Department of Planning and Environment

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Upgrades to Carlingford West Public School and Cumberland High School

State Significant Development Assessment Report (SSD-43065987)

November 2023

Acknowledgement of Country

The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Upgrades to Carlingford West Public School and Cumberland High School (SSD-43065987) Assessment Report

Published: November 2023

Preface

This assessment report provides a record of the Department of Planning and Environment's (the Department) assessment and evaluation of the State significant development (SSD) application for the Upgrades to Carlingford West Public School and Cumberland High School (SSD-43065987) located at 57-73 Felton Road and 183 Pennant Hills Road, Carlingford, respectively, lodged by NSW Department of Education. The report includes:

- an explanation of why the project is considered SSD and who the consent authority is
- an assessment of the project against government policy and statutory requirements, including mandatory considerations
- a demonstration of how matters raised by the community and other stakeholders have been considered
- an explanation of any changes made to the project during the assessment process
- an assessment of the likely environmental, social and economic impacts of the project
- an evaluation which weighs up the likely impacts and benefits of the project, having regard to the proposed mitigations, offsets, community views and expert advice; and provides a view on whether the impacts are, on balance, acceptable
- a recommendation to the decision-maker, along with the reasons for the recommendation, to assist them in making an informed decision about whether development consent for the project should be granted and any conditions that should be imposed.

Executive Summary

This report details the Department's assessment of the State significant development application SSD-43065987 for the Upgrades to Carlingford West Public School and Cumberland High School.

Project

NSW Department of Education (the Applicant) proposes to upgrade the existing Carlingford West Public School (CWPS) and Cumberland High School (CHS) at 57-73 Felton Road and 183 Pennant Hills Road, Carlingford, in the Parramatta local government area. The proposal includes the construction of seven new buildings, covered outdoor learning areas, landscaping and infrastructure upgrades.

The enrolment capacity is proposed to increase by approximately 1,000 students as follows:

- reduction of CWPS Kindergarten to Year 6 student enrolment by 150 to total 1,610 students.
- increase of CHS Year 7 to Year 12 student enrolments by 1,239 to total 2,040 students.

The project has a capital investment value exceeding $187 million and is expected to generate 658 construction jobs and an additional 65 operational jobs. If approved, construction of the project is proposed to commence in 2023 and commence partial operation from 2025.

Strategic context

The Department considers the development is consistent with the principal aims of key relevant strategies including the Greater Sydney Region Plan: A Metropolis of Three Cities, Central City District Plan, Future Transport Strategy 2056, State Infrastructure Strategy 2022 – 2042 Staying Ahead and Sydney's Cycling Future 2013.

Statutory context

The project is classified as State significant development (SSD) under section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) because the development has a capital investment value in excess of $50 million and is for the purpose of alterations or additions to an existing school under clause State Environmental Planning Policy (Planning Systems) 2021. Consequently, the Minister is the consent authority for the project under section 4.5A of the EP&A Act.

The application is permissible with consent.

Engagement

The Department exhibited the environmental impact statement (EIS) from 8 November until 5 December 2022. During the exhibition period, the Department received:

- 29 submissions from the public (28 submissions from individuals and one from Endeavour Energy)
- a submission from the local council, City of Parramatta Council, objecting to the proposal and subsequently withdrawn.
- advice from the following government agencies:
    - Transport for NSW
    - NSW State Emergency Services
    - Sydney Water
    - Heritage NSW
    - Environment Heritage Group, within the Department to Planning and Environment.

Of the public submissions, 24 were objections, one supported the project and four were comments. Key concerns raised related to:

- traffic and pedestrian safety
- operational noise
- amenity impacts.

The Applicant submitted a Response to Submissions Report on 5 April 2023 to address the issues raised in submissions and agency advice.

The Applicant provided further information on four occasions, to address concerns raised by agencies, Council and the Department.

On 17 November 2023, Council withdrew its objection. Council advised that it consulted with the Applicant and resolved the matters raised in its submission to the EIS and subsequent comments.

Assessment

Traffic, transport and accessibility

The proposed upgrades and increase in school capacity has the potential to cause deterioration of intersection operation near the site during peak drop off and pick up (DOPU) periods. In addition to the existing DOPU zones, a new DOPU zone is proposed along Felton Road west, however even with its introduction, it is evident that demand would exceed capacity.

To manage traffic impacts, the Applicant has proposed to implement a School Travel Plan (STP) to improve the uptake of active transport modes and reduce car usage amongst the school community. The Applicant has also proposed the following improvements:

- 48 parking spaces to increase overall parking to 119 spaces for staff
- 96 bicycle parking spaces for students and 5 for staff
- new one way bus link road from Dunmore Avenue to Pennant Hills Road to improve bus movements
- footpath widening on a number of streets to the east of the site
- construction of 3 raised pedestrian crossings
- funding of road widening works on Sandringham Drive and Arcadian Circuit (to be completed by Council) which would provide approximately 23 additional on street parking spaces.

The Department is satisfied that with the above improvements, and subject to conditions of consent to ensure appropriate operation of the DOPU zones and ongoing surveys to determine the success of the STP, that traffic and parking impacts would be adequately managed.

Flooding

A corridor running east west through the centre of the existing school site is impacted by the 5% annual exceedance probability (AEP) and all events through to probable maximum flood (PMF), including flash flooding.

Flood planning and supporting infrastructure proposed by the Applicant evolved throughout the application following ongoing consultation with EHG and SES. The Applicant consequently agreed to provide several flood mitigation measures including:

- increase the capacity of existing stormwater outlets and provide a new large inlet capacity with connection to the trunkline
- reduce fill across the site
- construct a flood wall within the western part of the site to protect downstream properties
- finalise and implement a Flood Emergency Response Plan (FERP) that prioritises closure of the school prior to a flood event and provision for shelter in place, if necessary
- ensure the finished floor levels of all new buildings are above the 1% AEP flood levels with a 500mm freeboard.

Subject to conditions enforcing the above, the Department is satisfied that the proposal for redevelopment of two existing schools would not result in unacceptable increases in flood impacts on surrounding properties. The Department is also satisfied that the proposal would result in acceptable risks to vulnerable and other school occupants during future flood events, and that risks

can be appropriately mitigated via conditions of consent. The proposal would result in improved flood risks compared to those currently experienced by the current schools.

Operational Noise

The proposed bus link road would result in significant noise impacts on a multi-dwelling housing development located at 18 Dunmore Avenue. The Applicant has analysed possible mitigation measures, and concluded that at-receiver treatment would be the best course of action. The proposed treatment would be optional for affected residences and would comprise acoustic glazing or double glazing to affected elevations. The Department agrees with the proposed approach, and that the noise impacts would be mitigated subject to conditions of consent requiring post operation verification.

The Department has considered the potential for noise impacts from other school activities, including traffic movements, outdoor play, mechanical plant equipment, and services such as waste collection. The noise arising from these activities exceeds existing noise levels in some instances. However, the Applicant has provided mitigation measures to minimise impacts and argued that the exceedances would not significantly impact amenity.

The Department considers the noise impacts arising from the development would be acceptable, subject to conditions.

Built form and urban design

The Department has considered the proposed built form and landscape design, and considers the development would be appropriate in the context. Although the building height development standard established by Parramatta LEP 2012 would be exceeded, the amenity of adjoining residences would not be significantly impacted due to careful building orientation and boundary landscaping.

Conclusion

Overall, the Department's assessment concludes the impacts of the development are acceptable, and can be appropriately managed or mitigated through the implementation of recommended conditions of consent. On this basis, the Department has formed the opinion the development:

- would provide significant benefit to the community by delivering improved and expanded school facilities
- be consistent with government strategy
- provide 658 construction jobs and 65 additional operation jobs.

As such, the Department considers the project is in the public interest, and is recommended for approval, subject to conditions.

Contents

Preface ..... **i**

Executive Summary ..... **ii**

1 Introduction **1**

1.1 The proposal 1

1.2 Project location 2

1.3 Project background 5

1.4 Related works 6

2 Project **8**

2.1 Project overview 8

2.2 Physical layout and design 12

3 Strategic context **16**

3.1 Key strategic issues 16

3.2 2022 NSW Flood Inquiry 17

3.3 Shelter-In-Place Guidelines 17

4 Statutory context **18**

4.1 Other approvals and authorisations 19

4.2 Planning Secretary's environmental assessment requirements 19

4.3 Mandatory matters for consideration 19

5 Engagement **21**

5.1 Exhibition of the EIS 21

5.2 Response to submissions 27

5.3 Request for Information 1 31

5.4 Request for Information 2 35

5.5 Request for Information 3 35

5.6 Request for Information 4 36

5.7 Withdrawal of Council objection 36

6 Assessment 37
6.1 Traffic, transport and accessibility 37
6.2 Flooding 58
6.3 Operational noise 70
6.4 Built form and urban design 76
6.5 Other issues 85
7 Evaluation 92
8 Recommendation 94
9 Determination 95
Glossary 96
Appendices 99
Appendix A – Summary of key changes to the project 99
Appendix B – List of referenced documents 99
Appendix C – Submissions and government agency advice 99
Appendix D – Community views for draft Notice of Decision 100
Appendix E Statutory considerations 102
Appendix F – Recommended instrument of consent 117
Appendix G – Additional information 118

1 Introduction

1.1 The proposal

NSW Department of Education (the Applicant) proposes to upgrade the existing Carlingford West Public School and Cumberland High School (SSD-43065987). The site comprises 57-73 Felton Road and 183 Pennant Hills Road, Carlingford. The proposal, as revised by the Applicant throughout the SSD-43065987 assessment, would occur over two stages and include:

- four new buildings up to three storeys at Carlingford West Public School (CWPS)
- three new buildings, up to five storeys at Cumberland High School (CHS)
- a one-way bus link road from Dunmore Avenue to Pennant Hills Road
- upgrades to the existing vehicular and pedestrian access
- new CWPS staff carpark
- new covered outdoor learning areas (COLAs)
- associated work, including tree removal and landscaping, stormwater drainage and flood mitigation, and noise mitigation.

The proposal also involves changes to the existing enrolments by 2030, including:

- reduction of CWPS Kindergarten to Year 6 student enrolments from 1,760 students by 150 to total 1,610 students
- increase of CHS Year 7 to Year 12 student enrolments from 801 students by 1,239 to total 2,040 students.

The project description and mitigation measures provided in Mitigation Measures Carlingford West Public School and Cumberland High School, dated 18 September 2023 prepared by Gyde Consulting, are the subject of this report and will form part of the development consent if the project is approved.

An overview of the proposed development, as revised in the Response to Submissions (RtS) and Request for Information 1 to Request for Information 4, is provided in **Section 2**.

A summary of the key revisions made to the project since it was initially lodged with the Department is provided in **Appendix A.**

1.2 Project location

The site includes two existing adjoining schools in the suburb of Carlingford, including CWPS located at 57-73 Felton Road, and CHS at 183 Pennant Hills Road. The site is legally described as Lot 1, Lot 2, Lot 3, Lot 4 and Lot 5 in DP235625. The site is irregular in shape and has an area of approximately 9.4 hectares.

CWPS forms the northern portion of the site and includes Lots 1, 2 and 5 and part Lot 3. CWPS has frontages to Blenheim Road, Felton Road East and Felton Road West. Lot 5 forms a connection from Felton Road East to Felton Road West, however is not publicly accessible.

CHS forms the southern portion of the site and includes Lot 4 and part Lot 3. CHS has frontages to Dunmore Avenue and Pennant Hills Road (**Figure 1**).

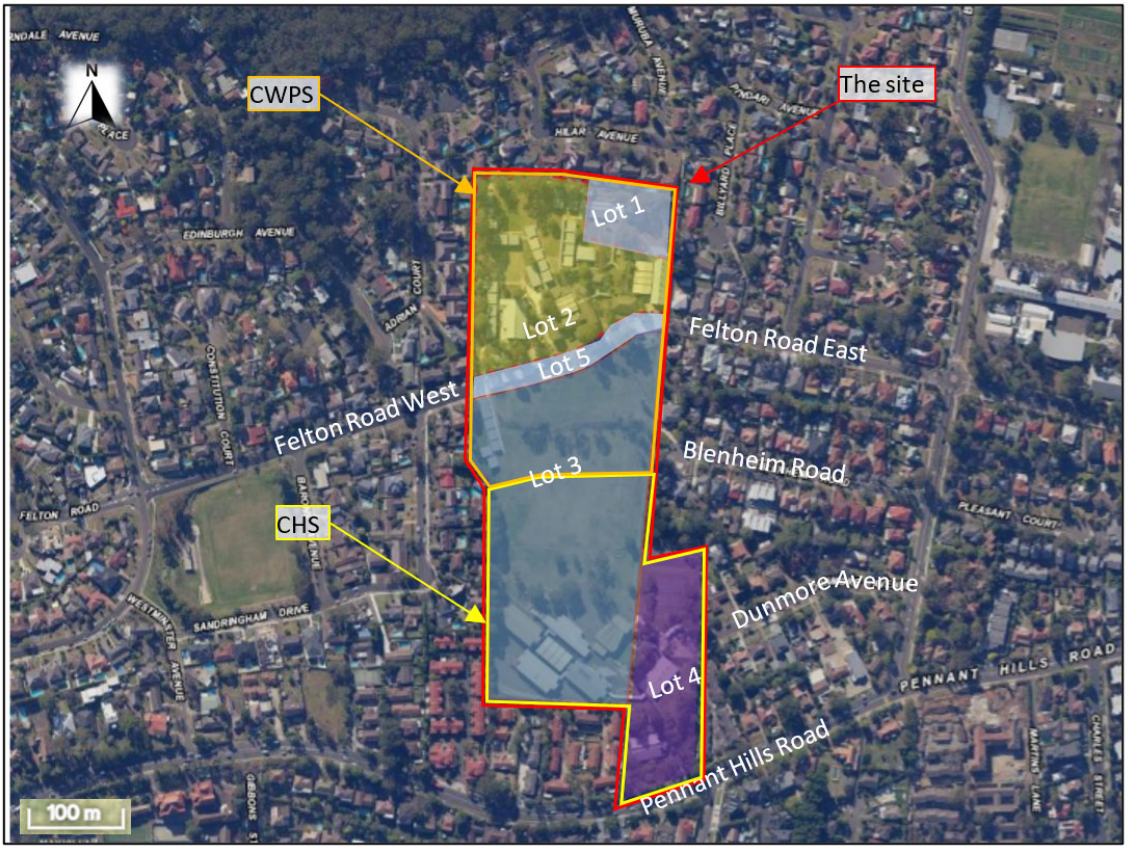


Figure 1 | Regional context map (Base source: Nearmap 2023)

A sports field is located in the centre of the site. Until May 2021, trees divided the sports field to create play areas for use by each school. As of June 2023, demountable buildings occupy most of the CWPS sports field and a portion of the CHS sports field to accommodate surplus CWPS student enrolments (**Figure 2**).

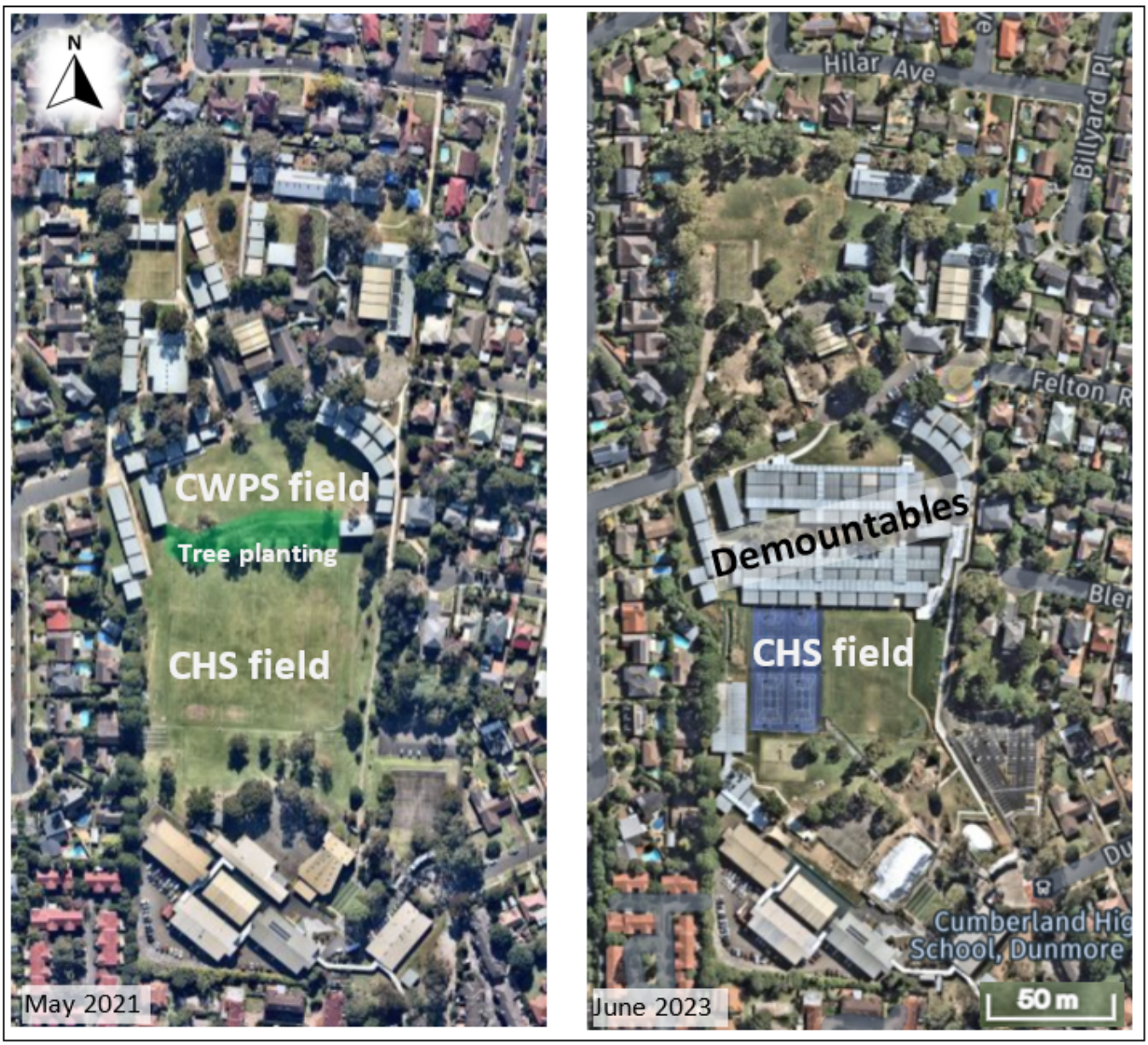


Figure 2 | Site aerial (Base source: Nearmap 2023)

The CWPS portion of the site falls approximately 15m from Felton Road East to Felton Road West, and 8m from the northern boundary to the sports field. The CHS portion of the site is generally flat from the east to the west and falls approximately 7m from Pennant Hills Road toward the sports field (**Figure 3**). The topography creates a natural bowl open on both school sites.

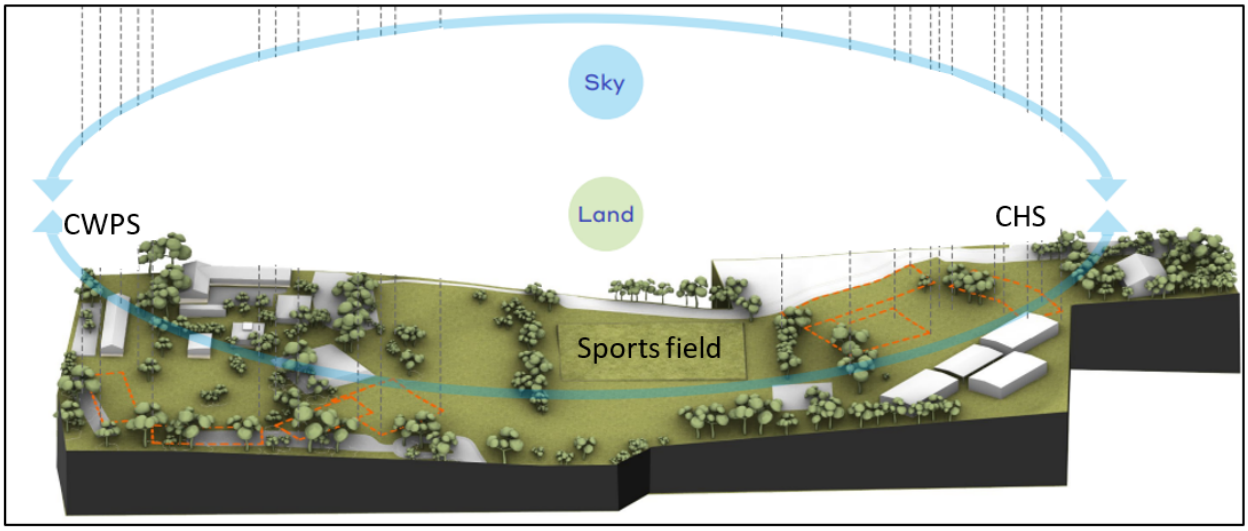


Figure 3 | Site topography (Source: EIS 2022)

The site is located approximately five kilometres (km) north-east of the Parramatta Central Business District, and 900m from the former Carlingford Train Station which is now closed and currently being converted to a future light rail station as part of the Parramatta Light Rail project (Error! Reference source not found.).

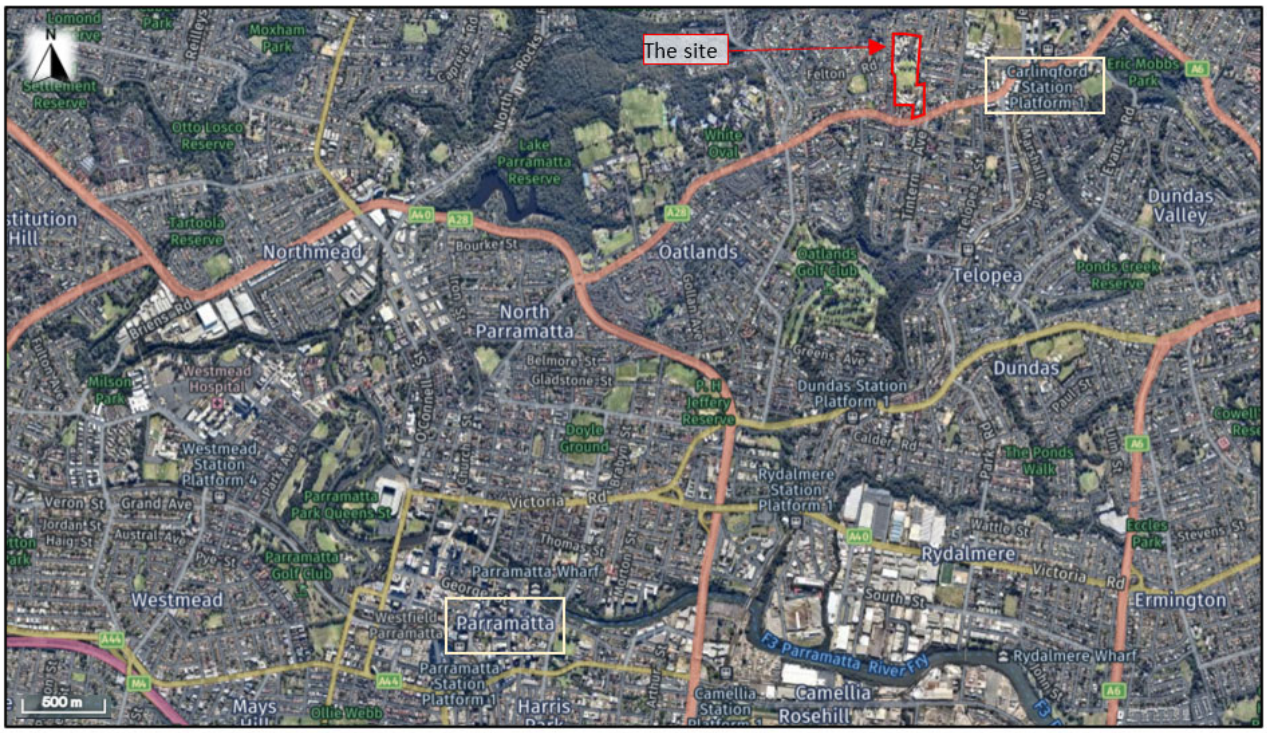


Figure 4 | Site context (Base source: Nearmap 2023)

Immediately to the north, the site adjoins the private open space areas located in the rear of low-density residential developments ranging one to two storeys in height with frontage to Hilar Avenue. Further north of the site is Hunts Creek Reserve.

The land to the east of the site comprises low and medium density residential ranging one to three storeys in height. Further to the east of the site is the former Carlingford Station and James Ruse Agricultural High School.

To the south, the site immediately adjoins medium density residential development being three storey townhouses. The southern boundary of the site also adjoins part of Pennant Hills Road, a state classified road. To the south of Pennant Hills Road there is a private education facility, known as OneSchool Global. Two waterways are located further to the south again known as Vineyard Creek and The Ponds Creek.

The land to the west comprises low density residential dwellings ranging from one to two storeys. Further west of the site is The King's School and Tara Anglican School for Girls.

The surrounding development is shown in **Figure 5**.

Figure 5 | Surrounding development (Base source: Nearmap 2023)

1.3 Project background

In June 2021, the Applicant submitted an application to the Department for the Carlingford West Public School Upgrades (SSD-10879802), including:

- demolition of select buildings
- construction two new buildings up to three storeys, including a library and COLAs
- alterations to the drop-off / pick-up facilities on Felton Road East and Felton Road West
- a new onsite carpark accessed from Felton Road West
- associated landscaping, fencing, site remediation and stormwater management works.

During the exhibition period, 68 submissions from the public and one from City of Parramatta Council (Council) were received. Of the submissions, 31 objected to the development, including Council.

In September 2021, the Applicant withdrew SSD-10879802.

SSD-10879802 was subsequently replaced by the SSD application under assessment.

1.4 Related works

The Applicant obtained a Complying Development Certificate (CDC) under the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 for the following works:

- demolition of select CWPS and CHS buildings
- refurbishment of select CWPS buildings
- construction of two new sports courts at CWPS and four new sports courts at CHS
- installation of temporary demountable structures.

In September 2022, the Applicant was granted a Part 5 Review of Environmental Factors (REF) approval under the *Environmental Planning and Assessment Act 1979*. The REF works include:

- demolition of some existing structures, including sports court, bus shelter and retaining walls across the site
- refurbishment of select CHS buildings
- renewal and extension of the existing CHS staff carpark
- construction of a new one-way through-site DOPU road from Dunmore Avenue to Blenheim Road which would connect with the CHS staff carpark, and associated fencing
- deletion of the existing pedestrian access from Blenheim Road
- select landscaping and lighting infrastructure.

At the time this SSD was lodged in November 2022, the construction of the CDC and REF works were underway. In April 2023, when the RtS was lodged, the CDC and REF works were complete (**Figure 6**).

