tree protection fencing at Empire Vale Public School (Source: Northern Tree Care)

5.2.10 Noise and Vibration

Operational Noise and Vibration

A Concept Design Acoustic Report has been prepared by Acoustic Logic to identify the acoustic design requirements for the new elevated building (**Appendix Y**). The Concept Design Acoustic Report outlines the appropriate assessment methodology, identifies the potential noise and vibration impacts of the proposed activity and provides mitigation measures and specifications to address the potential impacts.

Figure 29 shows the location of noise sensitive receivers in the vicinity of the site. These are both rural residential properties:

- R1: Residential dwelling at 630 River Drive, Empire Vale.
- R2: Residential dwelling at 644 Rive Drive, Empire Vale.

Unattended noise monitoring was conducted between Tuesday 13 June and Friday 23 June 2023. The noise monitor was located on the south-western site boundary facing residential receiver R1 (identified by a green dot in **Figure 29**). In addition, attended noise measurements were carried out at three (3) locations on the site as shown by the red dots in **Figure 29**.



Figure 29 Location of noise sensitive receivers (Source: Acoustic Logic)

The rating background noise levels for the site and its immediate surrounds are presented in **Figure 30**. These figures represent the existing background noise level of assessment purposes and are derived in accordance with methodology outlined in the NSW EPA's *Noise Policy for Industry* (2017) (NPfl).

Location	Time of day	Rating Background Noise Level dB(A)L ₉₀
Empire Vale Public School	Day (7 am – 6 pm)	35*
	Evening (6 pm – 10 pm)	31
	Night (10 pm – 7 am)	30*

*Adjustments have been made due to measured noise levels are below the minimum assumed RBLs in NPfl.

Figure 30 Rating Background Noise Levels

External Noise Intrusion

External noise intrusion relates to the impacts of external noise such as plant, equipment and traffic on the internal amenity of the new elevated building. Based on the requirements under the EFGS and Green Star Design & As Built v1.3 requirements, an internal noise target of 40dB has been established for the general learning spaces (GLS), learning commons, library and staff room, with an internal noise target of 35dB for the Principal's office, sick bay and multi-purpose space. The Concept Design Acoustic Report provides a detailed specification about how these internal noise levels can be achieved through the architectural design including the façade design as well as the selection and design of plant (mechanical and hydraulic). It is considered that subject to the implementation of the recommendations of the Concept Design Acoustic Report that the internal acoustic amenity of the elevated building will achieve the internal noise targets (**Appendix B**).

The Concept Design Acoustic Report also provides recommendations in relation to the mitigation of any vibration generated by plant or equipment.

Operational Noise Emissions

Operational noise emissions relate to the noise emissions from the proposed activity. Operational noise emissions include:

- Noise from plant and services.
- School bells
- Use of the school buildings during the day.
- Traffic generated by the school.

Maximum noise emissions criteria has been established with regard to the background noise level and the requirements of the NPfl (**Figure 31**).

School	Type of receiver	Time Period	Assessment Background Noise Level dB(A) L_{90}	Project Amenity Criteria dB(A) L_{eq}	Intrusiveness Criteria $L_{eq}(15min)$
Empire Vale Public School	Residential	Day (7 am – 6 pm)	35	48	40
		Evening (6 pm – 10 pm)	31	43	36

* Noise emissions measured in accordance with EPA guidelines, including any penalties for annoying characteristics.

Figure 31 Maximum noise emissions to surrounding properties (Source: Acoustic Logic)

In relation to the noise generated by any plant and services, the Concept Design Acoustic Report provides a detailed specification such as acoustic treatments that will ensure that any noise emissions are not intrusive, will not impact on the acoustic amenity of the two (2) residential noise receivers within the vicinity and achieve the relevant noise criteria at the site boundary.

In relation to noise generated by the use of the school buildings, the Concept Design Acoustic Report notes that the hours of school operation are generally between 8:30am to 3:30pm during school terms. In addition, the proposed activity does not seek to increase staff or student numbers at the school and therefore, the proposed development is not expected to generate any additional traffic during the school AM and PM peak periods.

Two (2) operational scenarios are considered:

- Scenario 1: All students using indoor classrooms with all windows and doors open and one (1) out of every two (2) students is speaking.
- Scenario 2: All students using the outdoor play area.

The Concept Design Acoustic Report concludes that in both scenarios, the maximum external noise levels are not anticipated to exceed the relevant noise intrusiveness criteria of 40dB at the site boundary (**Figure 32**).

Assessment Location	Predicted Worst Case Noise Level dB(A) L_{eq}	Operational Activity	Criteria - Day* (7am-6pm)	Compliance?
R1 - Residential receivers	34	All students using indoor classroom with all windows open, 1 of 2 talking	40 dB(A) $L_{eq}(15min)$ - (BG+5)	Yes
R2 - Residential receivers	24			Yes

*Criteria were adopted from AAAC Guideline for Child Care Centre Acoustic Assessment (2020) for Other Noise Emission (including use of indoor classroom: BG+5).

Figure 32 Predicated Operational Noise Levels at Sensitive Receivers (Source: Acoustic Logic)

On the basis of the assessment undertaken in the Concept Design Acoustic Report it is considered the operation of the proposed activity will not have any adverse impacts on the acoustic amenity of the adjoining residential receivers, subject to the mitigation measures detailed in the Concept Design Acoustic Report and **Appendix B**.

Construction Noise and Vibration

A Construction Noise and Vibration Management Plan has been prepared by Acoustic Logic to assess the impacts of the construction noise and vibration on the acoustic amenity of the site and its surrounds (**Appendix HH**).

Under the NSW EPA's *Interim Construction Noise Guideline (2009)*, the following definitions apply:

- “Noise affected” level: Where construction noise is predicted to exceed the “noise effected” level at a nearby residence, the proponent should take reasonable / feasible measures to mitigate the impacts. For residential properties, the “noise affected” level occurs when construction noise exceeds the background noise level by more than 10dB(A)_{Leq(15min)}. At Empire Vale Public school, the “noise affected” level is 45dB(A)_{Leq(15min)}.
- “Highly noise affected level”: Where noise emissions are such that nearby properties are “highly noise effected”, noise controls such as respite periods should be considered. For residential properties, the “highly noise effected level” occurs when construction noise exceeds 75db(A)_{Leq (15min)} at nearby residents.