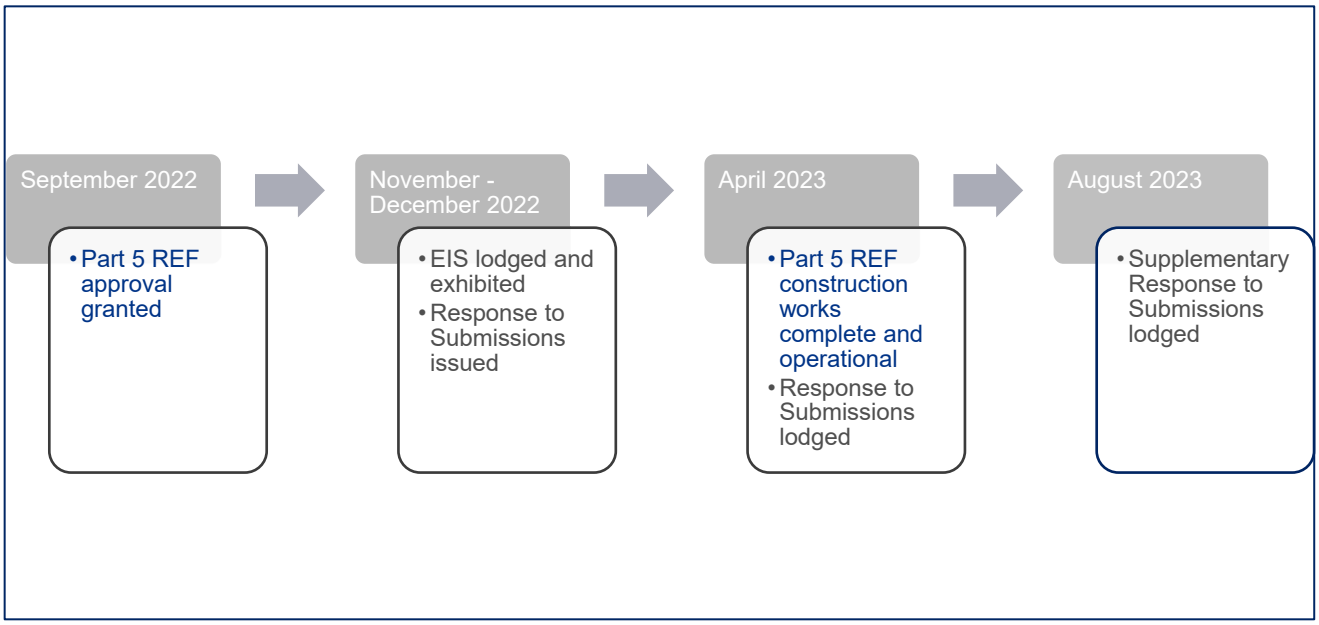


Figure 6 | Interrelationship of REF project timeline with SSD application

The existing demountable structures would be removed under a separate planning pathway, following completion of all construction phases of this SSD.

2 Project

2.1 Project overview

The key aspects of the project, as revised by the RtS and subsequent additional information, are provided in detail in the Chapter 3 Description of Proposed Development of the EIS. The proposal is summarised in **Table 1Error! Reference source not found.** and the proposed site plan is provided in **Figure 7** below.

Table **1** | Key aspect of the proposal

Aspect	Description
Project area	• 57-73 Felton Road and 183 Pennant Hills Road, Carlingford. • Part of Pennant Hills Road, Dunmore Avenue, Baker Street and Felton Road East, Felton Road West, Tintern Avenue, Blenheim Road.
Demolition	Demolition of hardstand areas, retaining walls, walkways, sports courts, selected services and CHS Building C.
Proposed built form	CWPS: • Building W – two storey building, including general learning spaces and staff area. • Building X – three storey building, including library, special program rooms and general learning spaces. • Building Y – three storey building, including general learning spaces. • Building Z – two storey building, including new hall and canteen, staff end-of-trip facilities, bicycle parking, and plant rooms. • Total gross floor area – 8,077 sqm. CHS: • Building X – four storey building, including administrations areas, staff areas and general learning spaces. • Building Y – five storey building, including end-of-trip facilities, workshops, general learning spaces, labs, library, and staff and study areas. • Building Z – single storey double height building, including gym, stage, canteen, change rooms, and lecture theatre. • Total gross floor area – 12,076 sqm.
Access	• Onsite drop-off / pick-up (DOPU) area accessed from Felton Road West. • New one-way bus link road from Dunmore Avenue to Pennant Hills Road. • Onsite loading area for service and waste vehicles. • Upgrades to the pedestrian and bicycle entry from Felton Road East, Felton Road West, Hilar Avenue, Dunmore Avenue, and Pennant Hills Road.

Aspect	Description
Car and bicycle parking	CWPS: • Onsite car parking, including 45 staff parking spaces and three parking spaces for maintenance/courier vehicles. • 101 bicycle parking spaces, including five sheltered staff spaces. CHS: • 90 bicycle parking spaces, including six sheltered staff spaces.
Pedestrian upgrade works	• Upgrades to part of Pennant Hills Road, Dunmore Avenue, Baker Street and Felton Road East footpath. • New raised crossings at Tintern Avenue, Blenheim Road and Baker Street.
Landscaping	• Removal of 81 trees. • Replacement planting of up to 148 trees. • Perimeter buffer planting. • COLAs. • Biophilic swale, citrus orchard, and bush tucker garden.
Signage	• CWPS identification signage with frontage to Felton Road West. • CHS identification signage with frontage to Dunmore Avenue. • Internal wayfinding signage, including flood warnings.
Infrastructure and services	• Upgrade to electrical and water utilities. • Flood mitigation works, including flood wall. • New internal drainage system, including new connections to existing water mains.
Uses and activities	CWPS: • Continued use as a primary school for Kindergarten to Year 6 students and out of school hours (OOSH) care. • Decrease in capacity from 1,760 to 1,610 students. CHS: • Continued use as a high school for Year 7 to Year 12 student. • Increase in capacity from 801 to 2,040 students over two stages
Remediation	Capping of contaminated soil at CWPS, in accordance with the Remediation Action Plan (RAP).

Aspect	Description

Timing and sequencing	Construction and operation over two stages:
	• Stage 1:
	  ○ CWPS: construction of buildings W, X, Y and Z, onsite DOPU and staff carpark, use of the new buildings and structures, and reduction in enrolment capacity to 1,610.
	  ○ CHS: construction of Buildings Y and Z, one way bus link, use of the new buildings and structures, and increase in capacity to 1,500 students.
	• Stage 2:
	  ○ CWPS: not applicable.
	  ○ CHS: demolition of Building C, construction and use of Building X, and increase in capacity to 2,040.

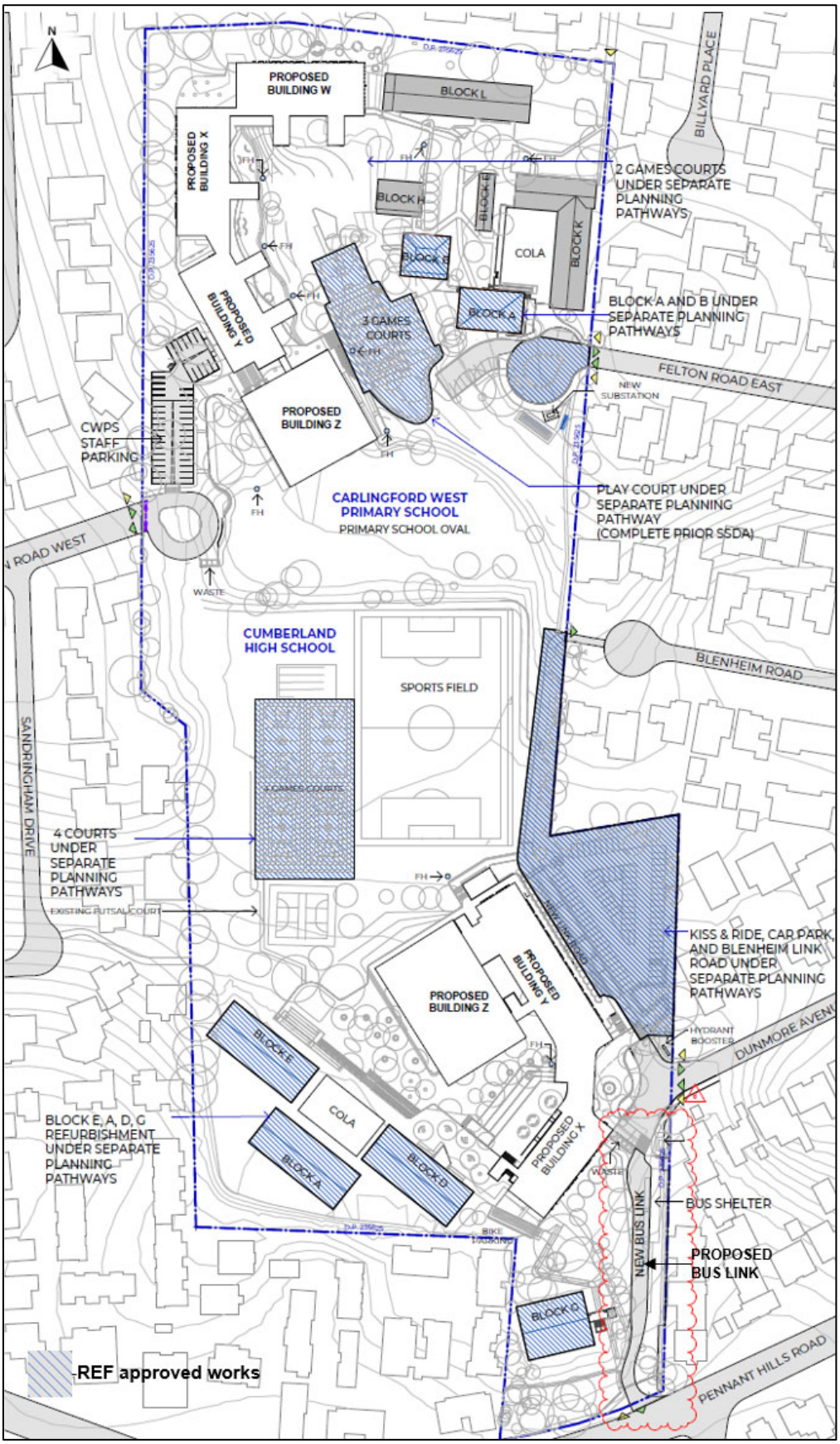


Figure 7 | Proposed site plan including REF works (Base source: RFI-3 2023)

2.2 Physical layout and design

2.2.1 **Carlingford West Public School**

The proposal seeks approval for four buildings, varying two to three storeys. The buildings are in the north-western corner of the site and identified as buildings 'W', 'X', 'Y' and 'Z' in **Figure 8**. The Applicant stated that the building layout, including setback and orientation, has been designed with respect to the dwellings adjoining the northern and western boundary of the site, and responding to the natural topography (**Figure 9**).

Figure 8 | CWPS site plan including REF structures (Base source: RFI-3 2023)

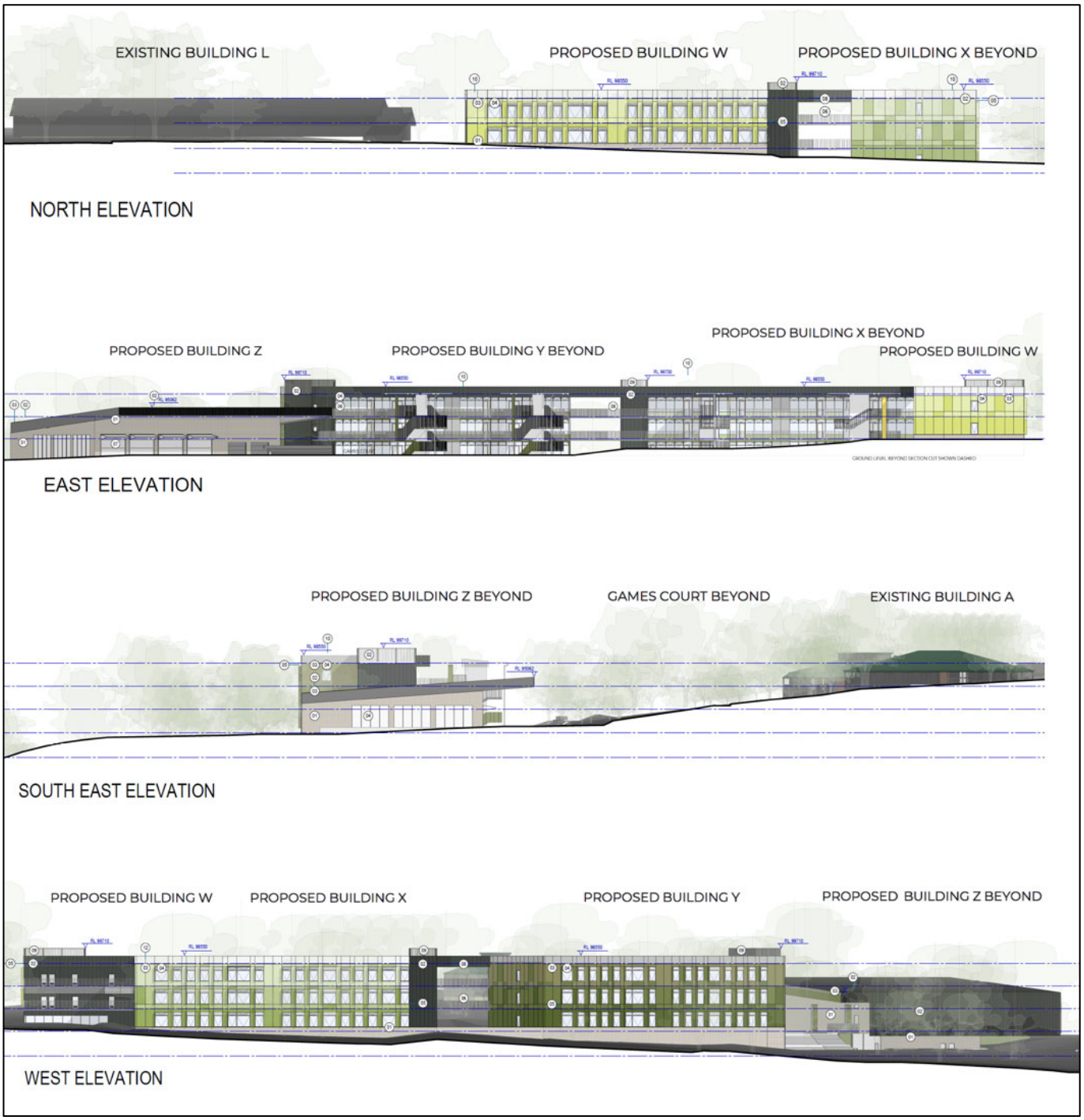


Figure 9 | CWPS elevations (Base source: RFI-3 2023)

2.2.2 Cumberland High School

The proposal includes demolition of existing Building C, and construction of three buildings up to five storeys. The Applicant stated that the buildings have been designed to respond to the existing structures, landscaping and the flood planning levels (**Figure 10** and **Figure 11**).

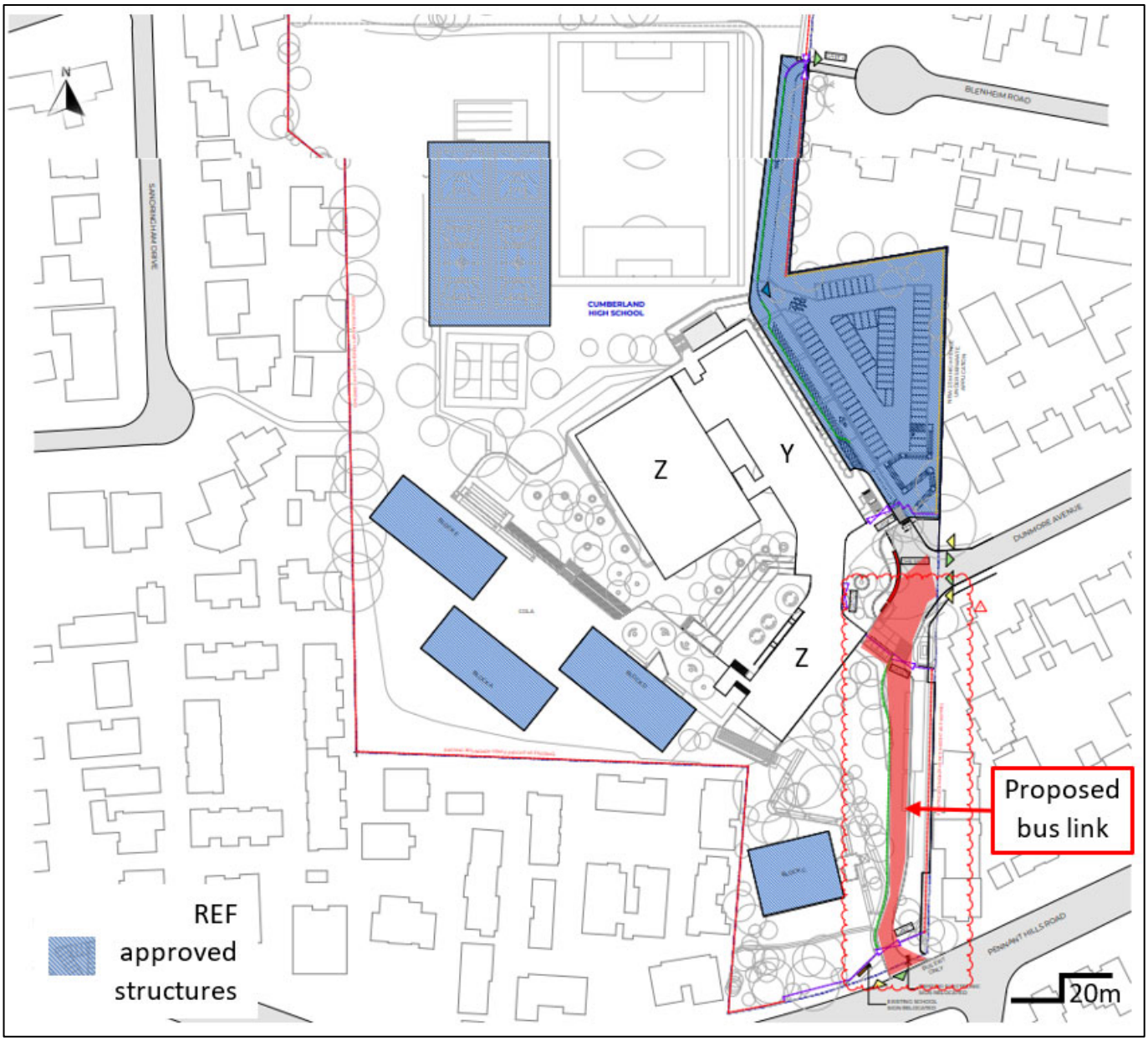


Figure 10 | CHS site plan including REF structures (Base source: RFI-3 2023)

Figure 11 | CHS site elevations (Base source: RFI-3 2023)

3 Strategic context

3.1 Key strategic issues

The project is consistent with the strategies, plans, and policies outlined in **Table 2**. Therefore, the Department considers it appropriate for the site.

Table 2 | Summary of government strategies, plans and policies

Strategy, plan or policy	Consistency	Comments
Greater Sydney Region Plan: A Metropolis of Three Cities	Consistent	• The plan aims to meet the needs of the growing population of Greater Sydney. • The proposal would upgrade school facilities in Greater Sydney. • The plan aims to create resilient cities and manage risk of environmental hazards and climate change. • The proposal includes flood risk mitigation measures to manage flood hazards, including climate change induced hazards.
Central City District Plan	Consistent	• The plan aims to improve access to social infrastructure in the Central City District. • The proposal would support the provision of services and social infrastructure in Parramatta. • The plan aims to adapt people and places to climate change and reduce exposure to natural hazards. • The proposal includes flood risk mitigation measures to allow the site to adapt to climate change and reduce overall flood exposure to adjoining residences.
Future Transport Strategy 2056	Consistent	• The plan aims to improve public transport and walking networks. • The proposal would provide new and upgraded infrastructure to supplement existing pedestrian infrastructure.
State Infrastructure Strategy 2022 – 2042 Staying Ahead	Consistent	• The plan aims to provide infrastructure that would meet future community needs. • The proposal would improve school facilities to support the growth in demand for student enrolments.
Sydney's Cycling Future 2013	Consistent	• The plan aims to improve cycling connections in Sydney. • The proposal would provide new shared pedestrian and cycle paths and end-of-trip facilities.

3.2 2022 NSW Flood Inquiry

The NSW Flood Inquiry was commissioned by the NSW Government in March 2022 to examine and report on the causes of, planning and preparedness for, response to and recovery from the 2022 catastrophic flood events. The Inquiry was handed down on 29 July 2022 and recognised that urgent action is required to enable immediate improvements in the way NSW prepares for, responds to and recovers from events of the magnitude of the 2022 floods.

The Inquiry made 28 recommendations for change. The Government response supports all 28 recommendations, either in full (six recommendations) or in principle, with further work required on implementation (22 recommendations).

Recommendation 28 references that health and essential services should not be located below the PMF level, mainly due to vulnerable users. While no specific mention of schools is provided in this recommendation, Section 7.10 of the Inquiry (of which Recommendation 28 forms part), states that over 2,000 pieces of essential and community infrastructure are located within the 1% AEP – this includes police stations, fire stations, hospitals, nursing homes, schools, airports, water filtration plants, sewerage works and power stations. As such, it is considered that this recommendation more broadly relates to essential facilities, of which schools could be considered to form a part. The Department has had regard to the Inquiry and Government's response in its assessment of the suitability of the site and matters of public interest with respect to flooding in **Section 6.2**.

3.3 Shelter-In-Place Guideline

The Department is preparing a Shelter-In-Place Guideline which, once finalised, will provide clear and consistent guidance for the community, councils, and consent authorities about when shelter-in-place can be considered as an alternative to evacuation off-site/out of the floodplain. The public exhibition of the draft Guideline ended on 28 February 2023.

The draft Guideline outlines that evacuation prior to major flood events is the preferred response to flooding emergencies, but is not always possible in all locations, especially during flash flooding.

At the time of the writing of this report, the draft Guideline has completed its exhibition and is still under consideration. The Department has had regard to the draft Guideline in its assessment of the suitability of the site, and matters of public interest with respect to flooding and managing risk to school occupants, in **Section 6.2**. Given its status, only limited statutory weight can be given to the draft Guideline.

4 Statutory context

Details of the legal pathway under which consent is sought and the permissibility of the project are provided in **Table 3** below.

Table 3 | Permissibility and assessment pathway

Consideration	Description
Assessment pathway	**State significant development (SSD)** The project is declared SSD under section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as it satisfies the criteria under section 2.6(1) of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP). The proposed development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the EP&A Act, and the proposed development is specified in section 15 of Schedule 1 of the Planning Systems SEPP.
Consent authority	**Minister for Planning and Public Spaces** The Minister is the consent authority under section 4.5(a) of the EP&A Act.
Decision-maker	**Delegate position** In accordance with the Minister for Planning and Public Spaces' delegation to determine SSD applications, signed on 26 April 2021, the Executive Director, Infrastructure Assessments may determine this application as: • the relevant Council has not made an objection. • there are less than 50 public submissions in the nature of objection. • a political disclosure statement has not been made.
Permissibility	**Permissible with consent** At the time the development application was lodged with the Department in November 2022, the Parramatta (former The Hills) Local Environmental Plan (PLEP) 2012 was in force. On 2 March 2023, PLEP 2012 was repealed and the Parramatta Local Environmental Plan 2023 (PLEP 2023) was made. However, Clause 1.8A of PLEP 2023 states that if an application was made, but not determined prior to commencement of the plan, the previous plan applies. Therefore, PLEP 2012 is the local environmental plan relevant to this application. Under PLEP 2012, the site is zoned R2 Low Density Residential. Educational establishments are permissible in the zone.

4.1 Other approvals and authorisations

The project will not require an environment protection licence issued by the NSW Environment Protection Authority under section 42 of the *Protection of the Environment Operations Act 1997*.

Under section 4.41 of the EP&A Act, a number of other authorisations required under other Acts are not required for SSD, as all relevant issues are considered during the assessment of the application.

Under section 4.42 of the EP&A Act, certain approvals cannot be refused if they are necessary to carry out the SSD (e.g. approvals for any works under the *Roads Act 1993*). These authorisations must be substantially consistent with any SSD development consent for the project.

The Department has consulted with and considered the advice of the relevant government agencies responsible for these authorisations in its assessment (see **Section 5** and **Section 6**). Suitable conditions have been included in the recommended conditions of consent (see **Appendix F**).

4.2 Planning Secretary's environmental assessment requirements

The Department's review determined that the EIS addresses each matter set out in the Planning Secretary's environmental assessment requirements (SEARs) issued on 23 May 2022, and is sufficient to enable adequate consideration and assessment of the project for determination.

4.3 Mandatory matters for consideration

4.3.1 Matters of consideration required by the EP&A Act

Section 4.15 of the EP&A Act sets out matters to be considered by a consent authority when determining a development application. The Department's consideration of these is shown in **Table 4**.

Table 4 | Matters for consideration

Matter for consideration	Department's assessment
Environmental planning instruments, proposed instruments, development control plans & planning agreements	Appendix A & Appendix F State Environment Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) applies to the proposed development. The Department notes that Clause 2.10 of the Planning Systems SEPP states that development control plans (DCPs) do not apply to SSD and as such, the provisions of the local DCPs have not been considered in this assessment.

Matter for consideration	Department's assessment
Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)	Appendix A
Likely impacts	**Section 6** - Assessment
Suitability of the site	**Section 1** - Project background, **Section 3** - Strategic Context and **Section 6** - Assessment
Public submissions	**Section 5** - Engagement and **Section 6** - Assessment
Public interest	**Section 5** - Engagement, **Section 6** – Assessment, and **Section 7** - Evaluation

4.3.2 Objects of the EP&A Act

In determining the application, the Minister should consider whether the project is consistent with the relevant objects of the EP&A Act (s 1.3) including the principles of ecologically sustainable development. Consideration of those factors is described in **Appendix A**.

As a result of the analyses in **Appendix A**, the Department is satisfied that the development is consistent with the objectives of the EP&A Act and the principles of ecologically sustainable development (ESD).

4.3.3 Biodiversity development assessment report

Section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act) requires all SSD applications to be accompanied by a Biodiversity Development Assessment Report (BDAR) unless the Planning Agency Head and the Environment Agency Head determine that the project is not likely to have any significant impact on biodiversity values (as identified in the BC Act and in the *Biodiversity Conservation Regulation 2017*).

The EIS included a BDAR (see **Appendix B**). The BDAR and the overall impact of the project on biodiversity values is assessed in **Section 6**.

5 Engagement

5.1 Exhibition of the EIS

5.1.1 Public exhibition of the EIS

After accepting the development application and EIS, the Department:

- publicly exhibited the project from 8 November until 5 December 2022 (28 days) on the NSW planning portal
- notified occupiers and landowners near the site about the public exhibition
- notified and invited comment from relevant government agencies and Council.

5.1.2 Summary of advice received from government agencies

The Department received advice from five government agencies on the EIS.

A summary of the agency advice is provided in **Table 5**. A link to the full copy of the advice is provided in **Appendix C**.

Table 5 | Summary of agency advice

Agency	Advice summary

Environment and Heritage Group (EHG)	EHG noted that the site is subject to high flood hazard, including flash flooding that can occur even during minor events. EHG found the flood modelling submitted as part of the EIS showed the proposal would increase the flood risk of the adjoining residences and Pennant Hills Road. EHG requested the Applicant revise the flood modelling to:
	• correctly assume an overland flow path to the north of Dunmore Avenue
	• assume that pits and pipes are blocked during a flood event
	• include a cumulative impact assessment of the proposal and the REF works including the CHS carpark, through-site link road, and the sports courts (**Section 1.4**).
	EHG advised:
	• it would not support the proposal should the revised flood modelling show that it would impact the flood risk of surrounding sites and Pennant Hills Road
	• the proposed buildings are above the PMF flood level and are supported. However, the proposal should be revised to be above the 1% Annual Exceedance Probability (AEP) (1 in 100 year flood):
	  ○ a freeboard of 300 millimetres (mm) for areas impacted by shallow overland flow path is acceptable
	  ○ a freeboard of 500mm for areas impacted by major overland flow paths is acceptable
	• the CHS carpark (that does not form part of this application):
	  ○ is in a zone of hazardous flooding that is unsafe for vehicles
	  ○ is in an area expected to be inundated every two to five years
	  ○ would require relocation to an area above the 5% AEP (1 in 20 year flood) flood level
	• because the site is flash flood prone, it may not always be practical to evacuate students during a flood emergency, because there would be little to no warning time provided
	• consult with SES in relation to Flood Emergency Response Plan (FERP)
	• details of the flood walls around Building X and Y should be provided.
	
	In relation to landscaping, EHG advised replacement tree planting is required to achieve a rate of 2:1 and include trees removed as part of REF works.

Agency	Advice summary
Transport for NSW (TfNSW)	TfNSW requested additional information be provided: • revised traffic modelling using current available data • management measures to restrict public and staff access to the bus link, including installation of physical barriers • sight distance of the bus link exit onto Pennant Hills Road and its interaction with the signalised midblock crossing • mitigation measures to reduce the proposed traffic impact at the Pennant Hills Road and Baker Street intersection and the Pennant Hills Road and Adderton Road intersection.
NSW State Emergency Services (SES)	SES noted that there is a major overland flow path through the site from Dunmore Avenue, affecting the school during flood events of 1% AEP flood and greater, that would impact the proposed CHS buildings and part of the CHS carpark. SES found that the proposal would significantly change the flood behaviour of the site and surrounding areas. SES advised that: • EHG advice should be considered as part of the assessment of flood impacts • it does not endorse site-specific FERPs, however, if one is prepared, then closure of the school before the school day commences is the preferred strategy during a flood event • it is possible for CWPS and CHS buildings to be relocated to other areas of the site that are not affected by the PMF extent during a flood event, if evacuation is required because the school cannot be closed • evacuation must not require people to walk or drive through flood waters • shelter in place is not supported, because during a flood emergency SES have reduced capacity to respond • cumulative impacts of the REF works are required to be considered.
Heritage NSW	Heritage NSW advised that the Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared in accordance with Heritage NSW guidelines, and it had no further comments in relation to the proposal.
Sydney Water	Sydney Water noted that extensions and / or amplifications are required to comply with the relevant codes for potable water and wastewater servicing. Sydney Water requested that the Applicant provide a Feasibility Study to ensure sufficient time for review, so that the scope of the proposal is realised before progressing with detailed design.

5.1.3 Summary of Council submission

In its submission to the EIS, Council objected to the proposal on the grounds that:

- insufficient onsite staff and construction worker carparking has been proposed
- DOPU arrangements would not effectively reduce traffic congestion

- new pedestrian infrastructure has not been efficiently sited. **Table 6** further details Council's objection.

Council later withdrew its objection on 17 November 2023. Further detail on the withdrawal of Council's submission is in **Section 5.7**.

Table 6 | Summary of EIS issues raised by Council

Objection	Submission summary
Carparking	<u>Staff</u> • Council noted that the Traffic and Accessibility Impact Assessment (TAIA) mode share survey found that there is an overflow of up to 108 staff parking on the surrounding local streets, and nominated that the overflow parking be directed to streets surrounding Kingsdene Oval to reduce impact to residences. • Council stated that the streets surrounding Kingsdene Oval are narrow and would not be able to accommodate the projected parking rate. • Council recommended that the proposal be revised to formalise up to 25 street parking spaces, including construction of: o a 70m long parking bay on the eastern side of Arcadian Circuit; and o an 80m long parking bay on the northern side of Sandringham Drive. <u>Construction workers</u> Council recommended that the Applicant's Construction Worker Transportation and Parking Plan be revised to show dedicated construction worker parking spaces either onsite or close to the site.
DOPU and traffic congestion	• Traffic congestion during school peak hours significantly impacts local residences and the Hills Police Area Command patrol vehicle movement. • The proposed DOPU works would relieve some of the existing traffic congestion, however additional traffic management and mitigation measures should be included to improve traffic conditions. • The proposed capacity of the DOPU facilities, 239 for CWPS and 112 for CHS, cannot accommodate the 996 CWPS and 427 CHS student DOPU demand, and would result in excess vehicle queuing which would impact the intersection performance of the surrounding streets. • Council recommended the following be included to reduce DOPU vehicle queuing and improve traffic congestion: o a cap on the limit of DOPU users, agreed with the local Police and Council, which would be reviewed every six months o the DOPU facilities be open earlier than school start and end times o methods to reduce the proposed 90 second DOPU vehicle turnover rate be included, such as staff management at DOPU locations o stagger CWPS start and end times with CHS at least 25 minutes apart o provision of a minimum number of OOSH care places.

Objection	Submission summary

Pedestrian infrastructure	• The location of the pedestrian crossing in Baker Street, north of Blenheim Road, is not ideal and should be located to the south of Felton Road East.
	• New and upgraded paths should be wide enough for shared pedestrian and cyclist use.
	• Pedestrian infrastructure should consider:
	  ○ sight distance from Pennant Hills Road turning into Tintern Avenue
	  ○ fast turning angle from Pennant Hills Road into Tintern Avenue
	  ○ potential for queuing and blocking of intersections due to vehicles stopping at pedestrian crossings.
	• A five metre public access easement should be created to connect pedestrians between Felton Road East and Felton Road West outside of school hours.

Flooding and stormwater	Flood modelling should be revised to include:
	  ○ more realistic scenario of pit blockage of 50% at sag pits and 20% at at-grade pits
	  ○ 20% increase in rainfall to account for climate change, not 9% as provided in the Flood Impact Assessment (FIA)
	  ○ cumulative impact of the other developments in the floodplain.
	• The proposal should not cause increased flooding to the surrounding properties and Pennant Hills Road.
	• FERP should include education strategies to raise awareness of the risk of flooding of the sports field.
	• All structures must have flood compatible components.
	• Cumulative impact of development within the floodplain should be considered.
	• Onsite detention systems (OSDs) must be located outside of the 1% AEP flood event.

Other	<u>Open play space</u> • The open play space area proposed per student currently complies with the Educational Facilities and Standards and Guidelines (EFSG) minimum requirement of 10 sqm, however a condition should be included to ensure this minimum would be provided throughout the lifetime of the development. • Further detail is required to demonstrate management of student enrolment so the minimum open place space area per student is retained. • Community use of the school facilities, including use of indoor and outdoor spaces, is unclear. <u>Conditions to be included as part of the consent</u> • Works in Felton Road West and other road signage and line marking to be carried out in consultation and with approval by Council's Local Traffic Committee. • Accessible paths of travel to be provided around the school and parking areas. • School play areas and common areas to be accessible.

5.1.4 Summary of public submissions

The Department received 29 public submissions[1] during the public exhibition period of the EIS, including one from Endeavor Energy and 28 from individuals. 24 submissions objected to the project, one submission supported the project, and four provided comments, including Endeavour Energy (**Table 7**). A link to all public submissions in full is provided in **Appendix C**.

Table 7 | Submissions on the EIS

Submitter	Number of submissions	Position
Endeavour Energy	1	Comment
Public	24	Object
	1	Support
	3	Comment
TOTAL	**29**	

Endeavour Energy provided comments in relation to the CHS proposed electricity infrastructure. In relation to CWPS electrical supply, Endeavour Energy referred to advice it provided for Carlingford West Public School Upgrades SSD-10879802 (**Section 1.3**).

Key issues raised by the public relate to traffic congestion and DOPU, parking and pedestrian infrastructure, and noise, and are summarised in **Table 8**.

[1] Each petition or submission that contains the same or substantially the same text is counted as one submission in accordance with section 2.7(6) of the Planning System SEPP.

Table 8 | Key issues raised in public submissions on the EIS

Issue	Approximate % of submissions
Traffic, parking and pedestrian infrastructure • Surrounding roads are narrow and not wide enough to accommodate the existing and additional traffic generated by the school. • Proposal would increase traffic congestion. • The School Travel Plan is not enough to reduce car dependency as a mode of travel. • The shortfall of onsite staff carparking would reduce street carparking availability for residents. • Staff and student parking on the surrounding streets would limit two-way traffic flow of the already narrow roads. • The proposed pedestrian infrastructure upgrades are not sufficient to meet the school demand.	82%
Noise and air quality • The CHS carpark and bus link road would result in traffic generated noise. • Out of hours community use of the school would create noise. • The proposed bus link road would create noise, air and dust pollution and would impact the quality of life of the surrounding residences.	25%
Visual privacy and solar access • Loss of visual privacy and solar access.	18%
Other • The proposed enrolment capacity does not reflect population growth and the school catchment area. • Community members are suffering from construction fatigue from the noise, vibration, and dust resulting from the REF works. • External lighting of the carpark would cause light spill and impact residences in the evening. • Tree removal would result in the urban heat island effect. • The proposal increases flood risk of adjoining properties.	10%

5.2 Response to submissions

Following the exhibition period, the Department asked the Applicant to respond to the issues raised in the Council and public submissions, and the advice received from government agencies. The Applicant provided a Response to Submissions (RtS) report to the Department on 5 April 2023 (Appendix B).

The Applicant revised the proposal to include additional stormwater drainage connections and delete the flood wall around Building X and Y. No other changes were made. The RtS included:

- an updated TAIA, including justification of the proposed traffic and parking impacts to address Council's comment and TfNSW requests.
- a statement from the acoustic consultant that prepared the Noise and Vibration Impact Assessment (NVIA) to justify its assessment of the operational noise impacts of the bus link road, with the NSW Road Noise Policy (RNP), as opposed to the Noise Policy for Industry 2017 (NPfI)
- updated flood modelling, a Statement from a Civil Engineer and a FERP in response to EHG and SES advice and Council submission
- updated Social Impact Assessment, including responses from surveys conducted with the existing out of school hours facilities and the surrounding residents
- an assessment of the potential privacy impacts to surrounding residences.

The Department published the RtS report on the NSW planning portal and forwarded it to relevant government agencies and Council for comment on 5 April 2023.

5.2.1 Summary of Council submission on the RtS

Council provided a submission on the RtS and maintained its objection to the proposal. A summary of its submission is provided in Table 9 below.

Table 9 | Summary of Council's submission on the RtS

Council	Submission summary
Carparking	Council rejected the Applicant's suggestion that Council provide angled parking along Felton Road West on the basis that it would not comply with the AS 2890.5:2020. Council also rejected the Applicant's argument that school related parking on either side of the road would act as a traffic calming measure. Council stated that there is not sufficient passing opportunity for vehicles travelling in the opposite direction during DOPU peak times, which affects sight distances of residences exiting driveways.
DOPU and traffic congestion	Council maintained that a DOPU capacity and provision of a minimum number of OOSH care places should be included as a condition of consent.
Pedestrian infrastructure	Council accepted the Applicant's response to pedestrian infrastructure works, including that a public access easement would not be created to connect pedestrians between Felton Road East and Felton Road West, outside of school hours.

Council	Submission summary

Other	<u>Flooding and stormwater</u>
	• The revised modelling:
	  ○ assumed 100% of pit blockage which is not realistic
	  ○ undertook modelling of pit blockage and climate change, separately
	  ○ increases flood water surface level over 100mm at some of the adjoining residences and is not supported
	  ○ shows that the flood path has been narrowed, however the proposal must be revised to maintain or increase the width of the flood path.
	• A minimum of 500mm of freeboard should be provided for all buildings regardless of their locality to shallow or major overland flow
	• Council request to relocated OSDs outside of the 1% AEP was not considered.
	• Water Sensitive Urban Design (WSUD) should be considered in addition to installation of OSD tanks to control stormwater flow and quality.
	<u>Open play space</u>
	• Council did not comment on the RtS open play space response.

5.2.2 Summary of agency advice on the RtS

Further advice was provided from four agencies on the RtS. A summary of the agency advice is provided in Table 10. A link to the full copy of the advice is provided in Appendix C.

Table 10 | Agency advice on the RtS

Agency	Advice summary
EHG	EHG acknowledged the new flood mitigation measures included in the RtS, however, the revised flood modelling identified new flood risk in other areas. EHG advised that: • the new stormwater line would reduce flooding in the 5% and 1% AEP storm events and is supported • revised modelling shows downstream properties, including Sandringham Street and 24 and 26 Blenheim Road, would be adversely impacted in the PMF. Additional information is required to understand the impact, such as the maximum increase in depth of floodwaters • mitigation measures are required to ensure that existing hazard levels of the surrounding development are not worsened • the modelling does not show the following and is required to be updated: o risk to a structure at the rear of 43 / 43A Sandringham Street o that reasonable blockage to pits and drains have been applied to the flood modelling to reflect realistic scenarios o impact of the proposal as amended, on Pennant Hills Road. In relation to the CHS carpark, EHG: • supported that the RtS modelled flood impact to the CHS carpark and the sports field for the 1% AEP and PMF events. • requested further modelling be carried out for events more frequent than the 5% AEP • noted the Applicant did not relocate the carpark and stated that the extent of the CHS carpark should be reduced. In relation to landscaping, EHG reiterated its recommended tree replacement planting ratio of 2:1.

Agency	Advice summary
TfNSW	TfNSW stated that it could not provide concurrence for the proposed bus link road because: • it would increase congestion on Pennant Hills Road • the bus link exit onto Pennant Hills Road and its interaction with the signalised midblock crossing is unclear • management of the bus link road to restrict public use is unclear • an 83m sight distance is required for buses exiting onto Pennant Hills Road, which is not currently achieved • the flood impact to Pennant Hills Road is unclear • the current swept path analysis indicates that 12.5m Heavy Rigid Vehicles turning from the bus link road onto Pennant Hills Road would overhang onto other lanes • the steep gradient of the bus link road is currently unsafe because it would allow for only a five second gap for a break in traffic to enter Pennant Hills Road. TfNSW also requested that mitigation measures be implemented to reduce the traffic queues at the signalised intersections, including the Pennant Hills Road and Adderton Road intersection.
SES	SES noted that the proposed buildings of both schools are sited outside of the PMF extent, and students should be able to evacuate to a safe point within the school grounds with skilful building design, including design for access between buildings that would not be affected by flooding. SES advised the following in relation to emergency evacuation: • school children are unable to self-evacuate, and there would be insufficient time for carers to pick up children prior to the onset of flooding • the FERP is required to be updated to clearly show evacuation and closure procedures, assembly points, area roads that may be impacted, and detailed evacuation routes in a flood event • deliberate isolation or sheltering in buildings surrounded by flood water is not considered an evacuation strategy.
Sydney Water	Sydney Water reiterated its previous advice for the Applicant provide a Feasibility Study.

5.3 Request for Information 1

On 9 May 2023, the Department issued a Request for Information 1 (RFI-1) for the Applicant to address:

- traffic, accessibility and parking, including comments raised in Council submission and TfNSW advice
- noise, including that the bus link road is required to be assessed under the NPfI

- social impact, including that further targeted engagement is required to understand the effect of the proposal on the community in relation to flooding, access and privacy
- flooding, including comments raised in EHG and SES advice
- the cumulative impact of the proposal, including the REF works and cumulative traffic impact of the surrounding schools.

On 8 August 2023, the Applicant responded to RFI-1 and included the following:

- concept design plans for road widening works at Sandringham Drive and Arcadian Circuit, including 23 additional street parking spaces in relation to Council's carparking concerns, and stated it would financially contribute towards the works should Council agree to carry it out
- confirmation that it could accept conditional use of the DOPU zones if it were non-prescriptive to allow operational flexibility for the school
- updated design of the bus link road, including amended gradient, and updated fencing plans and swept path analysis to demonstrate compliant sight distance from the bus link road to Pennant Hills Road
- justification of the impact on traffic and the use of the bus link road, including that up to two service vehicles are proposed to use it daily which would have minimal impact to Pennant Hills Road
- updated NVIA, including at-receiver noise treatment plan to mitigate noise impact at the most impact sensitive receivers
- updated Flood Impact Risk Assessment (FIRA) and flood modelling, including a proposed 60m long and 1m high flood wall along the western boundary of the CWPS carpark to protect downstream properties
- new Cumulative Impact Assessment (CIA) and updated Social Impact Assessment (SIA), without targeted engagement.

5.3.1 Summary of Council submission on RFI-1

Council provided a submission on RFI-1 and stated that traffic and flooding remain outstanding concerns. A summary of their submission is provided in **Table 11** below. A link to the full copy of the submission is provided in **Appendix C**.

Table 11 | Council comment on RFI-1

Issue	Comments on RFI-1
Carparking	The concept plans to widen Sandringham Drive and Arcadian Circuit are acceptable and Council is open to entering into a planning agreement with the Applicant.
DOPU and traffic congestion	• Council notes the Applicant's concern in relation to conditions that restrict the DOPU, and stated that the intent of its previously recommended DOPU pre-registration condition is to distribute vehicles evenly across the available DOPU zones. • Council maintains that a minimum number of OOSH care places should be included to limit traffic congestion during school peak hours.
Flooding	Council acknowledged that it met with the Applicant before the RFI-1 was submitted to resolve matters raised in the RtS, however the following matters remain unresolved: • modelling to document flood surface water of upstream properties has not been provided. • modelling is required to be revised to model drain blockage and climate change together, not as individual scenarios. • OSDs have not been relocated outside the 1% AEP flood event • water sensitive urban design (WSUD) has not been incorporated. Council also noted that shelter in place (SIP) should be considered, as the capacity of both schools is too high to ensure that students can be safely evacuated.

5.3.2 Summary of agency advice on RFI-1

Further advice was provided from three agencies on RFI-1. A summary of this advice is provided in Table 12. A link to the full copy of the advice is provided in Appendix C.

Table 12 | Agency advice on the RFI-1

Issue	Comments on RFI-1
EHG	EHG advised that further information is required for it to carry out its assessment of the proposal, including detail of the proposed flood wall such as a failure assessment of the wall and the results of a dam break analysis.
TfNSW	TfNSW reviewed the information provided and stated that it still could not provide concurrence for the bus link road because: • it does not support use of the bus link road by service vehicles • the turning paths used for the swept path analysis provided do not comply with the relevant standards. TfNSW stated that it required further information to address the above outstanding issues and advised that should the proposal be approved: • the updated fencing plans would be required to be incorporated as a condition of consent • it will not support modification of signal phasing to accommodate the bus link road during detailed design.
SES	SES noted that the FERP recommended: • primary emergency response is to close both schools before floods commence. • where the school cannot be closed, the emergency response would be to evacuate students when there is indication that flooding is likely, without change to the building design. • evacuation point for both schools is not within the school but at James Ruse Agricultural High School (JRAHS) undercover covered outdoor learning area. SES advised that it does not support evacuation of students to another school's outdoor area due to inclement weather. SES stated that the preferred evacuation point would be to a safe area within the school boundary. However, SES noted that the site is an existing school with an existing flash flood risk. Given the circumstances, the FERP should consider SIP instead of emergency evacuation. To accommodate SIP, SES advised the Applicant that: • flood free evacuation routes that are above the PMF should be provided within school buildings for students to SIP • the total available space and adequate services for SIP at project completion (sum of available space for all buildings on site) to occupy the building above the PMF should be considered.

5.4 **Request for** Information **2**

On 9 August 2023, the Department requested further information (RFI-2) in relation to outstanding TfNSW, EHG, SES and Council RFI-1 comments.

On 11 September 2023, the Applicant responded to RFI-2 and included:

- an updated SIA, with targeted engagement
- plans detailing the proposed flood wall as requested by EHG
- further justification for waste and service delivery vehicles to use the one-way bus link road and exit onto Pennant Hills Road.

Council advised that its concerns in relation to the following matters have not been satisfactorily addressed:

- DOPU pre-registration
- commitment to provide a minimum number of OOSH care places
- relocation of OSD systems
- SIP preferred over evacuation as a flood emergency management strategy.

EHG requested that detailed flood wall plans, including a failure assessment of the wall and results of a dam break analysis be provided.

SES reiterated the advice it provided in RFI-1.

TfNSW stated that it does not accept the Applicant's justification for waste and service delivery vehicles to exit onto Pennant Hills Road, and encouraged redesign of the proposal so that waste and service delivery vehicles exit onto Dunmore Road.

5.5 Request for Information 3

On 12 September 2023, the Department requested further information (RFI-3) in relation to outstanding agency comments on RFI-2.

On 18 September 2023, the Applicant responded to RFI-3 and included:

- updated architectural and landscape plans, including amended loading area for service and waste vehicles to enter and exit the site using Dunmore Avenue, in response to TfNSW comments
- updated Operational Waste Management Plan
- response to Council comments, including confirmation that it would implement a pre-vehicle registration system to manage capacity at DOPU zones.

RFI-3 did not change the stormwater and flood reports and plans.

Council stated that, subject to conditions relating to a planning agreement for road widening works, DOPU pre-registration, and conditions requiring a minimum number of OOSH care spaces be provided, its traffic related concerns would be satisfied. However, Council maintained its objection on the basis that concerns relating to OSD and SIP matters have not been adequately addressed.

TfNSW reviewed RFI-3 and advised it had no objections to the proposal, as revised. TfNSW recommended conditions of consent, including:

- detailed design of the bus link road in accordance with TfNSW requirements
- use of the bus link road exclusively for buses and emergency vehicles.

5.6 Request for Information 4

On 28 September 2023, the Department requested further information (RFI-4) to clarify civil engineering arrangements.

The Applicant responded on 29 September 2023 with updated civil engineering documentation, including bulk earthworks plans and flood impact assessment, to reflect the changes made by the RtS and previous requests for information.

Further agency consultation following receipt of the documentation was not required

5.7 Withdrawal of Council objection

On 16 November 2023, Council advised the Department that the Applicant had consulted with it and resolved the matters raised in its objection and subsequent advice in relation to RFI-1 to RFI-3. Council recommended conditions be included to facilitate the discussions it had with the Applicant, including restriction on heavy vehicle movements around school peak hours, creation of a new drainage easement and processes around the road widening works.

6 Assessment

The Department has considered the EIS, public submissions, agency advice, and the Applicant's RtS and supplementary Request for Information (RFI-1, RFI-2, RFI-3 and RFI-4) in its assessment of the proposal. The Department considers the key issues associated with the proposal are:

- traffic, transport and accessibility
- flood impacts
- operational noise
- built form and urban design.

Each of these issues is discussed in the following sections of this report. Other issues considered during the assessment of the application are discussed at **Section 6.5**.

6.1 Traffic, transport and accessibility

The application was supported by a TAIA and Preliminary Construction Management Plan which assessed the development's potential traffic, transport and accessibility impacts throughout the construction and operational phases. The TAIA was updated with the RtS and RFIs.

6.1.1 Existing traffic, transport and accessibility conditions

CWPS

The CWPS site divides local road Felton Road into two sections being Felton Road East and Felton Road West. Both Felton Road East and Felton Road West have a speed limit of 50 kilometres per hour (kph), signposted to indicate a limit of 40 kph during school peak hours (8 am to 9.30 am and 2.30 pm to 4.00 pm, weekdays).

The main CWPS entry is located at the cul-de-sac of Felton Road East, and includes an internal painted and signposted DOPU area with capacity for seven vehicles. The perimeter of the cul-de-sac is gated to control access to the school. During the afternoon DOPU period, the gate is closed for approximately ten minutes after the school bell to allow students to leave the site before DOPU vehicle movements begin. Felton Road East provides access to an onsite carpark for 30 staff, which is currently occupied by demountable buildings.

At Felton Road West, access to the school is gated and restricted for vehicles. Both sides of Felton Road West accommodate DOPU zones defined by 'No Stopping' signs between 8.30 am to 9.30 am and 3 pm to 4 pm, weekdays.

Existing smaller DOPU zones are also available at select areas on Blenheim Road and Hilar Avenue (**Figure 12**). A footpath on the southern side of Hilar Avenue leads to a thoroughfare connecting pedestrians to the CWPS.

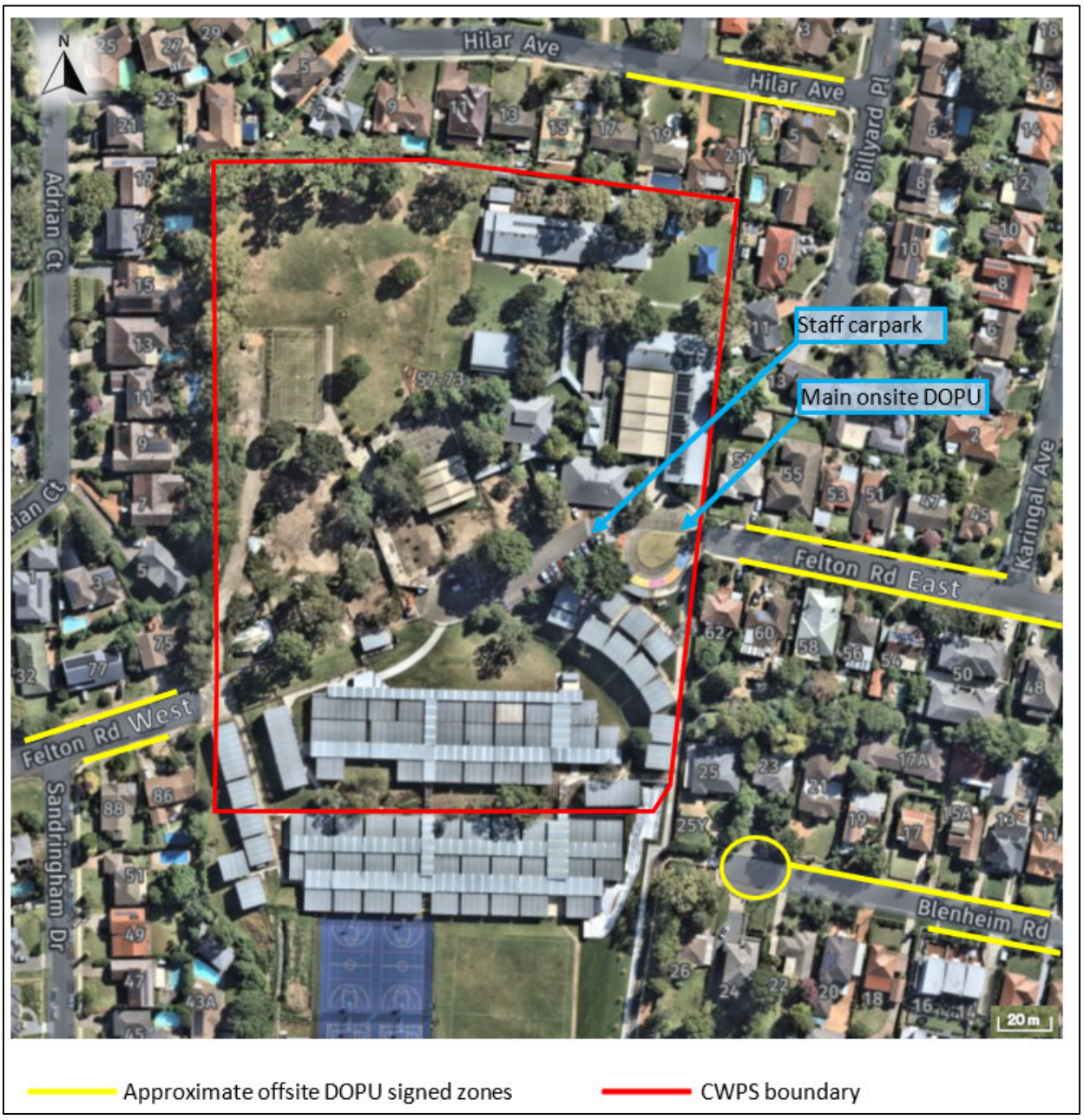


Figure 12 | Existing CWPS DOPU (Source: Nearmap - March 2023)

CHS

In November 2022 when the EIS was lodged, DOPU vehicles and buses accessed the site through Dunmore Avenue and into an onsite turning area. Dunmore Avenue also provided access to the staff carpark with capacity for 65 spaces and service vehicles (**Figure 13**).