Typically, the most significant sources of noise generated during a construction project will be demolition, excavation, civil works and piling. An assessment of the impacts of the demolition and construction works on the two (2) residential receivers is provided in **Figure 33** and **Figure 34**.

Activity	Predicted Cumulative Level – dB(A) _{Leq(15min)} (External Areas)	Comment
Demolition Stage: Concrete Saw Machine Mounted Hydraulic Drill Excavator & Trucks	65 – 71	Meets highly noise affected management level at all times. Generally exceeds noise affected management level. Refer to Recommendations Section 4.5
Excavation/ Construction Stage: Excavator & Trucks Materials Handling (Forklifts etc) Powered Hand Tools	52 – 58	

Figure 33 Predicted noise generated to R1 Residential receiver (Source: Acoustic Logic)

Activity	Predicted Cumulative Level – dB(A) _{Leq(15min)} (External Areas)	Comment
Demolition Stage: Concrete Saw Machine Mounted Hydraulic Drill Excavator & Trucks	62 – 71	Meets highly noise affected management level at all times. Generally exceeds noise affected management level. Refer to Recommendations Section 4.5
Excavation/ Construction Stage: Excavator & Trucks Materials Handling (Forklifts etc) Powered Hand Tools	40 – 49	Generally meets ICNG noise management levels. Marginal exceeds noise management level only when working close to northern boundary. Refer to Recommendations Section 4.5

Figure 34 Predicted noise generated to R2 Residential receiver (Source: Acoustic Logic)

For residential receiver R1, the demolition and construction works will meet the 'highly noise affected' management level during demolition and construction. For residential receiver R2, the demolition work will meet the 'highly noise affected' management level during demolition. To mitigate these impacts, the CNVMP identifies the following management controls to be implemented:

- *Install a 2.1m solid acoustic barrier along the southwestern boundary of the site (between the site and Residential Receiver 1).*
- *The scheduling of construction activities should be undertaken to reasonably minimise noise impacts to all surrounding residents.*
- *Community consultation is proposed to be undertaken throughout the construction process. In this regard regular letterbox drops detailing site progress and schedule works is proposed. In particular, these should detail the extent and times of rock hammering which is planned to be undertaken.*
- *Quiet work methods/technologies:*
 - *The primary noise generating activity at the site will be the demolition period. As much as practicable, use of quieter demolition methods is adopted.*
 - *Excavation is conducted initially using excavator with bucket (quietest excavation method), then use of rock rippers (as opposed to hydraulic hammers and rock saws) when rock strength permits. Use of loudest excavation equipment (hydraulic hammers/rock saws) is used only with other options are not available.*
 - *Deliver trucks should generally be located away from residential receiver 1.*
- *Materials handling/vehicles:*
 - *Trucks and forklifts in general use on site are to use a non-tonal reversing beacon where possible (subject to OH&S requirements) to minimise potential disturbance of surrounding receivers.*
 - *Avoid careless dropping of construction materials into empty trucks.*
 - *Trucks, trailers and delivery vehicles are to turn-off engines when idling to reduce noise impacts (unless required for concrete pumping or similar).*
- *Complaints handling:*
 - *An after hours contact number is displayed outside of the building site, so that in the event that surrounding development believes that a noise breach is occurring, they may contact the site.*
 - *In the event of complaint, the complaint handling procedures outlined in the CNVMP are adopted.*
- *Site Induction:*
 - *A copy of the CNVMP is to be available to contractors. The location of the CNVMP should be advised in any site induction.*
 - *Site induction should also detail the site contact to be notified in the event of noise complaint.*

The CNVMP concludes that subject to the implementation of the mitigation measures outlined in the CNVMP and **Appendix B** that noise emissions from demolition and construction activities can generally meet the relevant noise emissions levels.

In terms of vibration, the relevant vibration criteria have been established with reference to the German Standard *DIN 4150-3 Structural Vibration: Effects of Vibration on Structures*, British Standard *BS 6472:1992 Guide to Evaluate Human Exposure to Vibration in Buildings* and the NSW EPA document *Assessing Vibration: A Technical Guideline*. The excavator is the equipment that is typically associated with high levels of vibration. The CNVMP notes that due to the distance between the proposed works and the residential properties, the use of the excavator will not produce vibration levels that will exceed the vibration criteria. All other construction items are not expected to generate vibration exceeding building damage or amenity acoustic criteria.

5.2.11 Traffic and Parking

Operational Traffic and Parking

A Traffic and Transport Assessment report has been prepared by PTC that provides an assessment of the impacts of the proposed activity on the existing and future operation of the nearby road network, as well as other traffic and transport-related issues including access to and from the site, public and active transport accessibility, car parking requirements and service vehicle access (**Appendix BB**).

The proposed activity does not seek to increase the number of staff or students at Empire Vale Public School and therefore, it is expected that the traffic generated by the proposed activity will be consistent with the existing conditions and will not adversely impact upon the existing road network.

As the proposed activity comprises replacement of existing facilities damaged during the 2022 floods, it is not proposed to provide any off-street parking. The existing driveway will be retained along the south-west boundary of the site, and this can provide access for servicing and maintenance vehicles.

A total of 16 bicycle parking spaces will be provided within the undercroft area. These have been designed to comply with the requirements of AS 2890.3 (2015) *Parking Facilities – Part 3: Bicycle Parking*.

Construction Traffic and Parking

A Construction Traffic Management Plan (CTMP) has been prepared by PTC to identify general principles for managing construction traffic and provide an understanding of the likely traffic impacts expected during the demolition and construction period (**Appendix GG**).

Generally, it is anticipated that the works will involve the use of the following construction vehicle types:

- 12.5m Heavy Rigid Vehicle (HRV)
- 20m Articulated Vehicle (AV) (for longer building modules, a trailer extension will be required that increases the length to 24m)
- 300t crane for transferring the modules into place (17m long).

Any oversized vehicles (including the use of mobile cranes) will require the appropriate permits from Council and Transport for NSW (TfNSW) prior to any delivery being undertaken.

The CTMP identifies the following construction traffic volumes during the works (**Figure 35**).

Description	Trucks/Deliveries Daily	Trucks/Deliveries Peak
	Avg	
Site Establishment / Demolition	3	5
Structure	7	15
Structural & fit out works	15	15
External Works	3	5
Final Commissioning & Handover	1	2

Figure 35 Construction Traffic Volumes (Source: ptc)

As illustrated in **Figure 11**, construction vehicle routes to the site will be via the Pacific Highway, Blackwell Drive and River Drive. Swept path assessment has been undertaken as part of the CTMP using a 25m AV to assess the capability of the existing road geometry to accommodate the turn manoeuvres at the following intersections:

- Left turn into River Drive from Blackwall Drive
- Right turn into Blackwall Drive from River Drive
- Right turn into the site from River Drive
- Left turn into River Drive from the site.