CHS DOPU also occurred at the Blenheim Road cul-de-sac, a local road with a 'No Parking' area during school peak hours. A footpath on the northern side of Blenheim Road provided gated access to both schools.

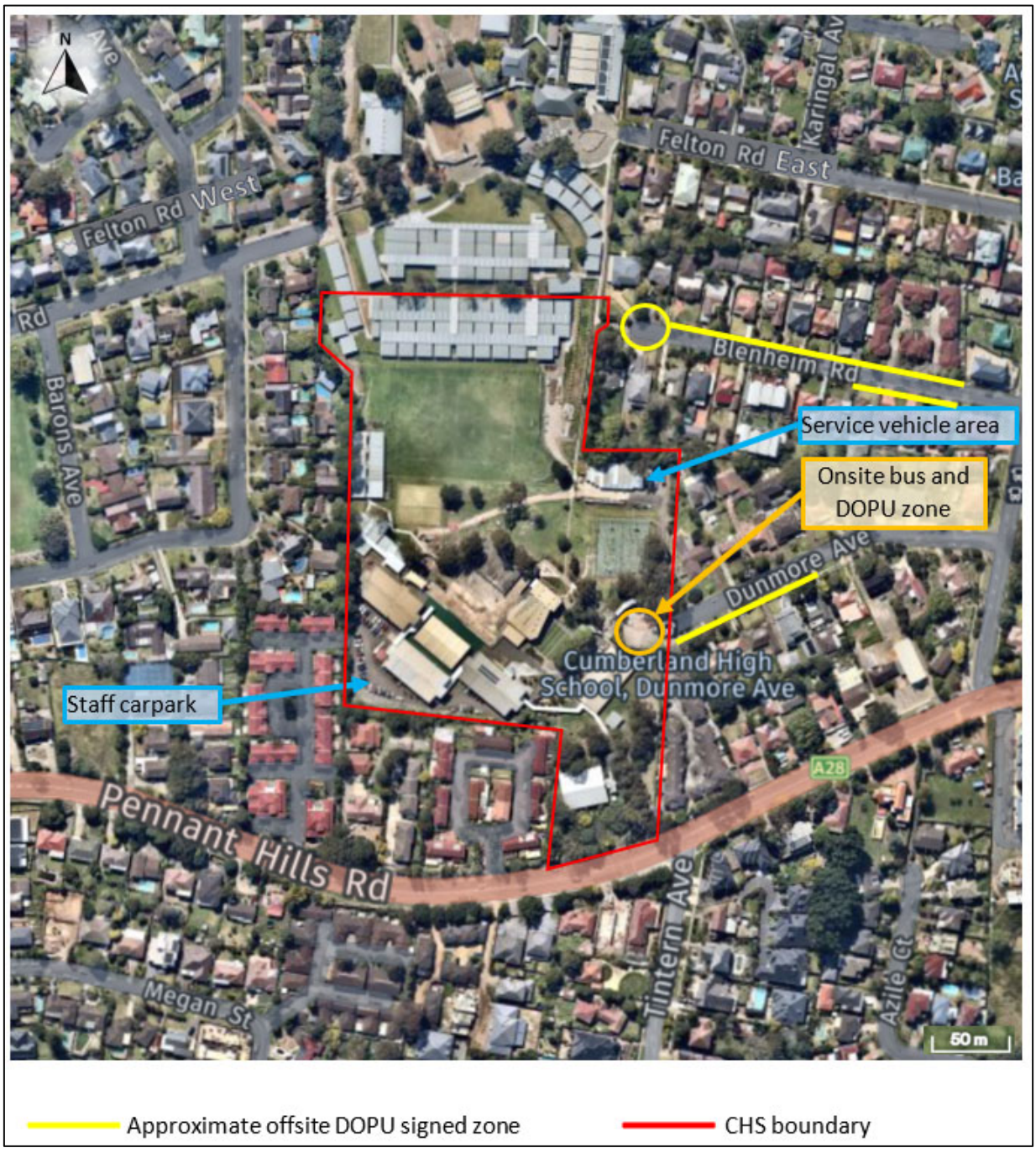


Figure 13 | Existing CHS DOPU (Source: Nearmap – September 2022)

In April 2023, the Applicant constructed an onsite CHS staff carpark and through-site DOPU road under an REF (**Section 1.4**). Both now use the same vehicle crossover to access the site from Dunmore Road and exit onto Blenheim Road (**Figure 14**).

Figure 14 | CHS REF completed DOPU and carparking works (Source: Nearmap - October 2023)

Connecting roads

Baker Street is a local road, with one lane of traffic in each direction, connecting Felton Road East, Blenheim Road, and Dunmore Avenue to Pennant Hills Road. Baker Street has a speed limit of 50 kph with signposting to indicate a speed limit of 40 kph during school peak hours. Baker Street provides access to James Ruse Agricultural High School.

Pennant Hills Road is a classified road which connects to the north-east and Parramatta. No parking is permitted in both directions on Pennant Hills Road closest to the site. It has a speed limit of 60 kph, and includes signposting to indicate a speed limit of 40 kph during school peak hours. A signalised pedestrian crossing west of Tintern Avenue provides access to the site from the south (**Figure 15**).

Figure 15 | Surrounding intersections (Source: EIS 2022)

Bus and pedestrian infrastructure

There are no shared footpaths or dedicated bicycle lanes near the site (**Figure 16**).

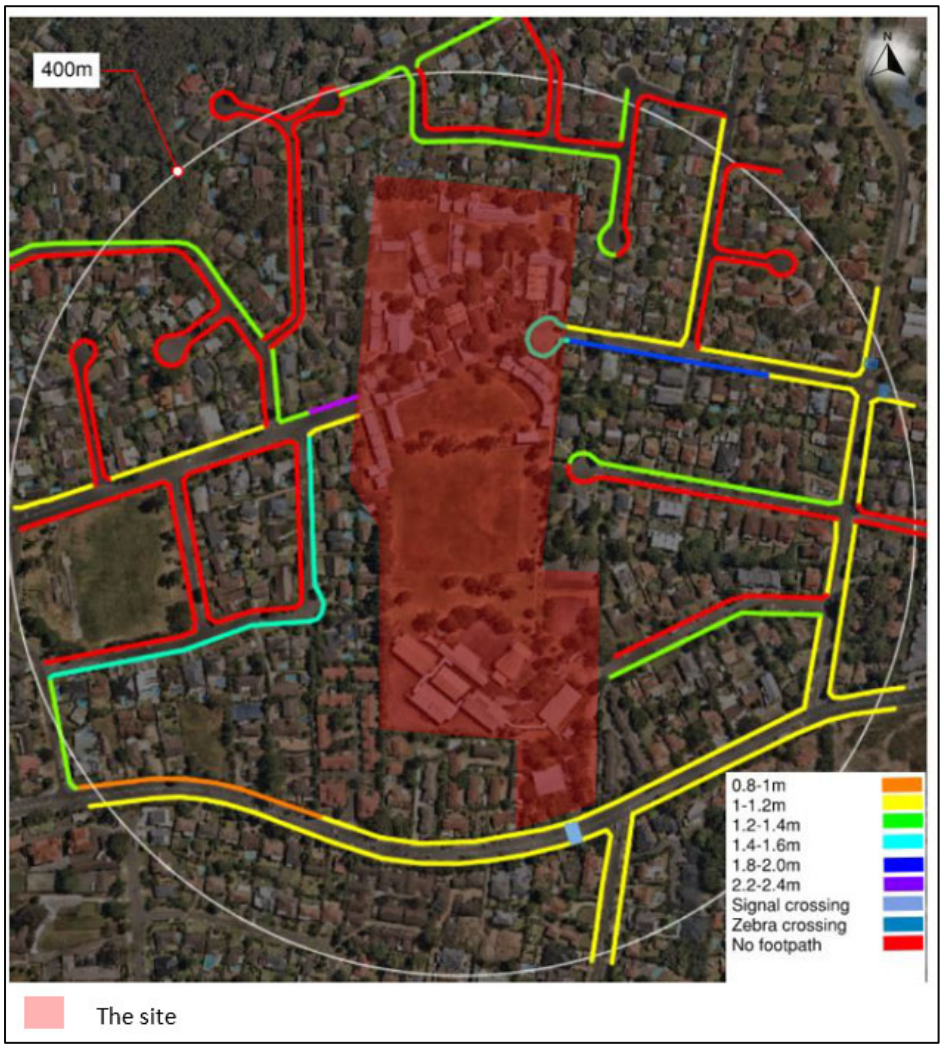


Figure 16 | Existing footpath locations and widths (Source: EIS 2022)

The closest bus stops are on Pennant Hills Road. There are no trains within a reasonable walking distance to the school. The former Carlingford Station is 900m west of the site, and will be converted into a light rail stop connecting the site to Westmead via Parramatta by 2024.

6.1.2 Operational traffic

The TAIA was updated, as part of the response to RFI-1, to include the latest traffic modelling output and assessed the operational traffic impact of the proposal on the surrounding streets. The TAIA carried out traffic surveys between 7 am and 9 am and 2 pm and 4 pm on Thursday 12 May 2022 to record the existing school traffic movements at the following intersections:

1. Felton Road East and Karingal Avenue
2. Baker Street and Felton Road East (roundabout)
3. Baker Street and Blenheim Road and Pleasant Court
4. Baker Street and Dunmore Avenue

5. Pennant Hills Road and Baker Street (formerly a stop-controlled but a signalised intersection as of early 2023)
6. Pennant Hills Road and Adderton Road (signalised intersection)
7. Pennant Hills Road and Tintern Avenue
8. Pennant Hills Road and Westminster Avenue
9. Felton Road West and Arcadian Circuit
10. Pennant Hills Road and Bettington Road (signalised) (**Figure 17**).

Figure 17 | Intersection analysed in the TAIA (Base source: Nearmap 2023)

The performance of the intersections was modelled on different scenarios as follows:

- Existing scenario 2022 – modelled for the year 2022 with the existing traffic and without REF works
- Existing scenario 2025 – modelled for the year 2025 without the proposed development, but inclusive of the REF works and with a background traffic increase of 1% per year on local roads and 2% per year on state roads
- Existing scenario 2032 – modelled for the year 2032 without the proposed development, but inclusive of the REF works and with a background traffic increase of 1% per year on local roads and 2% per year on state roads
- Proposed development scenario 2025 – modelled for the year 2025 inclusive of the proposed development and REF works, with a background traffic increase of 1% per year on local roads and 2% per year on state roads

- Future development scenario 2032 – modelled for the year 2032 inclusive of the proposed development and REF works, with a background traffic increase of 1% per year on local roads and 2% per year on state roads (**Error! Reference source not found.**).

Table 13 | Intersection performance

Intersection			Existing 2022 (note: excludes REF works)	Existing 2025	Existing 2032	Proposed development 2025	Future development 2032
1	Felton Road East and Karingal Avenue	AM	A	A	A	A	A
		PM	A	A	A	A	A
2	Baker Street and Felton Road East	AM	A	A	A	A	A
		PM	A	A	A	A	A
3	Baker Street and Blenheim Road and Pleasant Court	AM	A	A	A	A	B
		PM	A	A	A	A	A
4	Baker Street and Dunmore Avenue	AM	A	A	A	B	B
		PM	A	A	A	A	A
5	Pennant Hills Road and Baker Street	AM	B	A	A	C	C
		PM	A	A	A	B	B
6	Pennant Hills Road and Adderton Road	AM	F	F	F	F	F
		PM	E	F	F	F	F
7	Pennant Hills Road and Tintern Avenue	AM	B	B	B	F	F
		PM	B	B	B	B	C

Intersection			Existing 2022 (note: excludes REF works)	Existing 2025	Existing 2032	Proposed development 2025	Future development 2032
8	Pennant Hills Road and Westminster Avenue	AM	B	B	B	B	B
		PM	B	B	B	B	B
9	Felton Road West and Arcadian Circuit	AM	A	A	A	A	A
		PM	A	A	A	A	A
10	Pennant Hills Road and Bettington Road	AM	F	F	F	F	F
		PM	F	F	F	F	F

The TAIA also included surveys of the existing movement of staff and students to determine the existing mode share. The results of the survey were summarised to form a baseline of existing mode share and are outlined in **Table 14**. Overall the surveys found that:

- most CWPS students are dropped-off / picked-up or walk
- most CHS students are dropped-off / picked-up or ride the bus
- almost all CWHS and CWPS staff drive to school.

Table 14 | Existing mode share

Existing mode share	CWPS		CHS	
	Students	Staff	Students	Staff
Car as passenger	60%	5%	28%	4%
Car as driver	0	90%	3%	94%
Bus	<1%	<1%	53%	0%

Existing mode share	CWPS		CHS	
	Students	Staff	Students	Staff
Walk	40%	5%	15%	2%
Bicycle	<1%	<1%	1%	0%

Based on the traffic modelling and mode share survey, the TAIA found that traffic conditions on Pennant Hills Road would worsen by 2023 regardless of the proposal, due to background traffic growth. The TAIA acknowledged that the deterioration of the Pennant Hills Road and Tintern Avenue intersection performance may be directly related to the bus link road exit onto Pennant Hills Road, and noted that coordination of the traffic light signals around the bus link could alleviate the impact. The TAIA stated that modifying the timing of signals is not part of the proposal, and would be required to be carried out by TfNSW.

Most public submissions objected to the proposal on the grounds of traffic impacts, including that the proposed increase in student capacity would strain local roads, in addition to the cumulative traffic impact of nearby schools. Some public submissions also commented on emergency vehicle delay at some intersections during school peak hours.

Council stated that a combination of the DOPU vehicle movements at Felton Road East, and shortfall of onsite parking, causes traffic congestion. Council requested that additional DOPU management measures, and a commitment to a minimum number of OOSH care places be included, and formalised street parking be provided to reduce traffic congestion.

TfNSW stated that it does not support the coordination of traffic light signals on Pennant Hills Road to accommodate buses leaving the site, and requested the Applicant provide additional information on traffic modelling and mitigation measures to alleviate queuing during school peak hours.

The RtS included revised traffic modelling and stated the following in response to the public submissions and Council comment:

- CWPS enrolment catchment was amended in 2022 to reduce the number of students coming from further away from the site
- the OOSH care program is not provided by the Applicant and requested that a minimum capacity is not required by a condition of consent
- traffic light signals at the Pennant Hills Road and Baker Street intersection would be installed in early 2023 by Baptist Care Developments under a Voluntary Planning Agreement with Council for DA/242/2020 which would improve traffic flow at intersections east of the site, including to James Ruse Agricultural High School

- the REF works would reduce two-way movement on Dunmore Avenue and Blenheim Road to improve traffic flow
- TfNSW advice in relation to traffic light signals has been acknowledged.

Council and TfNSW reviewed the RtS, and noted no mitigation measures were included to alleviate school traffic impacts.

The Applicant undertook further engagement with Council. RFI-1 stated that Council agreed it would carry out the construction of Arcadian Circuit and Sandringham Drive road widening works, subject to Applicant funding for the works. The Applicant argued that the proposal includes pedestrian infrastructure and road upgrades, and public transport facilities to reduce car travel and improve school DOPU traffic.

Council confirmed it would enter into a funding agreement with the Applicant, and recommended conditions in relation to the road widening works, DOPU operation and minimum provision of OOSH care. TfNSW made no further comments.

The Department acknowledges the work undertaken by the Applicant in consultation with Council for road widening to improve traffic flow (**Section 6.1.6**). The Department has recommended conditions in relation to the road widening works and DOPU operation, having regard to Council's comments, however, funding arrangements for the widening of Arcadian Circuit is between Council and the Applicant. Conditions are recommended to ensure the establishment of an OOSH care program for CWPS that can accommodate at least 10% of the student population to alleviate pressure at peak times.

The Department acknowledges that the proposal results in the deterioration the traffic queuing at the morning school peak period at the Baker Street and Blenheim Road and Pleasant Court intersection, and the Baker Street and Dunmore Avenue intersection from LoS A to LoS B. The Department also acknowledges that the Pennant Hills Road and Baker Street intersection, and Pennant Hills Road and Tintern Avenue intersection, would deteriorate during both the morning and afternoon school peak periods up to LoS F. However, the Department notes that the TAIA modelled the intersection performances based on a worst-case scenario outcome, including that:

- all traffic associated with the school has been forecast to arrive and depart in a single hour, where in reality this will not be the case
- a significant background growth rate of 2% over a 10 year period on Pennant Hills Road has been adopted, although recent data from TfNSW indicate lower rates of background growth.

Considering the above, the Department considers that the proposal would have acceptable impacts on traffic, and could be managed by reducing private car usage. The Department notes the

Applicant prepared a draft STP to encourage sustainable travel modes and reduce car trips. The draft STP adopts the mode share targets in **Table 15** below.

Table 15 | Mode share targets

Mode share target	CWPS		CHS	
	Students	Staff	Students	Staff
Car as passenger	45%	25%	11%	25%
Car as driver	0%	50%	0%	50%
Bus	<1%	15%	68%	15%
Walk	50%	5%	20%	5%
Bicycle	6%	5%	3%	5%

The Department encourages sustainable transport travel modes, and has recommended the following conditions in support:

- pre-registration process for DOPU vehicles at CWPS to control the capacity at each DOPU zone, including monitoring of the effectiveness of the process, and update for improvement where a complaint has been received by Council or the Hills Police Area Command (**Section 6.1.3**)
- upgrade to pedestrian infrastructure (**Section 6.1.4**)
- preparation, implementation, monitoring and review of a final detailed STP, including active travel targets
- post operation monitoring of the Pennant Hills and Tintern Road intersection including mitigations where delays exceed 120 seconds.

6.1.3 Drop-off and pick-up

The TAIA analysed the main DOPU zones, including the existing zones at Felton Road West, Felton Road East, and the through-site DOPU road. DOPU analysis assumed:

- at least seven vehicles would be accommodated at one time per DOPU zone
- peak DOPU of 20 minutes
- average vehicle occupancy rate of 1.2 students
- a 90 second DOPU vehicle turnover rate.

Using the above assumptions, the TAIA found that the capacity of the main DOPU zones would be oversaturated (Table 16).

Table 16 | Forecast DOPU capacity

DOPU	Felton Road East	Felton Road West	Through-site DOPU road
Capacity	112	127	112
Expected demand	435	435	428

The TAIA stated that the residual DOPU vehicles could be accommodated at other DOPU zones and outside of the 20-minute peak. The TAIA further stated that it could reduce the DOPU demand by implementing a STP to increase active transport as a mode share.

Public submissions raised concern in relation to current unsafe DOPU driver behaviour.

Council stated that it had received complaints from residents due to the traffic congestion caused by the offsite DOPU at the surrounding streets. Council requested the following conditions be applied to manage the DOPU arrangements:

- that a cap, to be decided in consultation with the local police and Council and reviewed biannually, be applied on the number of vehicles that can use the DOPU areas
- require staff to oversee each DOPU area to manage driver behaviour
- minimum 25 minute staggered start and end time between CWPS and CHS
- that the onsite DOPU gates are unlocked before the DOPU zones open to reduce vehicle queuing at Baker Street.

TfNSW did not make comments in relation to the DOPU arrangements.

In its RtS and RFI-1, the Applicant argued that the Council's requested conditions should not be applied because:

- the DOPU analysis in the TAIA applied to the 20-minute DOPU peak and that outside of these times, the DOPU zones are expected to meet the school demands
- a cap on the use of the DOPU would be impractical to implement
- stationing staff at each DOPU zone for the lifetime of the development would strain school resources, however the STP proposes that at the school's own volition staff members can supervise the DOPU
- student safety has been factored in the existing timing of DOPU gate opening and change to opening times may impact safety.

Council did not accept the arguments made in the RtS and RFI-1.

In RFI-2, the Applicant stated it would initiate a pre-registration process for DOPU vehicles for CWPS in the STP. The process would allow parents to nominate their preferred DOPU location, and provide opportunity to consult with parents to even out the DOPU distribution.

The Department has considered the Council and public submissions. The Department agrees with Council that staff should oversee DOPU zones to manage and record DOPU driver behaviour and movements. The Department accepts the Applicant's arguments in relation to Council's remaining comments.

The Department notes that the expected demand of the DOPU zones exceeds its capacity. However, the Department considers that the proposed ratio of DOPU spaces to students is improved when compared to the existing situation. The Department supports a pre-registration process to optimise the operation of the DOPU zones, and is satisfied that the DOPU can be managed subject to conditions including:

- at least one staff member to oversee the operation of the CWPS Felton Road West DOPU zone, the CWPS Felton Road East DOPU zone, and the through-site DOPU link road during school peak hours
- preparation and implementation of a DOPU pre-registration process, including monitoring of the effectiveness of the process and update for improvement where necessary
- preparation, implementation, monitoring, and review of a final detailed STP.

6.1.4 Pedestrian and cyclist infrastructure

The TAIA acknowledged that the footpaths surrounding CWPS are overwhelmed by pedestrians and that at CHS, bus movements on Dunmore Avenue take up the full width of the road, requiring oncoming traffic to stop and give way to buses, causing conflict between buses, cars and pedestrians. The proposed upgrades to pedestrian infrastructure include:

- widening of the existing footpath on the northern side of Felton Road East footpath from 1.2m to 3m from Karingal Avenue to the end of the cul-de-sac
- widening of the existing footpath on the northern side of Felton Road East from 1.2m to 3m from the CWPS entry to Karingal Avenue
- widening of the existing footpath on the western side of Baker Street from 1.2m to 2m from Felton Road East to Dunmore Avenue
- new 2m wide footpath at the northern side of Dunmore Avenue from Baker Street to the CHS entry
- widening of existing footpath on the southern side of Pennant Hills Road from 1.2m to 2m from Tintern Avenue to Adderton Road

- new raised pedestrian crossings at:
    - Baker Street, immediately north of Blenheim Road
    - Blenheim Road, immediately west of Baker Street
    - Tintern Avenue, immediately south of Pennant Hills Road (Error! Reference source not found.).

No cycleways are proposed.

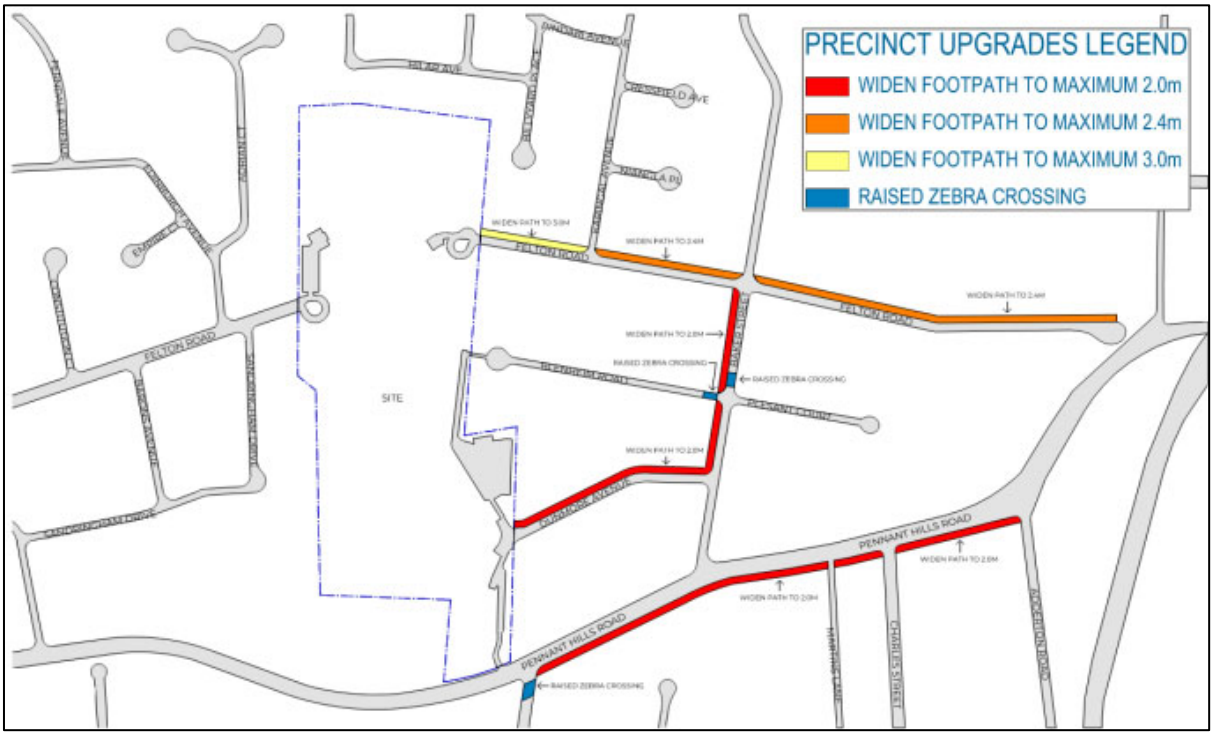


Figure 18 | Proposed pedestrian upgrade works (Source: EIS 2022)

The Applicant stated that the proposal would create a safer environment for pedestrians because:

- the one-way bus link road would reduce two-way bus movements on Dunmore Avenue
- raised pedestrian crossings reduce conflicts between pedestrian and vehicles
- widened footpaths would cater to the schools active transport demand.

Public submissions raised concern in relation to pedestrian and vehicle conflict and unsafe pedestrian behaviour.

Council stated:

- widening of Felton Road East and Baker Street footpaths should be increased to three metres to accommodate shared use, consistent with the City of Parramatta Bike Plan
- a five metre wide public access easement should be constructed through the school site to connect pedestrians from Felton Roast East to Felton Road West out of school hours

- the proposed pedestrian crossing at Tintern Avenue is supported and recommended that detailed design be undertaken, to the satisfaction of Council and TfNSW
- the pedestrian crossing at Baker Street should be relocated further north where pedestrians have already been observed to cross, immediately before Felton Road East.

TfNSW did not comment on pedestrian infrastructure. However, the detailed design of footpaths on Pennant Hills Road would require approval from TfNSW.

In its RtS, the Applicant disagreed that it should further widen footpaths and include new cycle infrastructure, noting that under the City of Parramatta Bike Plan, Council would create painted on-road bicycle lanes on select streets surrounding the school. The Applicant accepted Council's recommendation for detailed design of pedestrian crossings to the satisfaction of Council.

Council reviewed the RtS and accepted the Applicant's justification. Council raised no further comments in relation to pedestrian infrastructure.

The Department notes Council's submission to the RtS did not raise concern in relation to the location and width of the footpath and pedestrian crossing upgrades. The Department also notes that with the exception of works to Pennant Hills Road, detailed design of pedestrian infrastructure would be subject to approval by Council as the relevant roads authority.

The Department considers that sightlines in relation to pedestrians and vehicles will form part of the detailed design. The Department has recommended conditions requiring pedestrian upgrade works be designed and delivered to the satisfaction of Council. Subject to conditions, the Department is satisfied that the proposal improves the existing pedestrian infrastructure and would provide an improved pedestrian environment.

6.1.5 Bus link road

The proposed one-way bus link road replaces the existing onsite turning circle at Dunmore Avenue. The bus link road as originally proposed in the EIS would (**Figure 19**):

- be accessed via Dunmore Avenue, travel through the site for students to disembark / embark and exit via a left turn onto Pennant Hills Road
- be exclusively for the use of school buses and service and waste vehicles
- accommodate up to three, 12.5m long buses plus one shuttle bus at a time
- cater for up to 25-30 buses during any school peak period
- be gated and would be unlocked during school peak periods for bus use
- include signage to direct DOPU vehicles away from the bus link road.

Figure 19 | Proposed one-way bus link road (Base source: Nearmap 2023)

Public submissions did not raise matters regarding the bus link road and traffic, but expressed concerns regarding the noise (**Section 6.3**) and deterioration of air quality from bus engine fumes (**Section 6.5**). Council did not comment on the bus link road.

TfNSW noted the signage to direct DOPU vehicles away from the bus link road, however requested the Applicant consider other physical mechanisms to prohibit use by the public. TfNSW expressed concern in relation to the sight distance and time gap in traffic flow available for buses turning left from the bus link road onto Pennant Hills Road, and its conflict with the signalised mid-block pedestrian crossing (**Figure 20**). TfNSW also stated that it would not support waste and service vehicle use of the future bus link road.

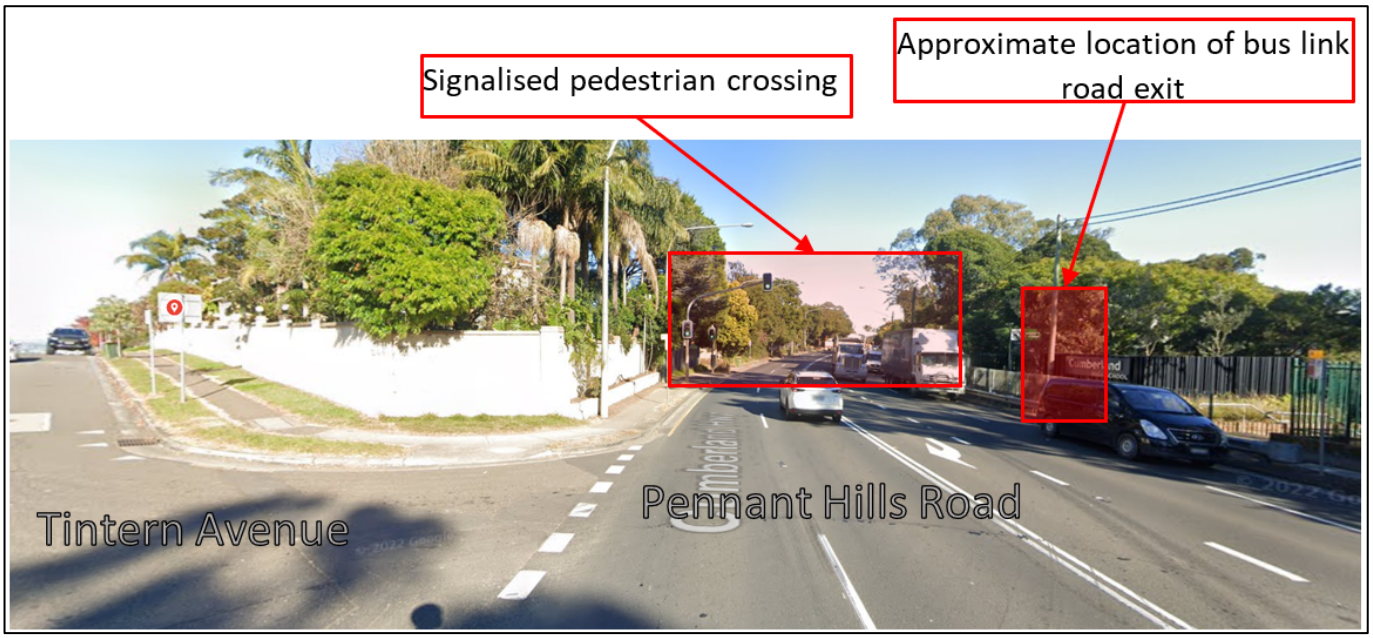


Figure 20 | Proposed bus exit as viewed from the Pennant Hills Road and Tintern Avenue intersection (Source: Google Maps 2023)

In response to TfNSW comments, the Applicant:

- revised the existing fence line to provide adequate driver sight lines to oncoming eastbound traffic on Pennant Hills Road
- deleted waste and service vehicle use of the bus link road and redirected it through Dunmore Avenue
- in relation to the conflict between the bus link road, Pennant Hills Road traffic and the signalised mid-block pedestrian crossing:
    - carried out additional surveys and data collection to understand the gap in traffic flow triggered by the signalised mid-block crossing, and found a 23 second gap is available every two minutes during school peak hours, which up to four buses could use to exit the link road and enter Pennant Hills Road
    - flattened the grade of the bus link road from over 10% to 5% for buses, to make efficient use of the limited gaps in traffic available on Pennant Hills Road to exit the link road, and provide suitable driver sight lines to oncoming pedestrians and vehicles
    - amended the driveway crossover design to accommodate the swept path of a 14.5m coach, without conflicting with right turning vehicles on Pennant Hills Road
    - acknowledged that the bus link road would impact the queue length and delay at the Pennant Hills Road and Tintern Avenue intersection
    - argued that, over time, driver behaviour would adapt to avoid the Pennant Hills Road and Tintern Avenue intersection and use alternate routes.

TfNSW reviewed the amended bus-link road design and stated it had no objections, subject to conditions being imposed relating to:

- detailed design of the bus-link road in accordance with TfNSW requirements, the relevant AUSTROADs and other Australian Codes of Practice, and endorsement by a suitably qualified practitioner
- restricting use of the bus link road to buses and emergency vehicles only
- buses exiting the bus link road onto Pennant Hills Road not to depend on changes to the existing timing of signalised mid-block pedestrian crossing.

The Department notes that TfNSW concurrence is required for the proposal, because it relates to development on a classified road. The Department acknowledges the Applicant has undergone extensive revisions to develop the design of the bus-link road in accordance with TfNSW advice. The Department is satisfied that, subject to conditions recommended by TfNSW, the bus link road would have an acceptable impact on Pennant Hills Road, in relation to sight distance, pedestrian safety, and traffic impact. The Department also recommended the Applicant consult with Council to ensure the impact of Tintern Avenue is included in the detailed design of the bus link road.

6.1.6 Car and bicycle parking

The proposal includes a new CWPS carpark accessed from Felton Road West, including 45 staff and three maintenance spaces. The CHS carpark was upgraded as part of REF works, and provided 74 staff spaces (**Section 1.4**). In total, 119 onsite staff parking spaces would be provided.

Visitor or student carparking would not be provided onsite.

The proposal also includes five staff and 96 student bicycle parking spaces at CWPS, and 6 staff and 84 student bicycle parking spaces at CHS.

Public submissions raised concern in relation to unsafe and unlawful parking behaviour of parents during DOPU times. Public submissions also raised concern that access to residences are compromised by parked vehicles in the narrow streets.

Council stated that:

- based on the TAIA travel mode survey, almost all CWPS and CHS staff prefer to drive to school, which would result in demand of 108 parking spaces on the surrounding streets
- the TAIA directs staff overflow parking to use streets adjoining Kingsdene Oval
- the Applicant should substitute the loss of street parking spaces by formalising up to 25 spaces along Arcadian Circuit and Sandringham Drive, near Kingsdene Oval (**Figure 21**).

Figure 21 | Location of parking spaces requested by Council (Base source: Nearmap 2023)

In its RtS, the Applicant responded to Council's comment to parking and stated:

- that the School Travel Plan aims to reduce the existing number of staff travelling to school by car, which would be an improvement to the existing situation
- cars parked on either side of the narrow streets that surround the school act as a traffic calming measure to create a safer environment for pedestrians
- Council could provide its own angled parking spaces along Felton Road West to improve street parking for residents.

Council reviewed the RtS and rejected the Applicant's justification for street parking, including that angled parking on Felton Road West would not comply with the AS 2890.5:2020.

In its subsequent RFI-1, the Applicant stated that it carried out further consultation with Council. The results of the consultation concluded that 23 street car parking spaces could be created if Sandringham Drive and Arcadian Circuit were widened to 10.2m, including three metre wide travel lanes and 2.1 metre wide parking lanes. The Applicant stated that it would fund costs of the road widening works, should Council agree to the carrying out of the works. The RFI-1 included concept design plans of the widening of Sandringham Drive and Arcadian Circuit in accordance with Council's Public Domain Guidelines.

Council confirmed its consultation with the Applicant and stated that the road widening works as discussed would address its concerns of carparking.

The Department considers that Council's comments in relation to carparking are resolved subject to conditions that the upgrades to Sandringham Drive and Arcadian Circuit are complete before commencement of operation. The Department recommends a condition to ensure that parking in the DOPU zones is managed by staff or a traffic controller. The Department considers that the operational car parking is acceptable, subject to conditions, including those recommended by Council (**Section 5.7**).

6.1.7 Construction traffic and parking

The TAIA included a Construction Traffic Management Plan that stated:

- main construction vehicle entry would be via:
    - Felton Road West and Felton Road East for CWPS
    - Dunmore Avenue for CHS
- construction workers will be encouraged not to drive to the site or to carpool
- construction workers would be advised to park their cars at least 100m away from the site, to avoid conflict with DOPU operations.

One public submission and Council raised concern in relation to construction worker parking impacting on street parking.

In its RtS, the Applicant stated that construction worker parking will be made available onsite where possible. However, onsite construction worker parking will be limited, because the school site is required for student play during the staged construction and operation.

Council made no further comment in relation to construction worker parking.

The Department has considered the submissions and the information provided. The Department recognises that there is little opportunity to provide carparking onsite for all construction workers, due to site constraints and the need to maintain operation of the school during construction.

The Department recommends a condition requiring the Applicant to prepare a final Construction Worker Transportation Strategy, which details travel arrangements for construction workers, including public transport routes, to reduce impacts on street parking. Subject to the implementation of a Construction Worker Transportation Strategy, the Department is satisfied that the Applicant could satisfactorily manage construction worker parking to ensure that impacts on local streets are managed and minimised.

6.2 Flooding

6.2.1 Existing flood conditions and Applicant's Flood Impact Risk Assessment (FIRA)

Throughout the assessment process, the Applicant provided revised FIRAs based on Council's overland flow study and flood model of the site catchment area. The FIRA provided with RFI-4 included modelling of the existing flood conditions in the 1% and 5% AEP and the PMF flood event (**Figure 23** to **Figure 25**). The FIRA identified the following existing flood conditions on the existing schools:

- the site is currently subject to flash flooding
- a significant portion of the schools' existing sports field and part of the CHS carpark in the centre of the site are impacted by the:
    - 1% and 5% AEP event up to H4 flood hazard (unsafe for vehicles and people) in accordance with Section 3 of the Flood Risk Management Guide FB03 (Department's publication June 2023) (FRMG) (**Error! Reference source not found.**)
    - PMF flood event up to H5 flood hazard (unsafe for vehicles and people, and buildings require special engineering design and construction)
- most other parts of the site are also impact by the 1% AEP event through to the PMF flood event, up to H2 flood hazard (unsafe for small vehicles)
- in the PMF event, a small area of CHS is currently impacted by the H6 flood hazard (unsafe for vehicles and people, and all buildings considered to be vulnerable to failure)
- most access roads and associated footpaths are currently also affected by the 1% AEP event through to the PMF flood event.

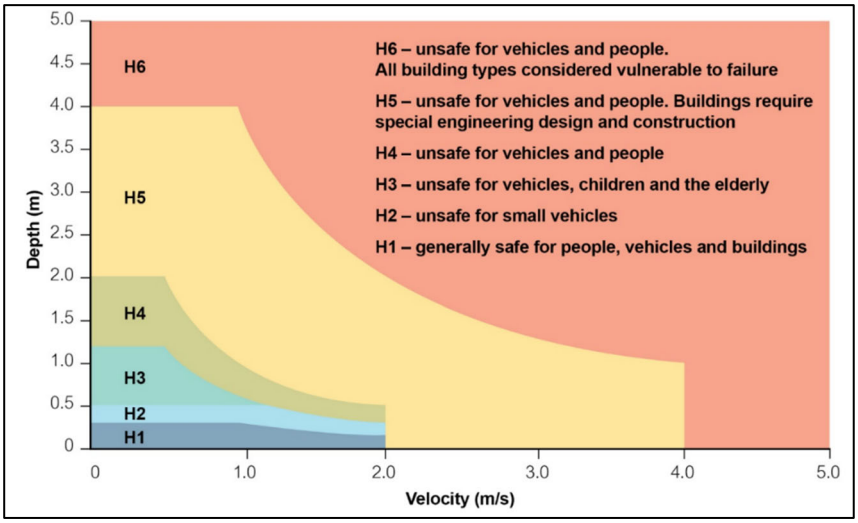


Figure 22 | General flood hazard vulnerability curves (Source: Flood Risk Management Guide FB03, 2023)

The FIRA also identified the existing flood conditions of the residential developments surrounding the site including downstream residences to the west and upstream residences to the east. The FIRA found:

- downstream residences at Felton Road West and Sandringham Drive currently experience up to H5 flood hazard in a 1% and 5% AEP event, and up to H6 flood hazard in the PMF event
- upstream residences at Blenheim Road and Dunmore Avenue currently experience up to H4 flood hazard in a 1% and 5%, and up to H5 flood hazard in the PMF event.

6.2.2 School buildings and structures and REF works

EHG reviewed the EIS, and raised concern that the CHS carpark proposed as part of the REF is in an area that is unsafe for vehicles. EHG requested revised flood modelling to include the cumulative impact of the REF works including the CHS carpark and through-site DOPU link road. SES noted that parts of the proposed CHS buildings are within the overland flow path of a 1% AEP flood. Council's submission included similar concerns to EHG and SES and also requested that:

- flood modelling be revised to include:
    - 20% increased rainfall to account for climate change
    - a realistic scenario of pit blockage of 50% at sag pits and 20% at at-grade pits
- OSDs be relocated outside of the 1% AEP.

In its RtS and subsequent RFIs, the Applicant:

- stated that construction of the works under the REF approval, including select OSDs, CHS carpark, and DOPU link-road in the flood prone areas, were completed following lodgement of the RtS
- acknowledged that the CHS carpark is located in an area that is unsafe for vehicles, and committed to manage the CHS carpark through a FERP targeted for the 5% AEP event
- revised the proposal to reduce localised flooding around the proposed CHS buildings, including:
    - increasing the existing stormwater inlet capacity
    - providing new large inlet capacity at the sag location of the through-site DOPU and connection to the existing trunkline
    - reducing site fill
- revised the flood modelling to include the cumulative impact of the REF works, increased rainfall to account for climate change, and 100% sag pit and at-grade pit blockage
- included the provision of a flood wall within the western area of the CHS site

- stated that the proposed CHS buildings are above the 1% AEP flood levels with a 500mm freeboard
- updated the draft FERP to ensure that the CHS carpark and sports fields would not be occupied during a flood event to eliminate flood risk to children.

Following the additional information provided by the Applicant, ongoing engagement was undertaken with agencies and Council. Council reiterated there was insufficient information relating to OSD and SIP. EHG maintained concerns regarding the flood wall and FERP. SES provided further comments relating to the flood wall and FERP. The flood wall and FERP are discussed in detail in **Section 6.2.3** and **Section 6.2.4.**

The Department acknowledges the REF was approved in September 2022, before the Department's publication of the Flood Risk Management Manual (FRMM) in June 2023, and that REF works were completed while this SSD was under assessment. However, the Department agrees with EHG, and notes its obligation to consider the cumulative impact of all enabling works that support the SSD. This includes REF completed works within the site boundary, which result in significant change in post SSD flood behaviours; the SSD proposal seeks approval to intensify and rely on the REF approved and constructed structures.

The Department notes that the proposal was revised to include additional stormwater drainage infrastructure, and reduce site fill, which in turn would improve the existing H2 and H3 hazard to the REF completed works and sports field in the 1% AEP and 5% AEP event (**Figure 23** and **Figure 24**).

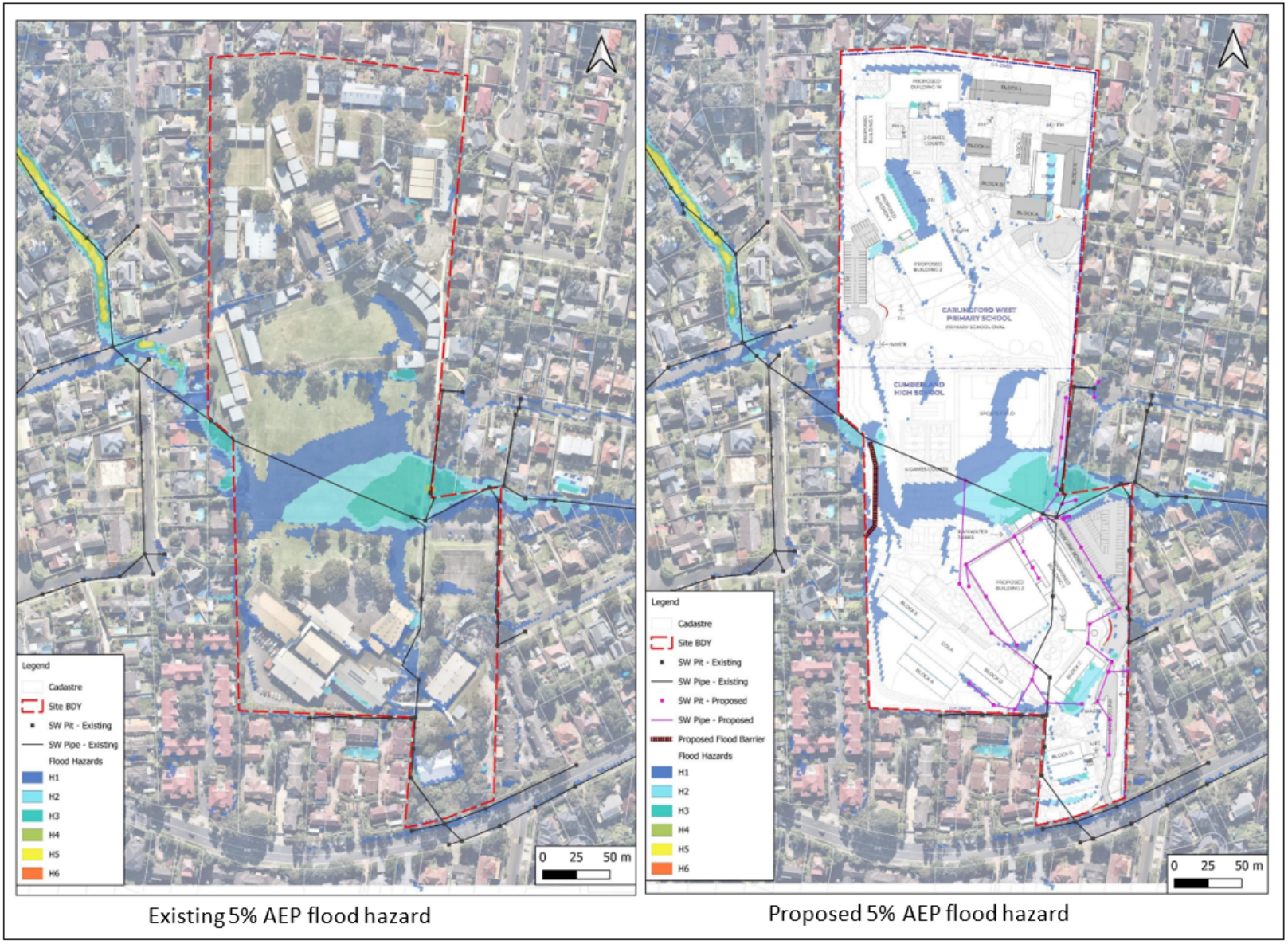


Figure 23 | Existing and proposed 5% AEP flood hazard (Base source: RFI-4 2023)

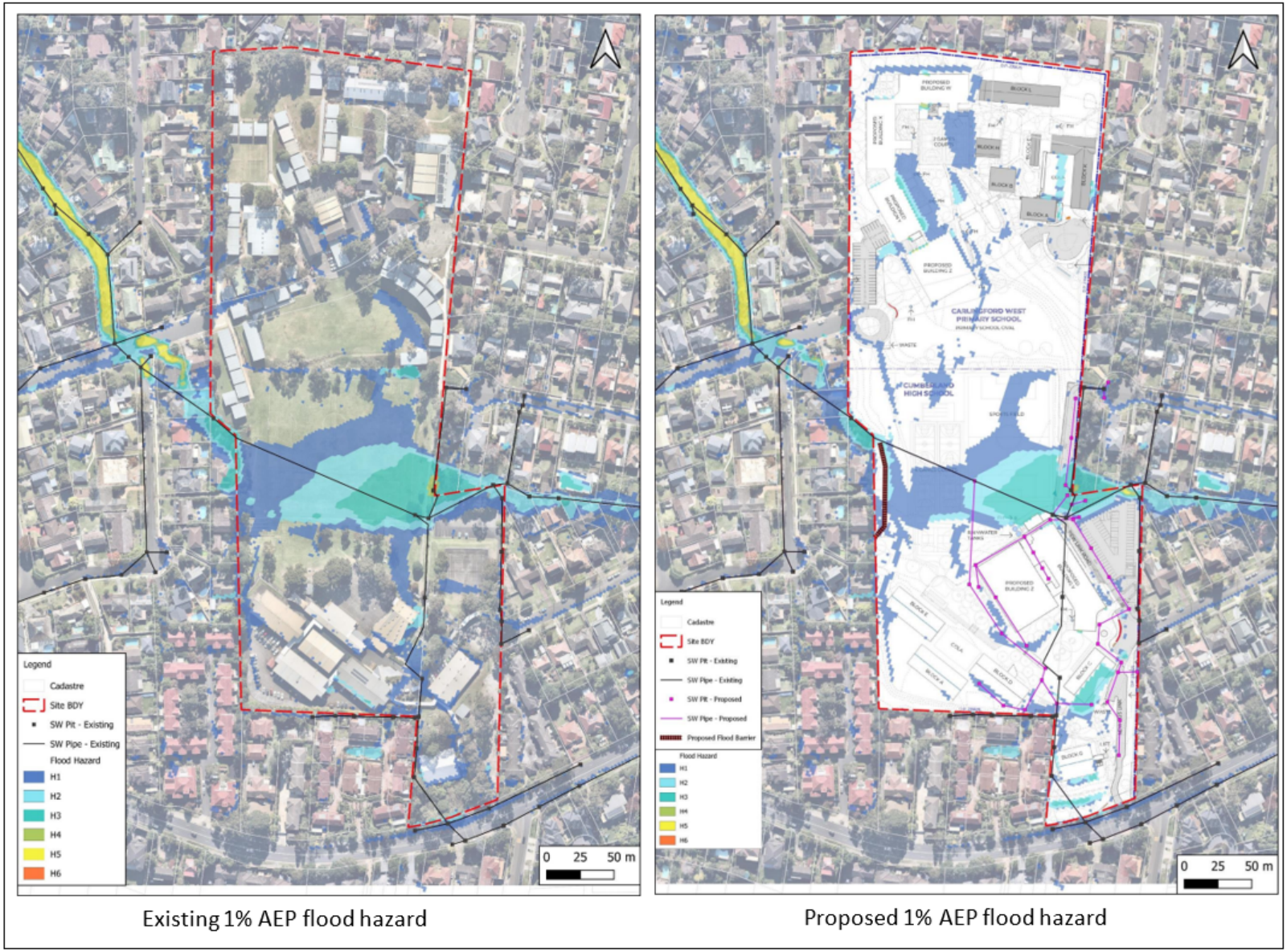


Figure 24 | Existing and proposed 1% AEP flood hazard (Source: RFI-4 2023)

In the PMF event, the extent of the existing flood hazard of the REF completed works is also improved (**Figure 25**). On this basis, the Department considers the Applicant has provided reasonable and feasible measures to ensure the cumulative impact of the proposal would not exacerbate existing risk of the REF completed works.

The Department notes that in the PMF event there is an existing H6 hazard in a small part of the CHS site (Figure 25). The proposal would result in the reduction of flood waters in the PMF in this area, but an increase in the hazard to a small area to the south. On balance, the Department considers the flood impact acceptable as the overall H6 flood hazard risk would not be increased, the proposed buildings would not interact with the H6 hazard area and during an emergency event, students would not be exposed to this area as they would SIP (**Section 6.2.4**).

The Department also acknowledges that in the PMF event, the proposal would increase the extent of H5 hazard of part of the sports field and create minor new H5 hazard throughout the site. In accordance with the FRMG, buildings within the H5 area would require special engineering design and construction. The Department recommends a condition to ensure that all CHS buildings that interact with floodwaters would be constructed from flood compatible components that can withstand the forces of a PMF event.

In relation to CWPS, the Department acknowledges that the proposal results in some new parts of the CWPS being impacted up to the H3 flood hazard (unsafe for vehicles, children and the elderly) in the 1% and 5% AEP event. In the PMF event, small portions of the new CWPS buildings and carpark would be impacted up to the H5 flood hazard. On balance, the Department considers that this is acceptable as the areas of new H3 to H5 risk are largely within the sports field and car park, which will be managed by a detailed FERP in this storm event. On balance, the Department considers this acceptable as:

- conditions of consent require the preparation and implementation of a FERP prioritising early school closure in such storm events
- the proposal reduces the flood hazard in larger sections of the site
- conditions of consent require buildings to be constructed to withstand flow velocities, flow depths and associated debris loads of a Probable Maximum Flood event

The Department also recommends the following conditions to ensure that all CWPS and CHS school structures, including those in the sports field, would be able to withstand the impacts of the 1% AEP through to the PMF events, and be maintained for suitable use by the school:

- optimise capacity of the stormwater infrastructure during detailed design by a suitably experienced structural engineer
- detailed design of school buildings by a suitably experienced structural engineer to withstand the flow velocities, flow depths and associated debris loads of a Probable Maximum Flood event

- finished floor level of all school buildings to be above both the PMF and the 1% AEP, plus 500mm of freeboard
- warning signs be included around school buildings that are within the overland flow path
- prepare and implement an ongoing strategy to maintain blockage-free stormwater inlets
- finalise and implement a FERP which:
    - considers the CHS carpark and through-site link road for a 5% AEP,
    - prohibits use of the sports fields, CHS carpark, and the through-site link road during a flood event

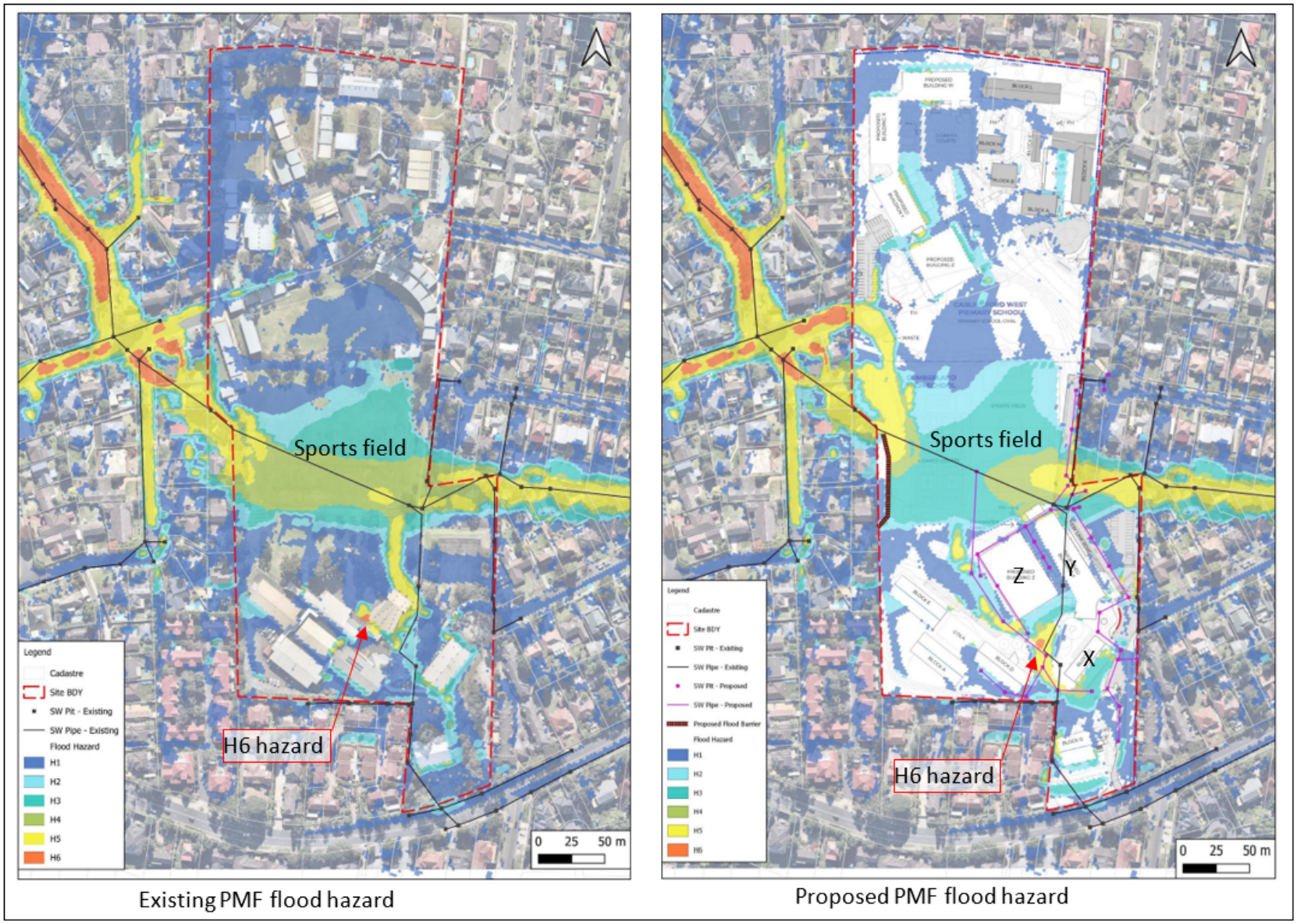


Figure 25 | Existing and proposed PMF flood hazard (Source: RFI-4 2023)

6.2.3 Adjoining development

A FIRA and Flood Risk Management Report provided as part of the EIS modelled the flood impact of the proposal on the surrounding residential developments and Pennant Hills Road.