The swept path assessment demonstrates that the existing road geometry can accommodate a 25m AV.

The CTMP describes the proposed Traffic Guidance Scheme (TSG) to inform road users of the changed traffic conditions in the vicinity of the works. The TSG must comply with the requirements under the Australian Standards and the requirements of the TfNSW Traffic Control at Work Sites Guidelines Technical Manual (2022). An extract of the proposed TGS along River Drive for a 25m AV is shown in **Figure 36**.

During construction, there will be changes to the existing availability of on-street parking along River Drive. However, this is unlikely to have any impacts as the school will not be operation. Parking for contractors will be located along River Drive.

It is considered that subject to the procedures outlined in the CTMP, that the proposed activity will not have any adverse impacts on the road network or on the safety of the public and workers. A consent condition has been included in **Appendix B** requiring the preparation of a CTMP.



Figure 36 Proposed Traffic Guidance System along River Drive (Source: ptc)

5.2.12 Water Management

Henry & Hymas Consulting Engineers have prepared a Civil Report and Plans that details the site's existing stormwater drainage system, proposed stormwater system, water sensitive urban design (WSUD) provisions, and erosion and sediment control measures (**Appendix H**).

Stormwater generated by the existing site is captured by roof drainage, stormwater pits or travels overland to an existing drainage channel / swale located to the south of the existing buildings. The stormwater channel drains to a headwall located near the western school boundary. The total catchment area is 1,300m². A 225mm diameter stormwater line drains the headwall to the in-ground stormwater system in River Drive, where it then discharges into the Richmond River (**Figure 37**).

The proposed stormwater drainage system has been designed in accordance with Council's Stormwater Management Standards for Development (2012) as well as relevant industry standards. It has been designed to cater for the 20-year ARI storm event. In the event of 100-year ARI storm event, stormwater will be conveyed via piped and overland flow paths and directed away from existing and proposed structures. The proposed stormwater drainage is shown on the civil plans prepared by Henry & Hymas Consulting Engineers and includes:

- Underfloor drainage within the undercroft.
- Charged in-ground downpipe collection system to collect roof run-off to the new two (2) 34,000L rainwater tanks .
- New stormwater pits to be fitted with stormwater pit basket filters.
- New 1m wide 100mm deep drainage swale across the front of the new elevated building.
- New 375mm diameter stormwater pipe to replace existing pipe.
- New stormwater drainage to be connected to Council's existing stormwater system.

The proposed activity results in an increase of 608m² in impervious area on the site, from 1,508m² to 2,112m². The increase in impervious area is a result in the increase in roof area and can be appropriately managed in terms of water quality and water conservation. Appropriate stormwater quality improvement devices have been incorporated into the stormwater management design.

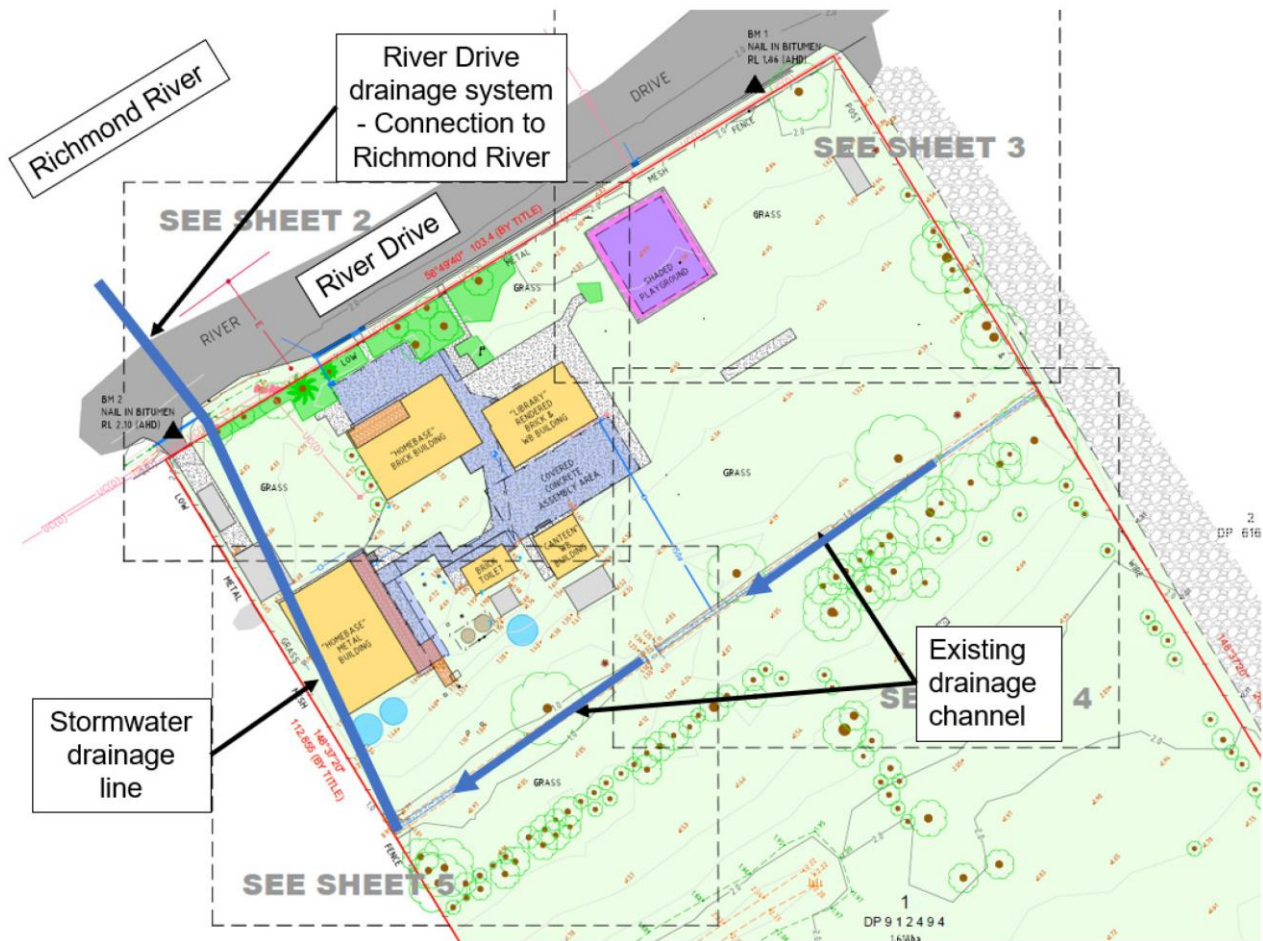


Figure 37 Existing stormwater drainage system (Source: Henry & Hymas Consulting Engineers)

As the site is located in the 1% AEP floodplain of the Richmond River, no on-site detention is required.