The public submissions raised concern that the proposal would increase flood hazard at the surrounding residential properties.

EHG, SES, and Council noted that Pennant Hills Road is used by emergency services during flood events. The agencies and Council stated it would be unlikely to support the proposal because the EIS flood modelling showed it impacted the surrounding residences and Pennant Hills Road, and no flood mitigation measures were proposed.

As part of its RtS, the Applicant revised the proposal, and included an updated FIRA and Flood Risk Management Report to include an upgraded stormwater connection line from Pennant Hills Road to the existing Council inlet, to increase the capacity of drainage from Pennant Hills Road through the site. The Applicant also increased the existing inlet capacity, and included additional inlets to ensure that the proposal would not increase flood risk to the adjoining residences (**Section 6.2.2**).

EHG, SES and Council reviewed the revised flood documentation submitted with the RtS, and noted that although there were some improvements to overall flood impacts as a result of the proposed mitigations, some downstream residences at Sandringham Drive and upstream residences at Blenheim Road would be affected in the PMF. It was noted that no mitigations measures were proposed to, at minimum, maintain the existing flood hazard impact. The agencies and Council also advised that insufficient information was provided in the updated FIRA submitted as part of the RtS for it to review the proposed flood impacts on Pennant Hills Road.

As part of the subsequent RFIs, the Applicant:

- provided revised flood modelling to confirm that the proposal would have no impact on Pennant Hills Road
- further revised the proposal to protect adjoining residences, including:
    - change the volume of fill within the western area of CHS to reduce local downstream flooding
    - include a 60m long, one metre high, and 300mm wide flood wall along the western side of the CWPS carpark, to protect downstream properties at Sandringham Drive (**Figure 26**).

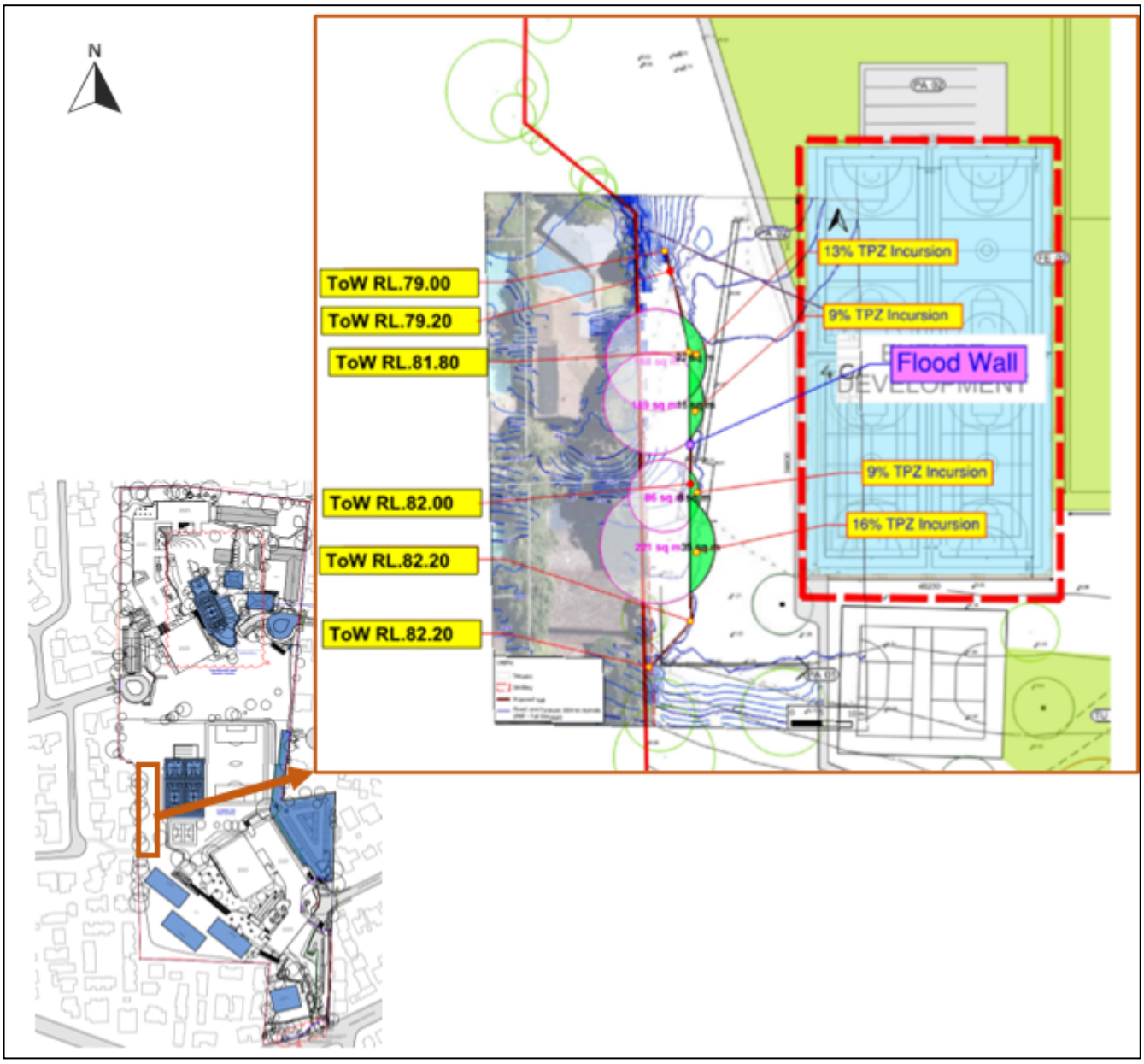


Figure 26 | Flood wall concept plan (Source: Applicant's Civil Engineering Response, RFI-4)

EHG requested further details of the proposed flood wall be provided, including flood engineering requirements and structural design criteria. Council did not comment in relation to the flood wall. SES advised that the residual and maintenance risk of the flood wall should be considered.

The Department has considered Council's submission, including Council's Floodplain Risk Management Policy 2014 and DCP 2023. The Department notes that the objective of Council's policy and DCP is to reduce the impact of flooding on occupants of flood prone land. The Department is satisfied that the flood wall would reduce impacts on upstream and downstream properties to an acceptable level. Although 60m long, at one metre high the Department believes the overall amenity impacts of the wall would be minimal on adjoining residential properties, as it is lower than standard

fence height. The height and length are to be confirmed as part of the detailed design via a condition of consent.

The Department acknowledge EHG's preference for detailed design to be provided as part of the assessment stage, however the Department is satisfied that this can also be addressed via conditions of consent. In terms of residual risk on the school and adjacent development, the Department considers the implementation of a FERP (as detailed in **Section 6.2.4**) would further protect the school community, and the wall would reduce risk to adjacent properties and minimise demand on emergency services.

Accordingly, the Department recommends conditions relating to the flood wall including:

- the detailed final design of the flood wall is to be undertaken by a Chartered Professional engineer and must include:
    - sections, extent, foundations and finishes
    - impacts on amenity
    - risk analysis of the structure
    - simulations to confirm the design would appropriate impact on flood behaviour
- the final wall height must be 300mm above the modelled PMF level and be designed to not be overtopped in a PMF event
- the wall must withstand any forces generated during a PMF event
- preparation of a management plan to ensure the maintenance and repair of the flood wall.

6.2.4 Flood emergency management

The EIS stated that when the schools cannot be closed before commencement of the school day in a flood event, students and staff would evacuate off the site. The EIS stated that the habitable floor level of both existing and proposed buildings within the overland flow path is above the PMF level, to allow SIP during a storm event if required. A site-specific FERP, including detail of flood evacuation routes, was not provided in the EIS.

Council and EHG requested that a site-specific FERP be prepared as part of the RtS. EHG advised that because parts of the school are subject to flash flooding, it may not be practical or feasible to evacuate students from the site due to a lack of warning time. SES advised that closure of the school before the school day commences is the preferred strategy during a flood event. SES also advised that evacuation routes should not require people to drive or walk through flood water.

The RFI-1 included a FERP that responded to agency and Council comments which:

- was based on the following site condition observations:

    - peak flood levels within the site for the 5% AEP and the 1% AEP events would be reached within a critical 45-minute period of the storm
    - peak flood levels for the PMF would be reached within a critical 15-minutes of the storm
    - flood levels are expected to recede within 60 to 120 minutes after the start of the storm.

- prioritised closure of the school as the primary response to a significant storm event
- showed flood free evacuation routes to an offsite emergency meeting point at the COLA of JRAHS
- committed to installing evacuation signage for storm events during the construction and operation phases and education programs, to ensure staff and students are aware of the anticipated flood depths during a storm event and evacuation protocols.

EHG and Council reviewed the FERP and emphasised that SIP should be considered in place of offsite evacuation. SES reviewed the FERP and advised the following based on the FRMM:

- SES preference is for the schools to close, before commencement of the school day
- that relocation of students to JRAHS is not suitable. Therefore if the school cannot close early, where safe, SIP may be considered more appropriate than evacuation offsite
- there is currently no formal flood warning system available for the site. The FERP is required to be updated accordingly
- clear triggers for closure of the schools are imperative to reduce the likelihood of poor decision-making under pressure during a flood event.

The Department notes that the FRMM states:

- in flash flood catchments, the time to flooding and flood duration are typically very short with minimal warning time. In some situations, attempting to evacuate may be worse than not evacuating, given the dangers of moving through fast-moving flash flood waters
- redevelopment in floodplain areas should consider the following to minimise risks, including:
    - controls, including minimum floor level, and structural building controls, to reduce the exposure of students to flooding
    - flood warning systems to warn the community and schools of impending flooding
    - ongoing community engagement, to ensure the actions that should be undertaken during flooding are understood.

The Department notes EHG, SES, and Council advice, and the FRMM, and agrees that SIP would be preferred over evacuation off the site. The Department notes that the Draft SIP Guideline (**Section 3.3**) requires consideration of:

- vulnerability of students and where occupants are likely to be advised to remain in the school during flooding
- flood-free sheltering for evacuees to shelter during the event
- services are available during and beyond the event for the full range of flooding
- structural adequacy and building requirements to ensure the building can withstand flood and debris forces.

The Department has considered the information provided and the available guidelines. The Department is satisfied that preparation and implementation of a FERP would allow safe flood emergency management. Conditions are recommended to ensure the FERP includes the following:

- development of a construction and operational FERP in consultation with SES
- details of strategies such as early or pre-emptive school closure which is to be prioritised over SIP
- emergency management triggers and responses
- communication strategy
- potential flood warning times and notification
- SIP protocols in accordance with the Draft SIP Guideline, as a last resort where the school cannot be closed prior to the school day
- details of SIP locations including:
    - that they are no lower than the 1% AEP level plus 500mm of freeboard
    - are above the PMF
    - are able to withstand floor and debris forces of the PMF
    - provide a minimum of 3sqm per person including students and staff
- maps showing flood free pedestrian routes to the SIP locations from across the site
- details of any warning infrastructure that is to be provided.

6.3 Operational noise

6.3.1 **Bus link noise impact**

The proposal includes construction of a one-way bus link road (**Section 6.1.5**). The bus link road would accommodate up to 30 bus movements for approximately 45 minutes every DOPU period. The

Noise and Vibration Impact Assessment (NVIA) submitted with the EIS assessed the operation of the bus link road in accordance with the Road Noise Policy (RNP). The Department advised the Applicant that the Noise Policy for Industry (NPfI) is applicable to the bus link road, as the bus link is not a public road, and as such the RNP is not applicable. The NVIA was updated in RFI-1 to assess the impact of the proposal in accordance with the NPfI.

The updated NVIA identified the nearest sensitive receivers and a project noise trigger level of 45 decibels (dB). The NVIA found that the operation of the bus link road, should diesel powered buses be used, would breach the project noise trigger level by 26dB at the multi-dwelling housing development at 18 Dunmore Avenue.

Where there is an exceedance of the project noise trigger level, the NPfI requires feasible and reasonable mitigation to be applied, and the management of any residual impacts after mitigation. The NPfI recommends a hierarchical approach when nominating a feasible and reasonable mitigation strategy:

- control noise at the source
- once the control at the source is exhausted, control the transmission of the noise
- once the source and transmission controls are exhausted, consider mitigation measures at the noise-sensitive receivers.

In response to the NPfI approach, the Applicant noted that until such time that electric buses would be used, the noise source (diesel-powered engines of buses) cannot be controlled. The Applicant presented two options to control the transmission of bus noise, and a third option to mitigate impacts on the noise-sensitive receivers. The measures identified in each option, as well as the outcome for each option, are shown in **Table 17**.

Table **17** | Bus link noise mitigation options

	Option 1:	**Option 2:**	**Option 3:**
	8m high acoustic wall	Acoustic bus shelter	At-receiver treatment, including double glazing of windows and air-conditioning
Does not result in overshadowing	☐	☐	☒
Improves privacy	☒	☒	☐
Does not require additional tree removal	☐	☒	☒

	Option 1:	Option 2:	Option 3:
Cost effective	☐	☐	☒
Flexible noise control	☐	☐	☒
Can be readily delivered without consulting body corporate and landowners	☒	☒	☐
Eliminates all residual noise impact	☐	☐	☒

The acoustic wall or bus shelter would provide up to 12dB relief. However, the Applicant concluded that neither was a reasonable and feasible mitigation measure to control transmission of noise at the source because, despite the costs incurred, the project noise trigger level at 18 Dunmore Avenue would still be exceeded. The Applicant argued that at-receiver treatment of 18 Dunmore Avenue is feasible and reasonable, because it could be tailored at each residence to achieve no residual noise impact.

The NVIA analysed the treatments available for the 12 residences at 18 Dunmore Avenue and proposed two types:

- Type 1 – applicable to openings at the western elevation of eight residences, where the use of the bus link road would result in noise up to 71 dB, and includes either new secondary internal acoustic glazing with air cavity to the existing glass between 75 mm to 150 mm, or replace existing windows with new double-glazed window, and where applicable, possible upgrades to weaknesses in building fabric and installation air conditioning or mechanical ventilation.
- Type 2 – applicable to openings at the eastern elevations and select western elevations of nine residences, where the use of the bus link road would result in less than 71dB, and includes either new secondary internal acoustic glazing with a 50mm air cavity to the existing glass, or replace existing windows with new double-glazed window, and where applicable, possible upgrades to weaknesses in building fabric and installation air conditioning or mechanical ventilation.

Five residences would require a combination of Type 1 and Type 2 treatment (**Figure 27**).

At receiver mitigation considered to be required for:

Block 1 western elevation :	Highest noise exposure	: Type 1 Treatment :	3 residences
Block 2 western elevation :	Highest noise exposure	: Type 1 Treatment :	5 residences
Block 2 eastern elevation :	Lower noise exposure	: Type 2 Treatment :	5 residences
Block 3 western elevation :	Lower noise exposure	: Type 2 Treatment :	4 residences

Figure 27 | At-receiver mitigation (Source: NVIA)

The NVIA outlined a process to consult with the property owners of 18 Dunmore Avenue, and where accepted by the owner, implement the at-property mitigation prior to the commencement of the operation of the bus link.

The Department considers that the Applicant has adequately determined the at-receiver treatment as the most feasible and reasonable mitigation measure to reduce noise of the bus link road towards the project noise trigger level. The Department acknowledges that, according to the NPfI, at-receiver control is the least-preferred option because it only protects the internal environment of 18 Dunmore Avenue, and not the external noise environment. However, the Department notes that the NVIA identifies 18 Dunmore Avenue as the only sensitive receivers affected by the use of bus-link road, and the noise amenity of internal classrooms would not be relevant because the bus-link road would not be operational during class hours.

The Department notes that the NPfI identifies that noise-mitigation planning is greatly assisted by effective community consultation. The Department recommends a condition of consent to ensure that the at-property mitigation is carried out in a transparent, equitable and consistent way, including:

- requirement of the Applicant to consult with 18 Dunmore Avenue owners at least 12 months before operation of the bus-link road
- investigation and carrying out of alternative mitigation options with the relevant 18 Dunmore Avenue owners where Type 1 or Type 2 at-receiver mitigation cannot be installed at the property due to safety or constructability constraints (such as poor condition or unsuitable existing windows and doors or no suitable location for mechanical ventilation)
- verification of the effectiveness of the at-receiver noise mitigation installation and rectification of works where necessary.

Subject to conditions, the Department is satisfied that the noise impact of the bus-link road on the residents of 18 Dunmore Avenue can be adequately mitigated, and the overall impact is acceptable.

6.3.2 Traffic noise impact

The NVIA found that the predicted traffic noise associated with the DOPU vehicle movements on Dunmore Avenue and Blenheim Road, on a worst-case scenario and with the windows of the most sensitive receivers open, would exceed the existing noise level by up to four dB(A).

The Road Noise Policy (RNP) requires strategies to minimise noise from traffic associated with the proposal. The Applicant argued that mitigation measures are not required as the:

- increased dB(A) would be barely perceptive
- actual noise impact at the sensitive receivers would be lower if windows were closed
- additional noise would only occur in the worst-case scenario during DOPU times, up to a one hour per period.

The Department notes that the RNP states that a difference of eight decibels and over is perceptible to residences. The Department has considered the information provided and accepts the Applicant's justification that the increase in traffic generated noise is minimal, occurs over a short period of time during the day, and would not occur in the evening. On this basis, the Department is satisfied that the overall traffic noise associated with the DOPU would be acceptable.

6.3.3 Other operational noise impact

The NVIA identified other operational noise impact sources and included noise mitigation measures as detailed in Table 18.

Table 18 | Operational noise impacts

Noise source	Proposed mitigation measure in NVIA
Mechanical plant equipment, including one condenser unit, to be installed within the rooftop plant encloser of each school, to be operated 24 hours a day	• solid enclosure of each rooftop plant • locate mechanical equipment further from residents where possible • internally lined duct on intake side of each fan • external wrapping of fans.
Use of outdoor play areas	• locate main outdoor play areas further away from residents where possible • strategically locate play areas to use existing and proposed buildings as a shield against outdoor play noise.
Classroom noise	• no use of power tools at CHS outdoor workshop area • close windows when power tools are used at CHS indoor workshop area • power tools only be used in the daytime, between 7am and 6pm.
Waste collection	• provide dedicated waste collection area • schedule waste collection and delivery vehicle movements between 7am and 10pm to avoid sleep disturbance.

The NVIA advised that most operational noise impacts would generally be consistent with the existing noise levels. The NVIA acknowledged that the noise generated by outdoor play areas would exceed the existing levels up to 14 dB due to the increase in CHS students. The NVIA justified that proposed outdoor play area is acceptable for the following reasons:

- this is not a new noise source
- the most noise generated would be during recess and lunch periods only

- the noise from children playing is not considered offensive.

The Department has considered the information provided, and is satisfied that the Applicant has mitigated the impacts from operational noise sources where possible. The Department notes that the noise generated using outdoor play areas has increased, however considers that the impact has been minimised where possible using skilful design, including setback of outdoor play areas away from the site boundaries.

The Department has included a condition to ensure the that operational noise of the school is monitored and, in the case of mechanical plant and equipment, that appropriate noise attenuation measures are provided at the affected noise sensitive receivers, if required.

6.3.4 Out of school hours use

The proposed out of school hours (OOSH) uses include:

- continued operation of out of school hours care (OSHC) at CWPS, for up to 300, or 16% of school population, between 7am to 8.55am and 3.25pm to 6pm
- continued operation of community classes, including music, art, chess, and table tennis
- use of the school hall in CHS Building Z for community dance and singing classes between 6pm and 10pm.

The NVIA stated that use of the internal spaces for typical OOSH activities would be below the project noise trigger level, including when the school hall roller doors and windows are open. The NVIA advised that the internal noise levels of OOSH should not exceed 75dB for the evening period, so that the nearest sensitive receivers would not be impacted. The Department is satisfied that subject to conditions, the out of hours noise impacts could be adequately managed.

6.4 Built form and urban design

6.4.1 Bulk and scale

PLEP 2012 does not include a floor space ratio (FSR) development standard. Under the draft PLEP 2023, a maximum FSR of 0.5:1 would apply to the site. The proposal complies with the draft PLEP 2023 FSR development standard (**Table 19**).

Table 19 | Gross Floor Area

	CWPS	CHS	draft PLEP
Existing GFA	2,019 sqm	4,888 sqm	-

	CWPS	CHS	draft PLEP
Proposed GFA	8,156 sqm	12,076 sqm	_
Total GFA	10,175 sqm	16,964 sqm	_
Total FSR	0.31:1	0.28:1	0.5:1
Overall FSR	0.29:1	0.5:1	

Under the PLEP 2012, the site has a maximum height limit of 9m. It is noted the same height limit applies to the site under the draft PLEP 2023. In its EIS, the proposed buildings range from 12.68m to 21.35m, as shown in **Figure 28**. As part of RFI-1, the Applicant modified the roof form of all proposed CWPS to lower the parapet line by 2.1m.

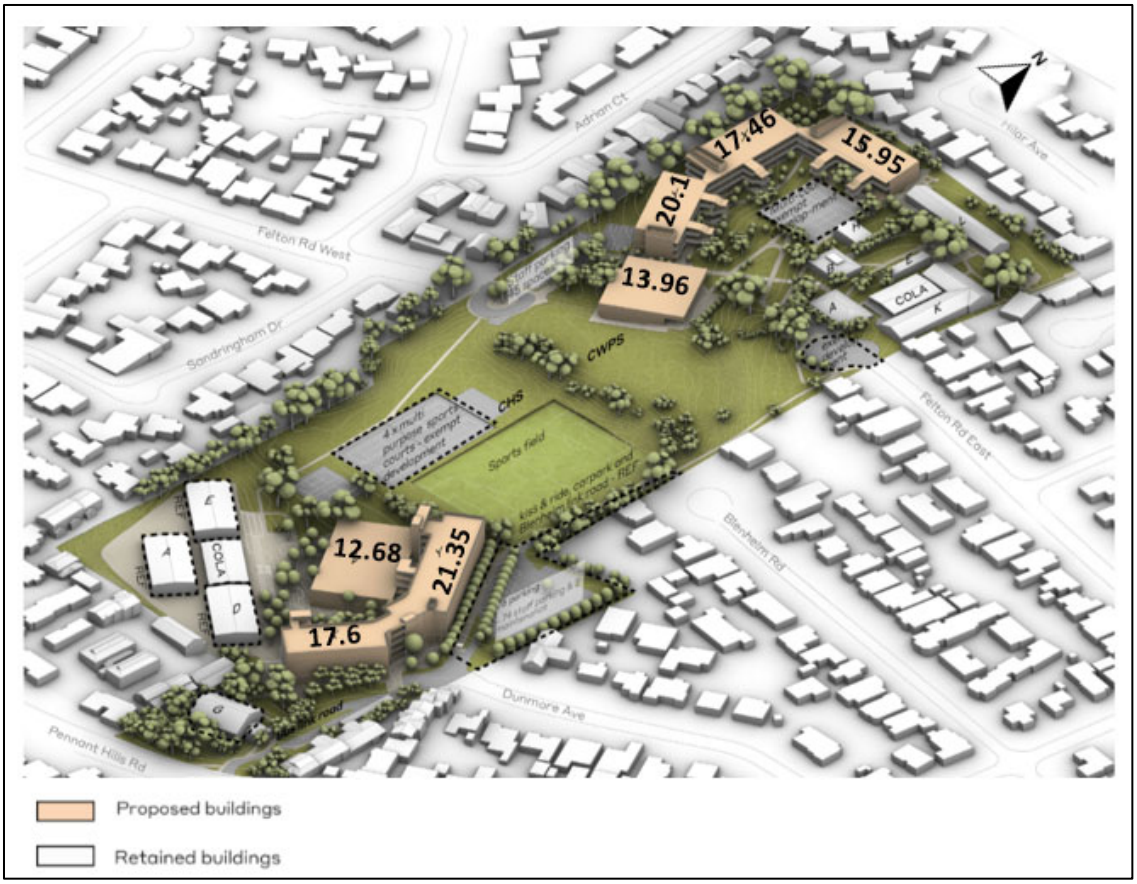


Figure 28 | Proposed building height (Base source: Architectural Design Report – EIS 2022)

The EIS included justification for the proposed height, considering the objectives of the PLEP 2012 of building development standard:

> ***Objective:*** to ensure the height of buildings is compatible with that of adjoining development and the overall streetscape

Justification: *Project Venture Developments Pty Ltd v Pittwater Council* [2005] NSWLEC 191 determined that "[b]uildings do not have to be the same height to be compatible. Where there are significant differences in height, it is easier to achieve compatibility when the change is gradual rather than abrupt". The Applicant stated there are existing surrounding residential development ranges of one to three storeys. The Applicant justified that the proposal has been skilfully designed so that there is a gradual change in height across the site as viewed from the streetscape, including setbacks varying 12m to 25m and boundary planting to provide visual screening.

Objective: to minimise the impact of overshadowing, visual impact, and loss of privacy on adjoining properties and open space areas.

Justification: The layout of the proposed buildings minimises overshadowing of adjoining residences. The visual impact of the site has been reduced by the use of building materials in natural tones such as green and brown to reflect the turpentine trees in the Cumberland Plain. The proposal will retain some existing perimeter landscaping and will increase tree planting at the site boundaries to ensure privacy of the surrounding development is maintained.

The public submissions objected to the proposed built form in relation to overshadowing and visual privacy impacts. Council did not object to the proposal on the basis of built form.

The Department notes that the proposal breaches the height of building development standard under PLEP 2012 by approximately 10.25m. The Department's assessment of the proposal in accordance with the relevant objectives of the height of buildings standard is in **Table 20Error! Reference source not found.**.

Table 20 | Department consideration of height objectives

Objection	Department assessment
To ensure the height of buildings is compatible with that of adjoining development and the overall streetscape.	The Department notes that: • CWPS is surrounded by low density development and the proposed CWPS buildings are up to three storeys • CHS is surrounded by medium density development and the proposed CHS buildings are up to five storeys. The Department considers there is an appropriate height transition between the proposed buildings and surrounding development, and the proposal is compatible with the character of the local area.

Objection	Department assessment
To minimise the impact of overshadowing, visual impact, and loss of privacy on adjoining properties and open space areas.	The Applicant stated that sight lines from the school to the neighbouring residences are obscured by a combination of: • separation of the proposed buildings at least 20m from the windows of the adjoining dwellings • existing and proposed boundary tree planting • difference in level of the adjoining sites. The Department has reviewed the solar access diagrams provided and notes that the: • rear private open space of five dwellings on Adrian Circuit and one dwelling on Felton Road West would be overshadowed by CWPS buildings until 11am during the winter solstice. However, unimpeded solar access is received from 11am onwards. • proposed CHS Building X overshadows the: o rear private open space of two townhouse developments, being 8/181 and 9/181 Pennant Hills Road, between 9am and 12pm during the winter solstice. However, from 12pm onwards, the rear of both townhouses receive unimpeded solar access o front setback area of 18 Dunmore Avenue from 3pm onwards. However, from 9am to 3pm the front setback area receives unimpeded solar access. The Department has considered the information provided and is satisfied that the proposal has been designed having regard to the privacy, solar access, and visual impact of surrounding residences.

The Department acknowledges that the proposal would overshadow the private open space of some dwellings, and The Hills Development Control Plan (THDCP) 2012 controls require a minimum of four hours of solar access between 9am and 3pm during the winter solstice. The proposal is consistent with the solar amenity requirements of the THDCP 2012, as adjoining residents would only be overshadowed for part of the day.

The THDCP 2012 also requires that the privacy of primary living areas of residences are protected by screening of opposing windows, balconies, and yards with appropriate landscaping. The building layout was designed to retain established trees along the boundary, to screen the school and protect privacy.

The Department concludes that the proposed bulk and scale is acceptable, is consistent with the objectives of the PLEP 2012 and THDCP 2012, and has been designed with regard to the solar and privacy amenity of the surrounding dwellings.

6.4.2 **Design**

The Applicant stated the CWPS site layout is based on the solar and privacy amenity of the adjoining dwellings along the northern and western boundary of the site. The buildings would be setback approximately 15m from the northern boundary and 12m from the western boundary. The buildings have been designed to be oriented towards the proposed open play space, and overlook landscaped areas within the centre of CWPS. The layout and siting of the CWPS buildings respond to the natural topography. The buildings have been designed to step down towards the lower point at the centre of the site.

The CHS buildings were designed to wrap around the main outdoor play area, to create a visual buffer to surrounding residences. The buildings would be set back 25m from the nearest residence adjoining the eastern boundary, and 17m from the nearest residence adjoining to the south.

The Applicant also stated that the external colours and finishes of both CWPS and CHS buildings are inspired by the Aboriginal and European history of the site, including:

- a green-based palette, consistent with the Turpentine Ironbark forest, including the Spotted gum trees on the site
- brick in tones based on the natural elements of the site such as tree nuts and tree bark
- metal cladding with green tones based on the citrus orchards settlement (**Figure 29** and **Figure 30**).

Figure 29 | CWPS materials and finishes (Source: Architectural Drawings – RFI 3)

Figure 30 | CHS materials and finishes (Source: Architectural Drawings – RFI 3)

Council and agency advice did not raise concerns in relation to building design. The public submissions raised issues in relation to overshadowing, loss of privacy, and visual impact.

The Department is satisfied that the proposed site layout has been designed with respect to the site topography and the surrounding residences. As discussed in **Section 6.4.1**, the overshadowing and privacy impacts of the development would be well managed by setbacks, building orientation, and landscaping. The visual impacts of the proposal on neighbouring properties would be mitigated through the retention of mature trees along the site boundaries, additional landscaping, and the use of colours and materials are appropriate for the location. Additionally, the Department supports the references to the site history through materiality.

Overall, the Department concludes that the design of the proposed buildings is contextually appropriate, and consistent with the character of the surrounding development.

6.4.3 Tree removal and landscaping

Tree removal and planting

A BDAR, landscape plans, a Landscape Design Report, and an Arboricultural Impact Assessment (AIA) were submitted as part of the EIS, each addressing landscape elements confirming the following:

- the site is located within the Cumberland Plain, and includes one *Eucalyptus nicholii* (Narrow-leaved Black Peppermint), a vulnerable planted species, and three *Eucalyptus scoparia* (Wallangarra White Gum), an endangered planted species:
    - neither species occur naturally within the Cumberland Plain landscape
    - both species are outside of their natural range
- the site does not contain bushland or native remnant vegetation
- 356 individual existing trees were identified in the AIA, however the trees in two areas were not identified or assessed because they would not be impacted by the proposed works
- 81 trees are proposed to be removed including four trees of high retention value, and one Wallangarra White Gum, because the Tree Protection Zone (TPZ) would be encroached more than 10% by the proposed buildings, CWPS carpark, bus link road or geotechnical bund
- the TPZ of 63 individual trees would be encroached up to 20% by the proposed pedestrian footpaths, elevated walkways and stormwater infrastructure, however they are proposed to be retained as the species are considered adaptable to change and have adequate area for root compensation
- Measures to protect trees during construction include:

- hand digging around affected trees with supervision of a project arborist
- location of bore pits outside of trees affected by the stormwater line
- use of porous material to 83inimize root disturbance
- 147 trees are proposed to be planted (**Figure 31**).

Figure 31 | Tree canopy cover (Source: Landscape Design Report)

Public submissions raised concern that tree removal would result in the urban heat island effect. Council did not comment in relation to tree removal.

EHG stated that the proposal should consider the cumulative impact of the tree removal to be undertaken as part of the application and the REF approval. Replacement tree planting should be provided at a ratio of 2:1.

The RtS argued that the tree removal and planting were designed to provide open play areas, unobstructed by trees. The RtS also argued that the canopy coverage would increase over 10 years, when the proposed tree planting would reach mature height and spread. A summary of the tree canopy coverage is in **Table 21**.

Table 21 | Canopy cover

	CWPS	CHS
Existing	22.9%	19.1%
Removed	2.9%	4.4%
Proposed at 10 years	26.19%	19.4%
Total site coverage	45.59%	

EHG reviewed the RtS, and noted that tree replacement was proposed at a ratio of 1.8:1 instead of the recommended 2:1, and that the trees removed under the REF were not clearly identified or accounted for. Even so, EHG advised no further comments in relation to biodiversity and landscaping and recommends conditions to ensure that trees to be retained are adequately protected during construction.

The Department notes that advice in the BDAR and AIA that the Wallangarra White Gum proposed to be removed is:

- currently in fair or poor condition, with low landscape significance and retention value
- a commonly planted species
- while identified as an endangered planted species, it outside of its natural range and occurs as a planted species on the site.

The Department acknowledges that four high retention value trees proposed for removal are not listed as threatened, endangered, or vulnerable species. The Department considers that the Applicant has adequately compensated for the tree removal with replacement tree planting, that would improve the overall existing tree canopy coverage. The Department recommends conditions requiring protection of retained trees during construction works.

Landscaping

The Landscape Design Report states the proposed landscaping includes:

- additional tree planting along the site boundaries, as screen planting for the adjoining residences
- a range of structured, active, and sporting play areas, using a mix of surfaces including in-situ brushed concrete, garden bed planting, artificial turf, and soft landscaped area
- a citrus orchard and bush tucker space at CWPS to provide context with the history of the site and Aboriginal cultural heritage
- covered play areas to provide shade for outdoor learning, gathering and play

- accessible and staircase routes connecting play areas across the site.

Public and Council submissions and EHG advice did not raise concerns in relation to the landscape design.

The Department is satisfied that the proposed landscaping improves the variety of outdoor play and learning areas for students, and maintains the leafy character of the school as viewed from adjoining developments. The Department recommends conditions requiring the implementation and maintenance of the proposed landscaping for the life of the development.

6.5 Other issues

The Department's consideration of other issues is summarised in Table 22 below.

Table 22 | Assessment of other issues

Issue	Findings and conclusions	Recommended conditions
Construction noise and vibration	The NVIA assessed construction noise and vibration impact, and found construction noise is likely to impact residential receivers that immediately adjoin the site boundary and operational school buildings, sometimes above the highly noise affected noise level of 75dB. The NVIA recommended the following measures, where reasonable and feasible, to reduce construction noise levels: • install hoarding to reduce noise levels by five to 10 dB • include respite periods • implement equipment-specific temporary screening for noisy equipment, such as jackhammers • adopt quieter methods of construction where possible, such as concrete sawing and removal of sections instead of jackhammering. The NVIA recommended that a precautionary approach be undertaken in accordance with the DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999), unless: • a review of specific buildings by a structural engineer is carried out	The Department has reviewed the NVIA and considers construction noise and vibration impacts to be acceptable, subject to the following conditions: • the Applicant offers a pre-construction survey to owners and residential buildings likely to be impacted by construction works • prepare and implement a final Construction Noise and Vibration Management Plan, including community consultation methods to manage high noise generating works • construction works be carried out in accordance with the standards recommended in the NVIA, including the DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German

Issue	Findings and conclusions	Recommended conditions
	• the construction works are confirmed to have an impact compliant with the recommended vibration limit of the standard • a regime of vibration monitoring is implemented. Public submissions raised concern in relation to construction noise and vibration and social impact.	Institute for Standardisation, 1999).
Operational waste management	In the EIS, the Applicant proposed that service and waste management vehicles access the site using the one-way bus link road from Dunmore Avenue to Pennant Hills Road. The Applicant stated that up to three service vehicles a day would use the bus link which would have negligible impact on Pennant Hills Road. TfNSW does not support service vehicle use of the bus link road, as it would further strain traffic on Pennant Hills Road. As part of RFI-3, the Applicant amended the proposal to create a loading area with capacity for a three-point turn so that service and waste vehicles would enter and exit the site via Dunmore Road. TfNSW reviewed the updated operational waste management vehicle movement and made no further comments.	The Department has recommended conditions that require an Operational Waste Management Plan be prepared, prior to operation of the development, to set out clear procedures for the collection of waste on the site. This includes restrictions on waste collection and service times to outside of school hours and prohibiting use of the one-way bus link road.
Social impact	An updated SIA was provided as part of RFI-2, following targeted engagement to those most likely to be affected to address concerns raised in the public submissions. Through the targeted engagement the SIA identified impacts including: • air quality • cumulative construction impact • traffic and access during DOPU times • traffic noise • flooding • privacy • excess student enrolment. The SIA included short term mitigation measures to address the social impact where possible, including: • use of dust suppression strategies during construction	The Department reviewed the SIA and considers that the Applicant has included appropriate mitigation measures to adequately manage the social impact of the proposal. The Department also notes that the site is highly constrained, and that the proposal has been designed to use available ground floor area for open space. The Department also notes that the Enrolment of Students in NSW Government Schools policy aims to provide education for students who reside in their local enrolment area.

Issue	Findings and conclusions	Recommended conditions
	• strategically staging construction works to limit prolonged noisy works for residents adjoining the site boundaries • organise a walk-through of the site with the adjoining residents on completion of the buildings, to provide context of privacy impacts from the school to the residences. The SIA included long term mitigation measures to address social impact including: • construction of a flood wall, to mitigate impact to adjoining residences, including a maximum height of 1 m, to avoid visual impact on the adjoining residences • implementation of a STP that ensures staff monitor DOPU zones and pedestrian gates to manage student and parent behaviour • offer and deliver at-receiver noise management at relevant residences at 18 Dunmore Avenue to eliminate noise impact of the bus-link road. The SIA acknowledged that the main social concern in relation to student enrolment is overcapacity of school buildings, installation of demountable buildings, and outdoor play area per student. The SIA justified that 12 sqm and 15.1 sqm of open space play area is provided for CWPS and CHS students. The Applicant also justified that on Day 1, Term 1 2022 it adjusted the enrolment catchment of CWPS to reduce the intake area, to better reflect the local population and available infrastructure.	The Department considers the proposal is acceptable because the: • area of outdoor play space provided per student exceeds the Educational Facilities Standards and Guidelines minimum requirement of 10 sqm • upgrades of the schools would provide increased capacity to cater for growth in the area.
Signage	The proposal includes two new concrete wall signs with embossed lettering: • CWPS school identification sign at the Felton Road West entry • CHS school identification sign at the Dunmore Avenue entry The Department's assessment of the identification signage in accordance with the relevant State Environmental Planning Policy is in **Appendix A**.	The Department considers that the proposed signage is acceptable because it: • provides identification of the use of site • is not illuminated and would not impact the amenity of the surrounding residences • has been designed with materials and colours that are suitable within the context of the site.

Issue	Findings and conclusions	Recommended conditions
Biodiversity	A BDAR was provided with the EIS, which assessed the biodiversity on the site in accordance with the BC Act. The site is part of the Cumberland Plain. Planted native vegetation on the site includes feed tree species and marginal foraging habitat for *Pteropus poliocephalus* (Grey-headed Flying-fox) which is listed as vulnerable. The BDAR concluded that the proposal is unlikely to have significant impacts on the Grey-headed Flying-fox. *Ninox strenua* (Powerful Owl), listed as vulnerable under the BC Act, was found to traverse the site occasionally. The BDAR did not find roosting, breeding, or foraging habitat for the Powerful Owl, and concluded that no species credits are required to offset the impact of the proposal. The BDAR included the following mitigation and management measures: • timing works to avoid critical life cycle events of the affected fauna, such as breeding or nursery • investigate clearing protocols such as pre-clearing surveys, daily surveys, staged clearing, and use of a trained ecologist during clearing events. EHG noted the mitigation measures set out in the BDAR and requested that it be updated to include a detailed description of the mitigation actions. EHG made no other comments.	The Department has reviewed the BDAR and EHG advice. The Department notes the Applicant revised the mitigation measures to include the recommendations made in the BDAR, and to ensure that construction works would minimise impact to the biodiversity values of the site. The Department is satisfied that the proposal would have acceptable impact on biodiversity, and has recommended conditions requiring the mitigation and management measures contained in the BDAR to be implemented.
Contamination	A Detailed Site Investigation (DSI) and Remedial Action Plan (RAP) were included with the EIS. The DSI undertook analysis of soil samples across the site and stated that: • the site had been used for agriculture prior to being developed as schools in the late 1960s and contamination associated risks are considered to be imported fill, previous site uses impacting fill, surficial soils and the risk associated with the demolition • soil testing found one sample containing asbestos in the south-western corner of the site in fill material • the presence of asbestos materials in the existing school buildings in other areas of	The Department has reviewed the information provided by the Applicant, and is satisfied that the site remains suitable for the use as a school. The Department has recommended conditions requiring: • an EPA Site Auditor to be appointed prior to remediation commencing • construction/remediation to be done in accordance with the RAP

Issue	Findings and conclusions	Recommended conditions
	the site has not been disregarded given the building age. The DSI recommended a RAP be prepared to detail works required to make the site suitable for the use, and include a protocol for additional asbestos finds. The RAP stated: • the remediation area should be undertaken at part of the southern portion of CWPS • the preferred remediation strategy, following further investigations of buildings in the south-western area of CWPS, is to cap and contain asbestos impacted fill with options to dispose excess asbestos impacted fill • a long term environmental management plan is required, including future ongoing management requirements for the life of the development.	• unexpected finds procedure to be implemented throughout works • the Applicant to ensure that the proposed works do not result in a change to contamination risk on the site • Site Audit Statement to be issued prior to operation, including an Environment Management Plan where on-site containment is proposed and a copy provided to the Department and Council • that the site is managed in accordance with the approved Environmental Management Plan.
Geotechnical	The EIS included a Geotechnical Report which stated that the site is located above the boundary of Hawkesbury Sandstone, including medium to coarse grained sandstone, at the east portion, and Ashfield Shale, including black to dark grey shale and laminate, at the southern portion. The Geotechnical Report also included: • site preparation and engineered fill procedures in relation to the earthworks required for the construction building platforms and the proposed DOPU and one-way bus link road • specifications in relation to excavation works, including suggested batter slopes and retaining walls for deep cuts • mitigation measures to be implemented throughout construction of the development to minimise impacts, including as a result of erosion and dust.	The Department has considered the information provided and has recommended conditions to manage construction impacts, including implementation of erosion and dust control measures.
Wind impact	A Pedestrian Wind Environment Statement (PWES) was provided to evaluate the wind conditions for comfort and safety associated with CHS buildings over four storeys.	The Department has reviewed the PWES and is satisfied that CHS building designs have included the recommendations of the PWES, and the proposal

Issue	Findings and conclusions	Recommended conditions
	The PWES identified that CHS includes outdoor trafficable areas subject to wind impact, including ground level areas, pedestrian footpaths and elevated walkways. The PWES stated that the proposed landscaping would mitigate wind on the footpaths associated with the bus zones, prevailing westerly winds from the main CHS entry and the funnelling effect between Buildings X and Y. The PWES identified that westerly winds would impact the Building X and Building Y elevated walkways, and stated that the installation of a full height porous screen on the eastern balcony of level one to three could stagnate the funnelling of winds. The architectural plans have incorporated porous screening as recommended in the PWES. Council and public submissions did not comment on wind impact.	would have acceptable wind impact.
Surface and groundwater	A Surface Water and Groundwater Impact Assessment was submitted with the EIS which confirmed that groundwater did not occur to the depth of 7.09m below ground level. The proposal would extend up to 2.5m below the existing ground level and therefore is unlikely to intercept groundwater. The Surface Water and Groundwater Impact Assessment identified potential surface water impacts including stormwater runoff to Hunt's Creek, and concluded that the proposal would have a low risk to surface water quality because the site's impervious area is minimal in proportion to the overall catchment.	The Department has considered the information provided and is satisfied that the proposal would have minimal impacts to surface and groundwater.
Lighting	The EIS included a Lighting Design Report which stated that lighting would be designed in accordance with AS/NZS 4282:2019 Outdoor Lighting Obtrusive Effects, including direction of light and fitting selection with good optical control. Council's submission requested that street lighting for the proposed public pedestrian facilities be designed to Council's satisfaction.	The Department has considered the information provided in the EIS and Council's advice. The Department recommends that external lighting, including during the construction phase, be carried out in consultation with Council where required.

Issue	Findings and conclusions	Recommended conditions
Aboriginal cultural heritage assessment	An Aboriginal Cultural Heritage Assessment Report (ACHAR) was included with the EIS. The ACHAR advised that the site is on Darug Country and was previously shared between the Burramattagal and Bediagel peoples. The site was then used for rural farming before the school was established in 1967. The field investigation carried out for the ACHAR found one isolated Aboriginal site, a silcrete flake (CWPS IF1), at the north-western corner of the site. The ACHAR stated that CWPS IF1 is considered to have low archaeological significance. No other cultural artefacts were observed. The ACHAR stated that the registered Aboriginal parties did not identify sites of cultural value. The ACHAR recommended that the Applicant maintain consultation with the registered Aboriginal parties prior to ground disturbance. EHG reviewed the ACHAR and advised that it was consistent with the relevant guidelines.	The Department is satisfied that, subject to the recommendations of the ACHAR, the proposal would not result in any adverse impacts to Aboriginal cultural heritage. The Department has recommended a condition requiring the Applicant to implement the recommendations in the ACHAR, including that an unexpected finds protocol for Aboriginal heritage be prepared and implemented prior to commencement of construction.
Outdoor play space	The proposal includes a new sports field at CHS. The EIS stated that a total of 18,300 sqm play space or 11.36 sqm per student would be provided at CWPS, including a variety of open play area, sports court, landscaped lawn areas and amphitheatre seating. A total of 29,900 sqm would be provided at CHS, or 13.67 sqm per student, including open play area, new sports courts and existing futsal court, landscaped lawn areas and sports field. The EIS noted that an additional 1,175 sqm of COLA would be provided at CWPS and 560 sqm at CHS. The public submissions raised concern in relation to school population growth and the available outdoor play space area in the long term.	The Department has considered the information provided and supports that the open play area provided for both schools is more than the 10 sqm per student recommended in the Department of Education's Education Facilities Standards and Guidelines. The Department has also considered the impact of the school population growth in 'Social impact' above.

7 Evaluation

The Department's assessment has considered the relevant matters and objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act), including the principles of ecologically sustainable development (**Section 3** and **6**), advice from government agencies, council and public submissions (**Section 5**), and strategic government policies and plans (**Section 4**).

This includes consideration of the EIS, RtS, additional information, submissions, supporting documents and advice from government agencies.

The key issues identified relate to traffic and transport, flooding, noise, and built form.

Traffic and transport impacts can be managed through infrastructure improvements for pedestrians and vehicles including an expanded DOPU, construction of bus link road (for bus use only), additional parking spaces, and pedestrian and road infrastructure upgrades. Further, implementation of an STP would improve the uptake of active transport modes and reduce car usage among the school community.

Flood impacts pose a risk to the safety and operation of the schools. The Applicant has agreed to extensive mitigation and management measures, including increasing stormwater inlet capacity across the site, reducing fill, construction of a flood wall along part of the western boundary to prevent impacts on downstream residents, and ensuring the finished floor levels of the CHS buildings are above the 1% AEP flood levels with a 500mm freeboard. In addition, the Applicant will finalise and implement a Flood Emergency Response Plan in consultation with SES, to prioritise closing the school prior to a flood event, and provide for shelter in place where necessary.

Noise arising from the proposed bus link may significantly impact nearby residences. To mitigate the impact, the Applicant proposes to install at receiver treatment, including acoustic or double glazing to affected elevations. With mitigation measures in place, noise impacts from other school activities can also be managed at these receivers.

The Department has considered the proposed built form and landscaping and is satisfied that it is appropriate in its context. While the height of the proposed buildings exceeds what is envisaged by PLEP 2012, through careful design, site orientation, and screen planting, the amenity of the neighbouring properties would be protected.

Subject to conditions and proposed mitigation measures, the construction and operation impacts of the proposal would be satisfactorily minimised.

The development is consistent with the objects of the EP&A Act and the State's strategic objectives to improve education results through the provision of new education facilities that service local demand.

The Department has formed the opinion the development:

- would provide significant benefit to the community by delivering improved and expanded school facilities
- is consistent with government strategy
- would provide 658 construction jobs and 65 additional operational jobs
- is in the public interest.

8 Recommendation

It is recommended that the Executive Director, Infrastructure Assessments:

- **considers** the findings and recommendations of this report
- **accepts and adopts** the findings and recommendations in this report as the reasons for making the decision to grant consent to the application
- **agrees** with the key reasons for approval listed in the notice of decision
- **signs** the attached development consent (**Appendix F**).

Prepared by:

Jenny Chu
Senior Planning Officer
Social Infrastructure Assessments

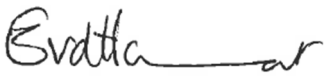
Recommended by:

Karen Harragon
Director
Social Infrastructure Assessments

9 Determination

The recommendation is **adopted** by:

29 November 2023



Erica van den Honert
Executive Director
Infrastructure Assessments

Glossary

Abbreviation	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEP	Annual Exceedance Probability
AIA	Arboricultural Impact Assessment
Applicant	Department of Education
BC Act	*Biodiversity Conversation Act 2016*
CHS	Cumberland High School
CIA	Cumulative Impact Assessment
CIV	Capital Investment Value
COLA	Covered Outdoor Learning Area
Council	Parramatta City Council
CWPS	Carlingford West Public School
Department	Department of Planning and Environment
DOPU	Drop-off / pick-up
EHG	Environment and Heritage Group, Department of Planning and Environment
EIS	Environmental impact statement
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EFSG	Educational Facilities Standards and Guidelines

Abbreviation	Definition
EPI	Environmental planning instrument
EPL	Environment protection licence
ESD	Ecologically sustainable development
FERP	Flood Emergency Response Plan
FIRA	Flood Impact Risk Assessment
Heritage	Heritage NSW, Department of Planning and Environment
LoS	Level of Service
Minister	Minister for Planning and Public Spaces
NCC	National Construction Code
NPfI	Noise Policy for Industry (2017)
NSW SES	NSW State Emergency Services
NVIA	Noise and Vibration Impact Assessment
OSD	On-site detention
PLEP 2012	Parramatta (former The Hills) Local Environmental Plan 2012
PLEP 2023	Parramatta Local Environmental Plan 2023
Planning Secretary	Secretary of the Department of Planning and Environment
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
PMF	Probable Maximum Flood
REF	Review of Environmental Factors
PWES	Pedestrian Wind Environment Statement

Abbreviation	Definition
RNP	Road Noise Policy NSW
SDRP	State Design Review Panel
SEARs	Planning Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SEPP	State environmental planning policy
SIA	Social Impact Assessment
SSD	State significant development
STP	School Travel Plan
TAIA	Transport and Accessibility Impact Assessment
TfNSW	Transport for NSW
WSUD	Water sensitive urban design

Appendices

Appendix A – Summary of key changes to the project

Since lodgement, some key aspects of the project have been revised in response to public submissions and agency advice. A summary of the key revisions is provided in **Error! Reference source not found.** below.

Table 123 | Key revisions

Aspect	Original project in EIS	Revised project
Flood wall	No flood wall proposed.	60m long, 1m high flood wall near the western boundary of the site to ensure that the proposal does not worsen the existing upstream or downstream flood conditions of land outside the site.
Road upgrade works	No road upgrade works proposed on Sandringham Drive and Arcadian Circuit.	Upgrades to Sandringham Drive and Arcadian Circuit proposed prior to commencement of operation.
At-receiver noise mitigation	No at-receiver noise mitigation proposed.	Installation of at-receiver noise mitigation measures at relevant dwellings located at 18 Dunmore Avenue to ensure no residual noise impact resulting from the bus-link road operation inside habitable areas of 18 Dunmore Avenue residences.

Appendix B – List of referenced documents

https://www.planningportal.nsw.gov.au/major-projects/projects/upgrades-carlingford-west-public-school-and-cumberland-high-school

Appendix C – Submissions and government agency advice

https://www.planningportal.nsw.gov.au/major-projects/projects/upgrades-carlingford-west-public-school-and-cumberland-high-school

Appendix D – Community views for draft Notice of Decision

Table 2 | Key issues and how they have been considered

Issue	Consideration
Traffic, parking and pedestrian infrastructure • Insufficient onsite and street parking • Traffic generated by increase in student enrolment capacity • Adequacy of the drop-off / pick-up (DOPU) zones and their management • Pedestrian safety	*Assessment* • The proposal includes 3 new raised pedestrian crossings, widening of 4 existing footpaths and one new footpath. • In response to the submissions requesting to increase street parking and mitigate the impact of the school traffic, the Applicant has committed to fund works for the City of Parramatta Council (Council) to widen Arcadian Circuit and Sandringham Drive road to allow for an increase in street parking in the area. • In response to the submissions, the Applicant updated its School Travel Plan, to commit its staff to monitor car and pedestrian movements at the Felton Road East DOPU zone. The School Travel Plan would also initiate a pre-registration process for DOPU vehicles for Carlingford West Public School (CWPS). • The Department notes that the expected demand of the DOPU zones exceeds their capacity. However, the Department considers that the proposed ratio of DOPU spaces to students is improved when compared to the existing situation, and will be mitigated by active transport measures in the School Transport Plan. • The Department is satisfied the local road network could reasonably accommodate the additional traffic generated by the development and that the School Travel Plan and upgraded onsite DOPU would alleviate existing strain during peak periods. *Conditions* Conditions include: • Construction of new and upgraded pedestrian infrastructure to the satisfaction of the relevant road authority. • Finalisation of a School Transport Plan to be prepared in consultation with Council and TfNSW to detail management arrangements for pick-up / drop-off operations to minimise conflicts and encourage active travel.