Prior to any works commencing on site, erosion prevention and sediment control measures will be established on site to prevent contamination of the downstream stormwater system and tracking of grit and sediment onto the roadway. These measures have been designed in accordance with Landcom's Managing Urban Stormwater: Soils and construction – Volume 1 (the Blue Book) (**Appendix B**).

5.2.13 Waste Management

A Waste Management Plan (WMP) has been prepared by MRA Consulting Group to identify best practice waste management and promote sustainable outcomes during demolition, construction and operation of the proposed activity (**Appendix EE**). The Waste Management Plan has been prepared in accordance with the requirements under the Ballina DCP and EFGS, along with the relevant EPA guidelines including:

- *Better Practice Guide for Resource Recovery in Residential Developments* (2019)
- *Better Practice Guideline for Waste Management and Recycling in Commercial and Industrial Facilities* (2012)

Demolition and Construction Waste Management

The WMP provides estimates of the quantities of waste that will be generated during the demolition and construction process. The WMP that greater than 80% of demolition waste and 90% of construction waste will be able to be diverted from landfill. This is consistent with the targets established by the NSW Department of Planning and Environment's *NSW Waste and Sustainable Materials Strategy 2041* (June 2021).

A mitigation measure requiring the preparation of a Construction Waste Management Plan to be prepared in accordance with the Department of Environment and Climate change (DECC) *Waste Classification Guidelines* (2008) and POEO Act requirements is included in **Appendix B**.

Operational Waste Management

The proposed activity is not expected to result in an increase in the total waste generation at the site. However, ongoing waste management practices will aim to contribute towards the *NSW Waste and Sustainable Materials Strategy 2041* target to achieve an 80% average recovery rate from all waste streams by 2030.

The operational waste volumes have been based on the current student population of 26 students and have been calculated in accordance with the *NSW Practice Guide for Resource Recovery in Residential Developments (2019)* (**Figure 38**).

Waste stream	Waste generation rate	Weekly waste generation (L)	Bin requirement
General Waste	20L / per student	520	3
Recycling	15L / per student	390	2
Green Waste	N/A	N/A	1
<i>*Based on a student population of 26 students</i>			

Figure 38 Empire Vale Public School waste generation and bin allocation (Source: MRA Consulting Group)

A waste storage area is located at the rear of the new building adjacent to the rainwater tanks. Council will be responsible for bin collection. Prior to collection, the bins will be transferred from the waste storage area to the collection point on River Drive.

A mitigation measure has been included in **Appendix B** requiring the preparation of an Operational Waste Management Plan prior to the issue the Crown Completion Certificate.

5.2.14 Sustainable Design and Climate Change

Ecologically Sustainable Design

A Sustainable Design Report has been prepared by E-Lab to provide an overview of the proposed sustainability targets for the proposed activity and the sustainability initiatives that have been incorporated. The proposed activity seeks to achieve a 4 Star Green Star Design & As Built v1.3 equivalency and exceed the requirements under Section J of the National Construction Code 2019 Amendment 1. The proposed activity is benchmarked against the requirements of the EFSG, using industry best practice.

The principles of ecologically sustainable development are detailed in section 193 of the EP&A Regulation. **Table 26** provides an assessment against these principles.

Table 26 Assessment against the principles of ecologically sustainable design	
Principle	Assessment
<p>The Precautionary Principle</p> <p><i>The precautionary principle is that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i></p>	<p>Where practicable, the proposed activity will avoid serious and irreversible damage to the environment by provided improved ecology outcomes and incorporating management measures that reduce resource and energy consumption during the demolition, construction and operational lifecycle. Strategies to reduce impacts from pollution and improve the environmental amenity for staff and students by providing a resilient design that has considered future climate change adaption needs.</p>
<p>Inter-generational equity</p> <p><i>The principle of inter-generational equity is that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.</i></p>	<p>The proposed elevated building has been designed to achieve a 4 Star Green Star certificate equivalency and incorporates design measures that improve the internal environment to enhance health and wellbeing for staff and students.</p> <p>The proposed activity involves the replacement of existing school facilities to ensure the ongoing use of the site as an</p>

Table 26 Assessment against the principles of ecologically sustainable design	
Principle	Assessment
	educational establishment, which provides social benefits to the local residents of Empire Vale, Keith Hall and Patches Beach.
<p>Conservation of biological diversity and ecological integrity</p> <p><i>The principle of the conservation of biological diversity and ecological integrity is that the conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	<p>As assessed in the Flora and Fauna Assessment Report (Appendix AA), the proposed activity will not have an adverse impact on the existing biological diversity and ecological integrity of the site. The Flora and Fauna Assessment Report includes mitigation measures to protect the ecological values of the surrounding environment.</p> <p>The proposed landscape design includes the planting of endemic vegetation that will contribute to the biological diversity and ecological integrity of the site.</p>
<p>Improved valuation, pricing and incentive mechanisms</p> <p><i>The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services, such as—</i></p> <p>(a) <i>polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, and</i></p> <p>(b) <i>the users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste, and</i></p> <p>(c) <i>established environmental goals should be pursued in the most cost effective way by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.</i></p>	<p>As described below, the design of the proposed activity includes the incorporation of a sustainable and operational measures that will reduce the consumption of materials, energy and water over the lifetime of the new elevated building.</p>

Specific sustainability measures that have been incorporated into the design of the elevated school building include:

- Energy Efficiency:
 - Use of high-performance building fabric including the use of fixed shading devices, overhangs and screens to control heat gains through the summer whilst maintaining good daylight and views. Use of a low-e glazing system.
 - Use of a modular construction system (Design for Manufacture and Assemble (DfMA)) that enables insulation and thermal bridging to be incorporated into the off-site manufacture of the components which improves the thermal performance of the façade system.
 - Use of natural and mixed mode ventilation.
 - Incorporation of a photovoltaic system on the roof.
 - Use of high efficiency LED lighting system, along with lighting control measures such as occupancy and daylight sensors.
- Water Efficiency:
 - Use of water efficient fixtures such as 6 Star WELLS rated taps and 4 Star dual flush toilets.
 - Rainwater harvesting and usage.

- Low water use landscaping including use of native and low maintenance vegetation.
- Incorporation of the principles of WSUD.
- Modular design and Construction:
 - Use of the DfMA system provides a number of sustainability benefits including reduced building waste, less impacts from site activities and enables construction precision as the building components are manufactured in a factory environment before being assembled on site.
- Indoor Environment Quality
 - Covered walkways allow students to move between spaces while being protected from the elements but ensuring a connection to nature.
 - Balancing views from the internal spaces to optimise access to the outdoor environment with requirements to provide adequate thermal control.
 - Daylight glare has been minimised through the use of screens and overhangs.
 - Artificial lighting will be designed to minimise glare and provide adequate illuminance.
 - Acoustic comfort will be optimised to ensure internal noise levels, reverberation levels and separation levels are achieved.
 - Materials and finishes will be selected to be low-VOC and low formaldehyde to provide a better quality environment for staff and students.

Climate Change

The Sustainable Design Report includes an assessment of project risks associated within the predicted impacts of climate change. Potential strategies to manage climate risks include:

- Consideration of the impacts of climate change as part of the flood impact system.
- Proposed elevated building and associated systems has been designed to comply with bushfire requirements.
- Use of passive design and outdoor shading to promote comfort in extreme heat.
- Provision of rainwater storage and energy generation.
- Material selection to focus on durability to climate stress such as extreme heat and wind loads.
- Landscape design to suit climactic conditions and tolerate dry periods.

5.2.15 Construction Management

A Construction Management Plan (CMP) has been prepared by ADCO to outline the general construction management principles and controls to be implemented at the site (**Appendix FF**). The CMP is supported by the Construction Traffic Management Plan (CTMP) (**Appendix GG**), Construction Noise and Vibration Noise Management Plan (CNVMP) (**Appendix HH**) and Waste Management Plan (**Appendix EE**).

Appendix B includes a mitigation measure requiring the preparation of a Construction Environmental Management Plan (CEMP).

5.2.16 Air Quality

Some dust is anticipated during the demolition and construction works, however this can be managed through measures such as wetting down work areas/stockpiles, stabilising exposed areas, preventing material tracking out onto the school driveway and public roadways, covering loads on all departing trucks and working to weather conditions. The use of construction hoarding will also assist in mitigating impacts from air pollutants. The proposed development is otherwise not expected to give rise to any long term or adverse impacts on local or regional air quality (refer to **Appendix B**).

5.2.17 Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design is a crime prevention strategy that focuses on the planning, design and structure and neighbourhoods. It seeks to reduce the opportunities for crime through the use of design and place management principles. The four (4) key strategies of Crime Prevention Through Environmental Design (CPTED) are:

- Surveillance measures

- Territorial reinforcement
- Access control
- Space / activity movement

Each of these strategies is discussed below.

Surveillance Measures

Opportunities for crime can be reduced by providing effective surveillance. The surveillance principle indicates that offenders are often deterred from committing a crime in areas with high levels of surveillance. From a design perspective, deterrence of crime can be achieved by providing:

- Clear sight lines between public and private places and maximising natural surveillance.
- Appropriate lighting and effective guardianship of communal and/or public areas.
- Landscaping that makes places attractive but does not provide offenders with a place to hide or entrap victim.

The principal entry to the school is from River Drive. This location provides direct access to the lift and stairs for access to the school administration. The ground level of the site is open providing opportunities for passive surveillance of the site by staff across the open play spaces.

There are toilet facilities provided at ground level for use during play times and on the elevated level for use during class time, so that students won't have any need to be at either ground or first floor level unsupervised.

The proposed landscaping has been designed to provide a safe and attractive environment for students.

Territorial Reinforcement

This principle involves the community ownership of public spaces and that staff, students and visitors will be more comfortable in visiting a communal area that is well-cared for and to which they feel they own. Well used places also reduce opportunities for crime and present as a deterrent to criminals. Also, designing with clear transitions and boundaries between public and private spaces, and clear design cues on what the area is used for is recommended.

During school term, the school will be heavily used by staff and students. Outside of school term, the school may be available for community use with fencing and signage clearly identifying accessible areas.

Territorial reinforcement such as fences, signs, doors and other physical thresholds will clearly indicate the separation between public and private spaces, which helps to convey where visitors should and should not be within the school.

Access Control

The principle of access control is to use physical and symbolic barriers to attract, channel or restrict the movement of people to minimise opportunities for crime and increase the effort required to commit a crime.

During school hours, access to the school is restricted with all visitors being required to sign in. The school grounds are fenced. The school will be a secure education facility with access control minimising opportunities for crime. This will also discourage vandalism and activism.

Space / Activity Management

This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of lighting and the removal or refurbishment of decayed physical elements.

Presentation of the school is managed by the school with general repairs and maintenance of replacement lighting, broken equipment and removal of graffiti occurring as required. The proposed school is a high quality contemporary educational establishment that will contribute the amenity, casual surveillance and contribute the sense of security within surrounding precinct.

5.2.18 Infrastructure Services

The new infrastructure and utility requirements of the new school have been identified in the Infrastructure Services Statement prepared by JHA (**Appendix CC**) that includes a review of the following services required by the proposed activity:

- **Water:** Two (2) x 34 kL rainwater tanks to provide water for the elevated building. An appropriate filtration system will be installed to ensure that the water is suitable for use as potable water.
- **Power:** Power to the site will be fed from an existing pole (20584) located on River Drive.
- **Communications:** Connection will originate from the existing pit on River Drive and be reticulated to the new main communications room.
- **Fire Fighting Equipment:** This comprises a new hydrant booster assembly and external fire hydrant located adjacent to River Drive and new hydrant pump house and two (2) 72kL fire tanks located adjacent to the north-east site boundary.
- **Sewer:** The existing on-site sewage management system will be removed and a new system installed comprising:
 - New septic tank and AWTs
 - New Wisconsin Mound located at the rear of the site.