Issue	Consideration
Noise and air quality • Construction noise and dust • Noise impact associated with the operation of the new bus link road and out of hours school activities • Air quality impact associated with the operation of the new bus link road	*Assessment* • The Applicant stated that it would strategically stage construction works to limit prolonged noisy works for residents adjoining the site boundaries and use dust suppression strategies to mitigate construction noise and dust impacts. • In response to the submissions, the Applicant prepared an At-receiver Mitigation Strategy to offer to install noise mitigation measures, including double-glazed windows and air conditioning, at relevant dwellings located at 18 Dunmore Avenue to ensure no residual noise impact resulting from the bus-link road operation inside habitable areas of 18 Dunmore Avenue residences. • In response to the submissions, the Applicant stated that, overtime, diesel-powered buses would be replaced with electric buses to reduce air quality impact. The Applicant also stated that the installation of air conditioning as part of the At-receiver Mitigation Strategy would improve ventilation at the relevant dwellings at 18 Dunmore Avenue during operation of the bus link road. • The Department supports the implementation of the At-receiver Mitigation Strategy to address noise and air quality impacts of the proposal. *Conditions* Conditions include: • Preparation and implementation of a Construction Environmental Management Plan to minimise dust generated by construction works and manage high noise generating works in consultation with the community. • Implementation of the At-receiver Mitigation Strategy prior to the commencement of operation of the bus-link road.
Visual privacy and solar access • The new buildings would overlook the private open space of the adjoining residential developments. • The new buildings, up to five storeys, would overshadow the residential developments adjoining the site.	*Assessment* • The Department is satisfied that the proposal would not have an unacceptable impact on the privacy of the adjoining residences because it includes retention of some existing perimeter landscaping and will increase tree planting at the site boundaries. • The Department acknowledges that the proposal would overshadow the private open space of some dwellings for part of the daytime. The proposal complies with Council's development control plan to provide at least four hours of solar access between 9am and 3pm during the winter solstice. The Department is satisfied that the proposal would have acceptable impact on the solar access of the adjoining residences.

Appendix E Statutory considerations

Objects of the EP&A Act

A summary of the Department's consideration of the relevant objects (found in section 1.3 of the EP&A Act) are provided in **Error! Reference source not found.** below.

Table 3 | Objects of the EP&A Act and how they have been considered

Object	Consideration
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The proposed development involves upgrades to an existing primary and high school to cater for increasing demand in a developing urban area. The site remains suitable for the use, and its development would not unreasonably impact the economic or social welfare of the community, or the natural environment.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The proposed development includes measures to deliver ecologically sustainable development (ESD). (see below).
(c) to promote the orderly and economic use and development of land,	The proposed development is an orderly and economic development and use of the land as it is consistent with the site's existing use as an education establishment, and would provide improved educational facilities to support growing demand. Although the proposal would be located on flood prone land, the risk to vulnerable occupants can be acceptably managed.
(d) to promote the delivery and maintenance of affordable housing,	Not applicable.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The proposed development would protect the environment, as detailed in **Section 6**. The proposal would not affect any protected or threatened species or vegetation communities.
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The site does not include any buildings with European heritage values or significance. An Aboriginal Cultural Heritage Assessment Report (ACHAR) report was included in the EIS and concluded that there are Aboriginal cultural artefacts of low value on the site (**Section 6**).

Object	Consideration
(g) to promote good design and amenity of the built environment,	The proposal has been designed to minimise potential visual amenity impacts whilst maximising its internal amenity and ensuring good design is achieved (**Section 6**).
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	The proposal would promote proper construction and maintenance of buildings subject to recommended conditions of consent, including to withstand impacts from flood waters.
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The Department publicly exhibited the proposal and consulted with Council and other government authorities, and considered their responses (**Section 5** and **6**).
(j) to provide increased opportunity for community participation in environmental planning and assessment.	The Department publicly exhibited the application, notified adjoining landowners, and displayed the proposal on the Department's website during the exhibition period. Issues raised in the submissions have been considered in **Section 6**.

Ecologically sustainable development

The EP&A Act adopts the definition of ecologically sustainable development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- the precautionary principle
- inter-generational equity
- conservation of biological diversity and ecological integrity
- improved valuation, pricing and incentive mechanisms.

The Department required the Applicant to demonstrate how the principles of ESD have been incorporated into the project, including how it addresses:

- national best practice sustainable building principles to improve environmental performance and reduce ecological impact
- projected climate change impacts.

The development proposed ESD initiatives and sustainability measures, including:

- consideration of durability, recycled content, and location in their selection

- use of efficient materials, including high performance glazing and installing of insulation of reduce heat transfer and consequent heat loss in winter and heat gain in summer
- energy efficient design, including maximum use of natural light utilising suitably located windows and shading structures, to reduce solar heat gain
- use of water conservation measures, including highly efficient water fittings and fixtures.

The EIS included an ESD report that detailed how the principles of ESD would be addressed in the development which is targeting a 4-Star Green Star rating and would exceed the Educational Facilities Standards and Guidelines (EFSG) issued by the Department of Education.

The Department has considered the proposed development in relation to the ESD principles. The precautionary and inter-generational equity principles have been applied in the decision-making process via a thorough assessment of the environmental impacts of the proposed development.

In order to ensure that ESD is incorporated into the proposed development, the Department has recommended a condition that requires the Applicant to register for a minimum 4-star Green Star rating with the Green Building Council Australia, or an alternative certificate process as agreed by the Planning Secretary, prior to the commencement of construction.

Subject to this condition, the proposed development is consistent with ESD principles as described in Appendix W of the Applicant's EIS, which has been prepared in accordance with the requirements of Schedule 2 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation).

Overall, the proposed development is consistent with ESD principles, and the Department is satisfied the proposed sustainability initiatives would encourage ESD, in accordance with the objects of the EP&A Act.

EP&A Regulation

The EP&A Regulation requires the Applicant to have regard to the *State Significant Development Guidelines* when preparing their application. In addition, the SEARs require the applicant to have regard to the following:

- *Social Impact Assessment Guideline for State Significant Projects*
- *Undertaking Engagement Guidelines for State Significant Projects*
- *Cumulative Impact Assessment Guidelines for State Significant Projects*.

The Department considers that the Applicant has had regard to the relevant requirements of the EP&A Regulation.

Environmental Planning Instruments (EPIs)

To satisfy the requirements of section 4.15(a)(i) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), this report includes references to the provisions of the Environmental Planning Instruments (EPIs) that govern the carrying out of the proposed development, and have been taken into consideration in the Department's environmental assessment.

Controls considered as part of the assessment of the proposed development are:

- State Environmental Planning Policy (Planning Systems) 2021
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- State Environmental Planning Policy (Resilience and Hazards) 2021
- State Environmental Planning Policy (Industry and Employment) 2021.

State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)

The aims of Chapter 2 of the Planning Systems SEPP are to identify State significant development and State significant infrastructure and confer the necessary functions to joint regional planning panels to determine development applications.

An assessment of the development against the relevant considerations of the Planning Systems SEPP is provided in **Error! Reference source not found.**4.

Table 4| Consideration of Planning Systems SEPP

Relevant Sections	Consideration and Comments	Complies
2.1 Aims of Policy The aims of this Policy are as follows: (a) to identify development that is State significant development	The proposed development is identified as SSD.	Yes
2.6 Declaration of State significant development: section 4.36 (1) Development is declared to be State significant development for the purposes of the Act if: (a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and (b) the development is specified in Schedule 1 or 2.	The proposal is for alterations and additions to an existing school with a capital investment value (CIV) in excess of $50 million, under clause 15(2) of Schedule 1 of the Planning Systems SEPP.	Yes

State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)

The application has been assessed against the relevant provisions of the Transport and Infrastructure SEPP.

Clause 3.43 of the Transport and Infrastructure SEPP states that development consent may be granted for development for the purpose of a school that is state significant development even though the development would contravene a development standard imposed by this or any other environmental planning instrument under which the consent is granted. It is noted the proposed school would exceed the height limit established by PLEP 2012, however the built form is considered acceptable as discussed in **Section 6**.

Clause 3.58 of the Transport and Infrastructure SEPP requires traffic generating development that involves the addition of 50 or more students is to be referred to Transport for NSW (TfNSW). The Application was referred to TfNSW in accordance with this clause (**Section 5**).

The Department is satisfied that the proposed development meets the requirements of the Transport and Infrastructure SEPP. The proposed development is therefore consistent with the Transport and Infrastructure SEPP given the consultation and consideration of the comments from the relevant public authorities. The Department has included suitable conditions in the recommended conditions of consent (Appendix F).

Clause 3.36(6) of the Transport and Infrastructure SEPP requires that the design quality of the development should be evaluated in accordance with the design quality principles set out in Schedule 8. An assessment of the development against the design principles is provided in 5.

Table 5 | Consideration of Transport and Infrastructure SEPP

Design Principles	Response
Principle 1 - Context, built form and landscape	The proposed built form has been designed to be sympathetic to the surrounding residential area and protect the visual privacy and solar access of the adjoining residences. This is addressed further in **Section 6**.
Principle 2 - Sustainable, efficient and durable	The proposed development includes ecologically sustainable development measures (see assessment of ecologically sustainable development above).
Principle 3 - Accessible and inclusive	The proposed development has been designed to be accessible and inclusive, through the provision of a lift and accessible paths of travel from the site boundaries up to and around the school buildings.

Design Principles	Response
	The proposed development incorporates wayfinding signage, identifying key areas within the school and assisting visitors to navigate the site. The school hall is proposed to be used for community activities after school and during the weekends.
Principle 4 - Health and Safety	The design of the school buildings provides a safe and secure school environment. The proposed development has considered Crime Prevention Through Environmental Design (CPTED) principles. The proposed development would clearly delineate the pedestrian entrances into the school, to allow the management of visitors to the site. Through the conditions of consent, health and safety of students are optimised during management of flood risk.
Principle 5 - Amenity	The proposed development provides a variety of internal and external learning places for both formal and informal education. The design of the proposed buildings seeks to maximise natural light and ventilation to the indoor areas of the school, while balancing the needs for internal solar protection. Proposed landscaping, elevated walkways, and covered outdoor areas provide ample shaded areas for students and staff. The setbacks of the proposed buildings and play areas from Pennant Hills Road is a mitigation measure for the traffic generated noise to ensure a high level of amenity for students
Principle 6 - Whole of life, flexible, adaptable	The buildings would allow for long term flexibility through the provision of flexible formal and informal learning areas, to adapt to future learning requirements.
Principle 7 - Aesthetics	The proposed built form would incorporate generous setbacks, and external finishes and landscaping to contribute to the aesthetics of the neighbourhood. The proposal seeks to offer clear entry points through the articulated built form. This is addressed further in **Section 6**.

State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)

Chapter 4 of the Resilience and Hazards SEPP aims to ensure that potential contamination issues are considered in the determination of a development application. The EIS included Detailed Site Investigation (DSI) and Remedial Action Plan (RAP) reports. The reports were prepared in

accordance with relevant NSW EPA guidelines and Resilience and Hazards SEPP requirements, and comprised a review of available current and historical site information, details of previous remediation works on-site, and intrusive soil investigations.

As detailed in **Section 6**, the Department is satisfied that the Applicant has adequately demonstrated that the site remains suitable, subject to conditions, for the use as an educational establishment as required by the Resilience and Hazards SEPP. The Department has recommended conditions requiring:

- an EPA Site Auditor to be appointed prior to remediation commencing
- construction/remediation to be done in accordance with the RAP
- unexpected finds procedure to be implemented throughout works
- the Applicant to ensure that the proposed works do not result in a change to contamination risk on the site
- Site Audit Statement to be issued prior to operation, including a long term Environment Management Plan where on-site containment is proposed and a copy provided be provided to the Department and Council
- that the site is managed in accordance with the approved long term Environmental Management Plan.

The Resilience and Hazards SEPP requires all remediation work carried out without development consent to be reviewed and certified by a certified contaminated land consultant. Remediation work is to be categorised based on the scale, risk, and complexity of the work. Environmental management plans relating to post-remediation management of sites, including the ongoing operation, maintenance, and management of on-site remediation measures (such as a containment cell) are to be provided to Council.

The Department is satisfied that the proposed development would be consistent with the objectives of the Resilience and Hazards SEPP.

State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP)

The City of Parramatta local government area and the R2 Low Density Residential Zone are listed as areas to which Chapter 2 of the Biodiversity and Conservation SEPP applies. Chapter 2 aims to preserve the amenity and biodiversity values of non-rural areas of the State through the preservation of trees and other vegetation. The development site does not contain bushland or native remnant vegetation. The vegetation within the development site represents planted native vegetation.

The proposed development is not located within a local government area to which the Biodiversity and Conservation SEPP applies in relation to Koalas. Therefore, Chapter 3 and Chapter 4 of the Biodiversity and Conservation SEPP do not apply to the proposal.

The Department is satisfied that the proposed development would be consistent with the objectives of the Biodiversity and Conservation SEPP.

State Environmental Planning Policy (Industry and Employment) 2021 (Industry and Employment SEPP)

Chapter 3 of the Industry and Employment SEPP applies to all signage that under an EPI can be displayed with or without development consent and is visible from any public place or public reserve.

The development includes one school identification sign per school. The new school signage includes two new concrete wall signs with embossed lettering (**Figure** and **Figure**). CWPS school identification sign would front the Felton Road West pedestrian and vehicle entry and CHS school identification sign would front the Dunmore Avenue pedestrian and vehicle entry.

Figure 1 | Proposed CWPS sign (Source: RFI-3 2023)

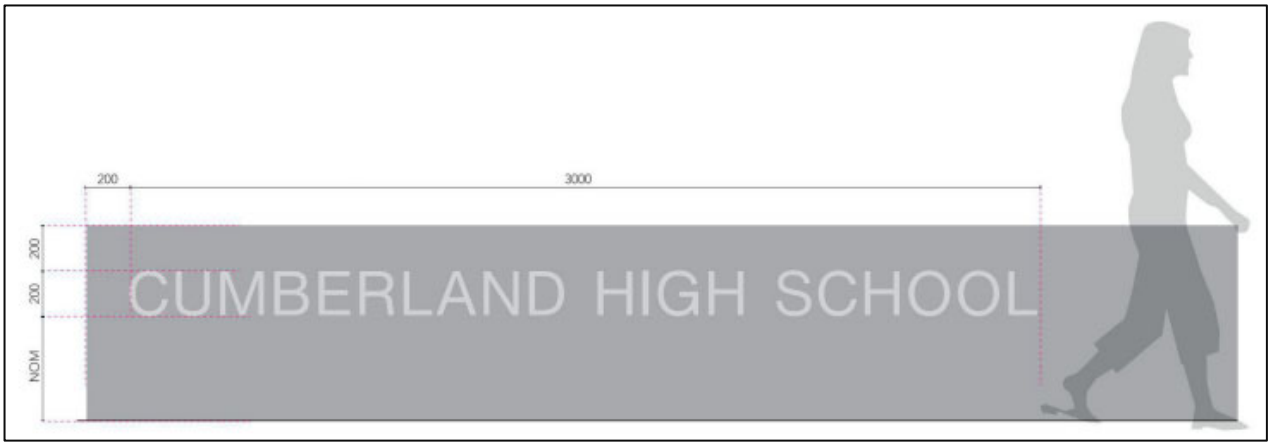


Figure 2 | Proposed CHS sign (Source: RFI-3 2023)

The proposal also includes relocation of existing signage to accommodate the proposed structures, including the bus-link road. No other changes are proposed to the existing signage.

Under clause 3.6 of the Industry and Employment SEPP, consent must not be granted for any sign application unless the proposed development is consistent with the objectives of the SEPP and assessment criteria contained in Schedule 5. The Department has carried out an assessment against Schedule 5 of the Industry and Employment SEPP (**Table** 6). The Department has recommended conditions, and concludes the proposed signs are acceptable.

Table 6 | Consideration of schedule 5 of Industry and Employment SEPP

Assessment Criteria	Comments	Compliance
1 Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed signs are contemporary in design, would be compatible with the existing and future character of the area. No change to the design of the existing signage to be relocated. The existing signage will remain compatible with the existing character of the area.	Yes
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	No particular themes exist for outdoor advertising in the area.	Yes
2 Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage and relocated signage would not detract from the amenity or visual quality of any special areas.	Yes
3 Views and vistas		
Does the proposal obscure or compromise important views?	No views or vistas would be impacted by the proposed and relocated signage.	Yes
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed and relocated signs would not dominate the skyline and would not impact the quality of any views or vistas.	Yes
Does the proposal respect the viewing rights of other advertisers?	Proposed and relocated signs would not impact on existing views	Yes

Assessment Criteria	Comments	Compliance
	experienced by others or existing advertising rights.	
4 Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The signs would complement the school design and contribute to the visual interest of the streetscape. No change to the design of the existing signage to be relocated.	Yes
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed scale and design of the proposed signs are appropriate for the streetscape and setting within which they are located. No change to the design of the existing signage to be relocated.	Yes
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The proposed signs are simple in design and would not result in visual clutter. No change to the design of the existing signage to be relocated.	N/A
Does the proposal screen unsightliness?	Not applicable.	N/A
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The signs would sit well below the height of proposed adjoining buildings and trees.	Yes
Does the proposal require ongoing vegetation management?	No vegetation management is required by the proposed signs.	Yes
5 Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signs are of appropriate scale and proportion and are considered relatively understated in the context of the site. No change to the design of the existing signage to be relocated.	Yes
Does the proposal respect important features of the site or building, or both?	The signs are located at the school main entrances and would not impact	Yes

Assessment Criteria	Comments	Compliance
	on any other important features of the site.	
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The purpose of the signs is to denote the entrance of the schools.	Yes
6 Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	Safety devices are not necessary for the proposed design of the signs. No lighting of signage proposed.	Yes
7 Illumination		
Would illumination result in unacceptable glare?	Illumination of the signage is not proposed.	Yes
Would illumination affect safety for pedestrians, vehicles or aircraft?	Not applicable.	N/A
Would illumination detract from the amenity of any residence or other form of accommodation?	Not applicable.	N/A
Can the intensity of the illumination be adjusted, if necessary?	Not applicable.	N/A
Is the illumination subject to a curfew?	Not applicable.	N/A
8 Safety		
Would the proposal reduce safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No. Extensive views of the footpath and entrance area would still be available.	Yes
Would the proposal reduce safety for any public road?	The design and location of the proposed and relocated signage would not impact on safety of any public road.	Yes

Parramatta (former the Hills) Local Environment Plan 2012

Parramatta (former the Hills) Local Environment Plan 2012 (PLEP 2012) was repealed on 2 March 2023 and the Parramatta Local Environmental Plan 2023 (PLEP 2023) was published on 2 March 2023. However, Clause 1.8A of PLEP 2023 states that if an application was made but not finally determined prior to commencement of the plan, the previous plan applies to the application. Therefore PLEP 2012 is relevant to this application.

The Department has consulted Council throughout the assessment process, and considered all relevant provisions of PLEP 2012 and those matters raised by Council in its assessment. Consideration of the relevant clauses of the Parramatta (former the Hills) Local Environment Plan 2012 is provided in **Table 7**. The Department concludes the development is consistent with the relevant provisions of PLEP 2012.

Table 7 | Consideration of PLEP 2012

Parramatta (former the Hills) Local Environment Plan 2012	Department Comment/Assessment
Land Use Table – Zone R2 Low Density Residential	Educational Establishments are permissible with consent in the R2 Low Density Residential zone and consistent with the zone objectives.
Clause 2.7 Demolition requires development consent	Demolition of selected structures forms part of the proposed development. The Department has considered the proposed demolition in its assessment.
Clause 4.3 Building height	The site is subject to a 9m maximum height of building standard. The height of the proposed buildings ranges from 12.68, to 21.35m, exceeding the maximum building height. The Applicant provided a Clause 4.6 request to vary the development standard. The Transport and Infrastructure SEPP states 'development consent may be granted for development for the purpose of a school that is State significant development even though the development would contravene a development standard imposed by this or any other environmental planning instrument under which the consent is granted'. Even so, the Department has had regard to the objectives of the standard and considers that the height of the proposed buildings would be appropriate in the context of the surrounding locality and the streetscape (**Section 6**).
Clause 5.21 Flood planning	The Department is satisfied that with the mitigation measures discussed in **Section 6.2** the proposal would satisfy the provisions of Clause 5.21 as follows:

Parramatta (former the Hills) Local Environment Plan 2012	Department Comment/Assessment
	• the proposal would be compatible with the flood function and behaviour of the land • the proposed stormwater infrastructure upgrades and construction of the flood wall would protect adjoining properties in a flood event • safe occupation of the school and management of risk to life would be ensured by the implementation of a flood emergency response plan (FERP) which would prioritise closure of the school when significant storm events are predicted and provide for shelter in place where necessary • there would be no impacts such as avoidable erosion or siltation and no impacts on riparian vegetation, river banks or watercourses • the flood modelling had regard to climate change • the finished floor levels of the proposed buildings are proposed to be above the 1% AEP with a 500mm freeboard • the proposed buildings would be constructed to withstand forces generated in a flash flood event • the development would result in improved flood risk management outcomes for the schools.

Other policies

NSW Flood Risk Management Manual 2023

The policy and manual for the management of flood liable land was released by the Department in July 2023. The manual acknowledges that flooding results in significant risk to many communities across NSW. This policy as outlined in this document sets the direction for flood risk management in NSW.

This manual (including the policy) replaces the Floodplain Development Manual (2005) as the NSW Government's manual relating to the management of flood liable land in accordance with section 733 of the Local Government Act 1993. This provides Councils, statutory authorities, and State agencies and their staff, with indemnity for decisions they make and information they provide in accordance with the manual.

The Department notes that this policy was not in force when the application was lodged in 2022. The Applicant's Flood Impact Assessment, Flood Impact Risk Assessment (FIRA) and Flood Emergency Response Plan (FERP) have had regard to the NSW Flood Manual Guideline which was in force at the

time of lodgement. Notwithstanding, the Department has had regard to the following matters under the new Manual.

Flood risk

The manual adopts a risk-based approach and recommends that the Applicant and/or consent authorities consider the risk associated with a full range of flood behaviours. Additionally, the manual also requires that the existing risk, future risk, and the continuing risk after implementing management/mitigation measures be considered prior to progressing with a development.

It then recommends that the consequences of the floods be assessed, including:

- between floods of different magnitudes
- due to differences in exposure of the community to flooding
- due to differences in flood constraints
- how flooding may impact on the community due to the differences in vulnerability of people, the community and the built environment to flooding.

In Section 6 the Department considered the application in detail having regard to flood risks in the above scenarios. The Department also considered comments provided by EHG and SES regarding flood impacts and management. The Department's assessment concludes that the site is subject to flood risks in various flood events. The proposed development on the site would have sufficient mitigation/management measures to address risks to vulnerable occupants, those responsible for their care while at school (teachers and staff) as well as the broader community (parents, carers and members of the public) who may use the site from time to time.

The Department is satisfied that the proposed development in its current form minimises and appropriately manages risk to all occupants. Consequently, based on the flood related risks, the Department supports this application.

Principles

The manual sets 10 principles for flood risk management in NSW. Out of these, the Department considers that the following principles would be relevant to this application.

Principle 5: Understand flood behaviour and constraints is assessing this application.

The manual states that it is important to consider flood related constraints in managing flood risk to the existing community, the increase in flood risk due to new development in the floodplain, or if undertaking other measures that may alter flood behaviour. Studies under the flood risk management process provide the basis for understanding flood behaviour and provide a number of flood related constraints, with the exception of the full range of flood water velocities.

As discussed in **Section 6**, the Department has considered a range of flood scenarios based on the information provided and considers the development includes appropriate mitigation measures that would appropriately manage flood risk to users within the site and the adjoining community.

Principle 6: Understand flood risk and how it may change

Understanding flood risk involves understanding the consequences of flooding on the community and the likelihood of these consequences occurring. This requires understanding the full range of flood behaviour and constraints as outlined in Principle 5.

The Applicant has submitted an updated FIRA and draft FERP that includes a full range of flood behaviours and provides emergency management for different situations. Based on the information available in the updated FIRA and draft FERP, the Department considers that the proposal would be suitable for the site.

Principle 7: Consider variability and uncertainty

Effective understanding and management of flood risk needs to consider variability and uncertainty due to climate change, infrastructure and development. Experienced practitioners can develop fit-for purpose models that are calibrated and validated considering historical flood information.

The updated FIRA and draft FERP have been prepared by a suitably qualified person and considered climate change.

Principle 9: Manage flood risk effectively

Effective management of flood risk to the community requires a flexible merit-based approach to decision-making. This supports sustainable use and development of the floodplain.

In this regard, the manual recommends limiting increases in flood risk related to new and modified development. The proposed development represents expansion of an existing development into the floodplain.

The Department considers the physical and operational mitigation measures to be implemented as part of the development would acceptably manage risk to all persons.

Flood Impact and Risk Assessment - Flood Risk Management Guideline LU01

This guideline was published by the Department in 2023 and advises that a fit for purpose flood impact and risk assessment (FIRA) should examine flood constraints and how to manage the flood risks posed to and by new development.

This guideline provides advice on the scope and scale of a FIRA as required by the consent authority.

The guideline states that the aim of a FIRA should be to support a development proposal which may alter flood behaviour or alter or introduce additional flood risk, to identify and analyse:

- the impacts of the proposed development on the flood risk to the existing community
- the impacts and risks of flooding on the development and its users
- how these impacts can be managed to minimise the growth in risk to the community due to the development.

Having regard to the above, the Department considers that the FIRA and draft FERP generally align with the above guideline and considers the EPIs, The Hills Development Control Plan 2012 and studies applicable to the development at the time of its lodgement. It includes a full range of flooding behaviours including the 5% and 1% AEP and probable maximum flood (PMF).

The Department has recommended a condition to require that the final FERP be prepared by a suitably qualified person, follow the guideline, be prepared in consultation with NSW SES and provide adequate facilities for shelter-in-place.

The Department notes that the guideline specifies the following considerations in approving a development application:

- limiting impacts and risks posed to the development and future occupants to ensure these have been appropriately managed
- management measures required to be considered in a staged manner as necessary to manage risks to the existing community
- inclusion of design reports and drawings in the consent to ensure these are consistent with key parameters used in post-development modelling and analysis that formed the basis of the FIRA and draft FERP
- modification of key design features of the development that may alter flood behaviour
- how risks and impacts of the development change with future climatic conditions
- any other specific requirements for consideration by the proponent to manage flood risk.

The Department has considered these factors in detail in **Section 6** and considers that the proposal can be supported.

Appendix F – Recommended instrument of consent

https://www.planningportal.nsw.gov.au/major-projects/projects/upgrades-carlingford-west-public-school-and-cumberland-high-school

Appendix G – Additional information

https://www.planningportal.nsw.gov.au/major-projects/projects/upgrades-carlingford-west-public-school-and-cumberland-high-school