As detailed in the OSSMS Wastewater Report prepared by Taylor Environmental (**Appendix DD**), the proposed wastewater system has been designed in accordance with Council's OSSMS Strategy and Guidelines, along with the relevant legislative requirements and Australian Standards. The wastewater system has been designed to incorporate flood immunity measures including:

- Installation in accordance with manufacturer's specifications for flood areas.
- Installed with concrete ground anchors to prevent floating.
- Reflux valve fitting the elevated building and connection point.
- All lids and los sealed with flexible sealant to reduce floodwater ingress.
- Vents, alarms and controls to be a minimum of 150mm above the flood level (mounted to the side of the building as required).
- Following a flood event that inundates the tank and/or site, it is recommended that a suitably qualified person inspects the system prior to being used.

The Wisconsin Mound has a maximum height of 1.505m above the existing ground level. This ensures that the gravel disposal bed within the mound is located at the 1 in 50 year ARI flood planning level of RL 2.4m AHD (**Figure 39**).

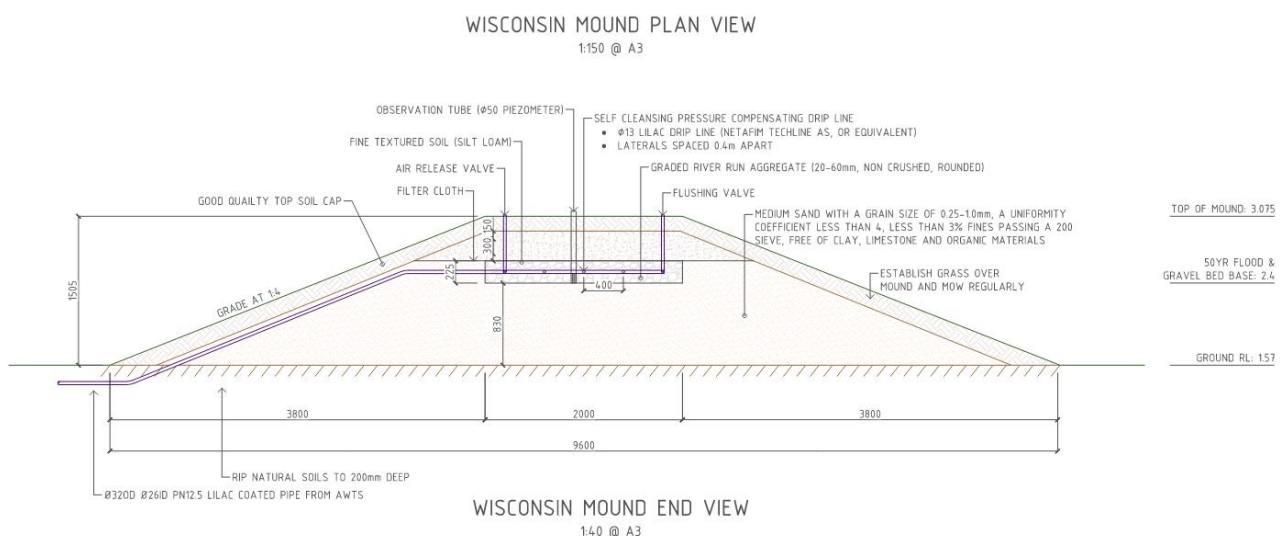


Figure 39 Section through the Wisconsin Mound (Source: Taylor Environmental)

The recommendations from the Infrastructure Services Statement and OSSMS Wastewater Report have been incorporated in **Appendix B**.

5.2.19 Coastal Hazards

The site is located within the coastal zone under the *Coastal Management Act 2016* (CM Act). Under the CM Act, "coastal hazards" are defined as:

coastal hazard means the following—

- (a) beach erosion,
- (b) shoreline recession,
- (c) coastal lake or watercourse entrance instability,
- (d) coastal inundation,
- (e) coastal cliff or slope instability,
- (f) tidal inundation,
- (g) erosion and inundation of foreshores caused by tidal waters and the action of waves, including the interaction of those waters with catchment floodwaters.

The site is subject to tidal inundation during the highest astronomical tide (HAT). The HAT for the period 1995 to 2014 at Ballina Breakwall (mouth of the Richmond River) is RL 1.16m AHD. It is anticipated that due to potential sea level rise as a result of climate change that this will increase the HAT to RL 2.0m AHD (2100 sea level rise). The finished floor level of the elevated level is RL 5.1m AHD which is above the HAT for 2100 sea level rise. The proposed stormwater drainage system, on-site sewage management system and new elevated building have been designed to accommodate current and future tidal inundation.

As the proposed elevated building has a similar footprint to the existing development, it is unlikely that the proposed activity will increase the risk of tidal inundation on the site or surrounding locality.

5.2.20 Social and Economic Impacts

The redevelopment of Empire Vale Public School will restore an important piece of social and educational infrastructure in the local community. The proposal will provide short term economic benefits through the creation of construction jobs and the flow on effect of this, and by securing long term educational jobs in the regional town.

5.2.21 Mosquito Management

The site is mapped as being in the 'coastal plains and lowlands' on the Mosquito Management map under the Ballina DCP. The proposed activity is not listed as a high-risk development under section 3.6.3(i) of the Ballina DCP. In addition, the proposed elevated school building is located in a similar location to the existing schools and therefore, there is no increase in risks to human health arising from the proposed activity. Nevertheless, the following measures have been incorporated into the design and Appendix B to minimise the risks from mosquitoes:

- All openings within the new building will be fitted with insect screening.
- The new rainwater tanks and any other water storage devices are to be fitted with appropriate screening and barriers to prevent entry into the tanks by mosquitoes.
- All insect screening and barriers is to be adequately maintained and designed to be able to be regularly cleaned.
- Stormwater management systems are to be designed to not hold water for longer than 48 hours so as to minimise the potential for the creation or enhancement of mosquito habitat. The systems should be designed for easy maintenance.

5.2.22 Cumulative Impacts

Under the Division 5.1 Guidelines the following definition of 'cumulative impact' is provided:

Impacts that are a result of incremental, sustained and combined effects of human action and natural variations over time, both positive and negative, or by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and relevant future projects.

Refer to definition for 'relevant future projects' to understand scope of projects to be included.

'Relevant future projects' are defined under the Guidelines as:

The following types of development are 'relevant future projects':

- other State significant development and State significant infrastructure projects
- projects classified as designated development and require an EIS
- projects that require assessment under Division 5.1 of the EP&A Act that are likely to significantly affect the environment and require an EIS
- projects that have been declared to be controlled actions under the EPBC Act
- any major greenfield and urban renewal developments that are scheduled for the area (e.g. new areas zoned for urban development).

These types of projects are generally large in scale and could potentially contribute to or compound material impacts. They are also generally publicly notified and should therefore be known or reasonably foreseeable.

A review of the NSW Planning Portal has identified the following 'relevant future projects':

- Modification MP 07 0026 MOD 7: This is a modification application to modify a Concept Plan Approval (MP 07 0026) and a Project Approval in relation to Super Lot 5 of Stage 1B of the approved mixed-use development at Epiq Lennox (formerly Pacific Pines Estate) Lennox Head. The application seeks to amend the land-use permitted from 'retirement community' to 'small lot integrated housing' and revise the proposed lot layout to remove 124 seniors/retirement living lots and all 102 residential. The consent authority for the application is the Minister for Planning and the modification application was re-exhibited between 8 July and 21 July 2022. It is noted that Lennox Head is located to the north of Ballina, approximately 15 kilometres from Empire Vale Public School and it is therefore unlikely that this application will result in any impacts on the proposed activity at the school.
- DA 2022/721/1: Regionally significant DA for a new seniors housing development comprising 148 independent living units, community facilities, managers residence and ancillary works at 6 Burns Point Ferry Road, West Ballina. The works are to be undertaken in five (5) stages. The consent authority is the Northern Regional Planning Panel and the DA is currently under assessment. The site of the DA is located in West Ballina to the north of Empire Vale Public School and on the opposite side of Richmond River.

A review of Council's DA tracker has not identified any relevant DAs located within the Empire Vale locality.

In conjunction with the proposed works at Empire Vale Public School, the NSW Department of Education is undertaking works as 'development permitted without consent' at two (2) other schools within the vicinity of the site:

- Wardell Public School, 20 Richmond Street, Wardell.
- Broadwater Public School, 9 Byrnes Road, Broadwater

The works at all three (3) schools are being undertaken by the same contractor and this will minimise any cumulative impacts from the works being undertaken simultaneously.

The works at Empire Vale Public School are proposed to be undertaken in three (3) stages to facilitate the construction program. The staging of the proposed development is unlikely to have any cumulative impacts, as any site establishment works such as hoardings, acoustic barriers, construction vehicle access, construction laydown area will be retained throughout the duration of the three (3) stages.

5.3 Division 5.1 Guidelines Environmental Factors

The Division 5.1 Guidelines and Section 171(2) of the EP&A Regulation details factors that must be taken into account when assessing the impact of an activity on the environment. **Table 27** provides an assessment of these considerations.

Table 27 Division 5.1 Guidelines Environmental Factors to be considered

Environmental Factor	Assessment	Mitigation Required
<p>(a) the environmental impact on the community, (Social, economic and cultural impacts)</p>	<p>Community impacts that could arise as a result of the proposed activity including impacts associated with traffic, noise, access and dust. Suitable mitigation measures have been included to ensure potential impacts are minimised during the demolition and construction process.</p> <p>Long-term, the proposed activity will have a beneficial impact for the community by replacing existing facilities with modern and fit-for-purpose school facilities that have been designed to be resilient to impacts from flood, bushfire, flood and climate change.</p>	<p>Yes. Refer to Appendix B</p>
<p>(b) the transformation of the locality, (Human and non-human environment)</p>	<p>The proposed activity includes the demolition of the existing school buildings and construction of a new elevated school building. There will be short term impacts during demolition and constructions</p>	<p>Yes. Refer to Appendix B</p>
<p>(c) the environmental impact on the ecosystems of the locality, (Flora, fauna, ecological integrity, biological diversity, connectivity/fragmentation, air, water including hydrology, soil)</p>	<p>The proposed activity will not result in any significant impacts on the ecosystems of the locality. The proposal is unlikely to affect any threatened species, populations or ecological communities. Mitigation measures have been identified to minimise any indirect or potential impacts arising from sediment, dust, vegetation removal, groundwater and acid sulfate soils.</p>	<p>Yes. Refer to Appendix B</p>
<p>(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality, (Visual, recreational, scientific and other)</p>	<p>There will be a short-term impact on the aesthetic qualities of the site during the demolition and construction. Mitigation measures have been identified to minimise construction noise, vibration and traffic impacts.</p>	<p>Yes. Refer to Appendix B</p>
<p>(e) the effects on any locality, place or building that has— (i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or (ii) other special value for present or future generations, (Aboriginal heritage (including intangible cultural significance), architectural heritage, social/community values and identity, scenic values and other)</p>	<p>The works include rectification works to 'Building B', which is listed on the Section 170 register. These works will ensure the building does not fall into disrepair and will restore it to a useable state.</p> <p>Mitigation measures have been identified in the SOHI, Aboriginal Heritage Due Diligence and Archaeological Research Design and Methodology reports to mitigate any adverse impacts on Aboriginal cultural heritage, built heritage and historical archaeology.</p>	<p>Yes. Refer to Appendix B</p>
<p>(f) the impact on the habitat of protected animals, within the meaning of the Biodiversity Conservation Act 2016, (Listed species and habitat requirements / critical habitat)</p>	<p>The works do not impact on the habitat of any protected animals, within the meaning of the BC Act. Mitigation measures have been identified in the Flora and Fauna Assessment to mitigate any indirect impacts.</p>	<p>Yes. Refer to Appendix B</p>

Table 27 Division 5.1 Guidelines Environmental Factors to be considered

Environmental Factor	Assessment	Mitigation Required
<p><i>(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,</i> (Listed species, non-listed species and key threatening processes)</p>	<p>The works will not result in the endangering of any species of animal, plant or other form of life. Mitigation measures have been identified in the Flora and Fauna Assessment to mitigate any indirect impacts.</p>	<p>Yes. Refer to Appendix B</p>
<p><i>(h) long-term effects on the environment,</i> (Ecological, social and economic)</p>	<p>This assessment has determined that the works will not result in unacceptable long-term impacts on the environment. The works will restore public educational facilities to the community, which has positive social and economic benefits.</p>	<p>No</p>
<p><i>(i) degradation of the quality of the environment,</i> (Ecological, social and economic)</p>	<p>The proposal will not result in the degradation of the quality of the environment.</p>	<p>No</p>
<p><i>(j) risk to the safety of the environment,</i> (Public health, contamination, bushfire, sea level rise, flood, storm surge, wind speeds, extreme heat and climate change adaptation)</p>	<p>The proposal has been designed in accordance with the environmental constraints of the site, with particular focus on mitigating flood and bushfire risks.</p>	<p>Yes. Refer to Appendix B</p>
<p><i>(k) reduction in the range of beneficial uses of the environment,</i> (Natural resources, community resources and existing uses)</p>	<p>The proposal will not result in a reduction in the range of beneficial uses of the environment</p>	<p>No</p>
<p><i>(l) pollution of the environment,</i> (Air (including odours and greenhouse gases); water (including runoff patterns, flooding/tidal regimes, water quality health); soil (including contamination, erosion, instability risks); noise and vibration (including consideration of sensitive receptors); or light pollution)</p>	<p>The proposal will not result in pollution of the environment. Stormwater, sewer and acid sulfate soils have been considered and appropriate mitigation measures have been provided to protect the environment.</p>	<p>Yes. Refer to Appendix B</p>
<p><i>(m) environmental problems associated with the disposal of waste,</i> (Transportation, disposal and contamination)</p>	<p>Comprehensive demolition, construction and operational waste management plans have been provided. In addition, a Hazmat Report has set out waste management procedures for hazardous materials.</p>	<p>Yes. Refer to Appendix B</p>
<p><i>(n) increased demands on natural or other resources that are, or are likely to become, in short supply,</i></p>	<p>The proposed activity is unlikely to result in increased demands on natural or other resources that are, or likely to become, in short supply. Measures to reduce the consumption of materials,</p>	<p>No</p>

Table 27 Division 5.1 Guidelines Environmental Factors to be considered

Environmental Factor	Assessment	Mitigation Required
(Land, soil, water, air, minerals and energy)	energy and water of the lifetime of the new elevated building have been integrated into the building's design.	
<i>(o) the cumulative environmental effect with other existing or likely future activities,</i> (Existing activities and future activities)	Cumulative impacts have been considered in Section 5.2.22 of this REF. The works will restore existing educational infrastructure that has been operating on the site since the late 1800s.	No
<i>(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,</i> (Coastal process and hazards (impacts arising from the proposed activity on coastal processes and hazards and impacts on the proposed activity from coastal processes and hazards), climate scenarios)	Coastal hazards and processes have been considered as part of this REF, the elevated design of the building will be resilient to flood, coastal and climate scenarios and suitable operational mitigation measures are in place.	Yes. Refer to Appendix B
<i>(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,</i> (Issues, objectives, policies and actions identified in local, district and regional plans)	As detailed in Section 3.8 , the proposed activity is generally consistent with the relevant aims, objectives and planning priorities detailed in the <i>North Coast Regional Plan 2041</i> and <i>Ballina Shire Local Strategic Planning Statement 2020 – 2040</i> .	No
<i>(r) other relevant environmental factors.</i> (Any other factors relevant in assessing impacts on the environment to the fullest)	Consideration of the potential impacts relating to mosquito management have been detailed in Section 5.2.21 .	Yes. Refer to Appendix B

6 Conclusion

Empire Vale Public School, 632 River Drive, Empire Vale was significantly damaged during the February / March 2022 floods. The proposal aims to redevelop the school and includes demolition of the existing school buildings and construction of a new elevated school building. The works are subject to assessment under Part 5 of the EP&A Act. This REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity. This has included consideration of flood, stormwater management, heritage significance, bushfire risk, acid sulfate soils, infrastructure including on-site sewer management and environmental amenity.

A number of potential environmental impacts from the proposal have been avoided or reduced during the development of concept design and options assessment for the proposal. The proposal as described in this REF best meets the project objectives but would still result in some impacts on built heritage and historical archaeological. Mitigation measures as detailed in this REF would avoid, ameliorate or minimise these expected impacts. The proposal would also result in the replacement of an educational establishment that was damaged during the 2022 floods and provide a modern and resilient building. On balance the proposal is considered justified.

The environmental impacts of the proposal are not likely to be significant and therefore it is not necessary for an environmental impact statement to be prepared and approval to be sought for the proposal from the Minister for Planning under Part 5 Division 5.2 of the EP&A Act.

The proposal is unlikely to affect threatened species, populations or ecological communities or their habitats, within the meaning of the BC Act and/or FM Act. Therefore, a species impact statement or biodiversity development assessment report is not required. The proposal does not affect the environment of Commonwealth land or have an impact on any matters of national environmental significance.

Glossary and Abbreviations

ACHAR	Aboriginal Cultural Heritage Assessment Report
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management Systems
ARI	Average recurrence interval
AS	Australian Standard
ASS	Acid Sulfate Soils
BAL	Bushfire Attack Level
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
BFA	Bushfire Safety Authority
CIV	Capital Investment Value
CM Act	Coastal management Act 2016
CMP	Construction Management Plan
Council	Ballina Shire Council
DCP	Development Control Plan
Determining Authority	A Minister or public authority and, in relation to any activity, the Minister or public authority by or on whose behalf the activity is or is to be carried out or any Minister or public authority whose approval is required in order to enable the activity to be carried out.
Division 5.1 Guidelines	Department of Planning and Environment Guidelines for Division 5.1 assessments (June 2022)
DoE	NSW Department of Education
DPE	NSW Department of Planning and Environment
EEC	Endangered Ecological Communities
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	NSW <i>Environmental Planning and Assessment Regulation 2021</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
EPM	EPM Projects
FERP	Flood Emergency Response Plan
FFL	Finished Floor Level
FM Act	NSW Fisheries Management Act 1994
FPL	Flood Planning Level
FSR	Flood Space Ratio
GFA	Gross Floor Area
HAT	highest astronomical tide
Heritage Act	NSW <i>Heritage Act 1977</i>

HIS	Heritage Impact Statement
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NCC	National Construction Code
NPW Act	<i>NSW National Parks and Wildlife Act 1974</i>
PBP 2019	<i>Planning for Bushfire Protection 2019</i>
PCT	Plant Community Type
PMF	Probable Maximum Flood
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
POAA	Priority Oyster Aquaculture Area
Public Authority	Government departments, statutory bodies
REF	Review of Environmental Factors
RF Act	<i>Rural Fires Act 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SIS	Species Impact Statement
SINSW	School Infrastructure NSW
TEC	Threatened Ecological Community
TfNSW	Transport for NSW
WM Act	<i>Water Management Act 2000</i>