



Sydney Office
Level 13, 255 Pitt Street, Sydney NSW 2000
T +61 2 9248 9800

RPS Australia East Pty Ltd ABN 44 140 292 762
A member of the RPS Group Plc

Date: 20/08/2018
Our Ref: 132449-4
Via: Email

Ms Karen Harragon
Director
Social and Other Infrastructure Assessments
Department of Planning and Environment
GPO BOX 39
SYDNEY NSW 2001

Attn: Navdeep Singh Shergill, Planner

Dear Karen,

Hurlstone Agricultural High School (SSD 17_8614): Response to Submissions

The Environmental Impact Statement (EIS) for Hurlstone Agricultural High School (Hawkesbury (HAHS (Hawkesbury))), was publicly exhibited between 25 January 2018 and 23 February 2018.

In total, nine (9) submissions were received from;

- NSW Department of Planning and Environmental dated 5 March 2018
- Hawkesbury City Council dated 23 February 2018
- NSW Officer of Environment and Heritage 21 February 2018
- Transport for NSW dated 23 February 2018
- NSW EPA undated
- NSW Rural Fire Service 5 February 2018
- Sydney Water dated 26 February 2018
- NSW Government Architect dated March 2018
- Roads and Maritime Services

The submissions received provided comments on the proposed scheme, and recommended conditions and additional matters to consider in the proposal.

This letter and its attachments outline the proponent's response to the additional information requested by the Department of Planning and Environment (DP&E) in the letter dated 5 March 2018, as well as other agencies.

This letter should be read in conjunction with the following attached documents:

- Response to Agency Submissions;
- Appendix A – Architecture;
- Appendix B – Landscape;
- Appendix C – Civil Engineering;
- Appendix D – Traffic;
- Appendix E – Building Services;
- Appendix F – Cultural Heritage;
- Appendix G – Soil Contamination;
- Appendix H – Acoustic;
- Appendix I – Arborist;
- Appendix J – Biodiversity;
- Appendix K – Bushfire;
- Appendix L – Project Management; and
- Appendix – M – Department of Education / Western Sydney University Policy.

Conclusion

The proponent and project team have considered all submissions made in relation to the public exhibition of the proposal. A considered and detailed response to all submissions has been provided within this letter and the attachments.

In responding to and addressing the range of matters raised, the proposal has been refined pursuant to Clause 55 of the *Environmental Planning and Assessment Regulation 2000*.

We trust that the responses provided above will enable the Department to finalise their assessment of the SSD DA. Given the environmental planning merits (and the ability to suitably manage and mitigate any potential impacts) and significant public benefits proposed, it is requested that the Minister approve the application.

Should you have any queries about this matter, please do not hesitate to contact me on 8270 8300 or at claire.muir@rpsgroup.com.au.

Yours sincerely,



Claire Muir
Principal – Planning
RPS Group



Response to Agency Submissions

Table 1 Response to Agency Submissions

	Issues Raised by Agency Submissions	Proponent's Response
1	<p>Department of Planning and Environment – ATTACHMENT A KEY ISSUES</p>	
1.1	<p>Flood Management</p>	
	<p>The site has the potential to be impacted by riverine flooding from the Hawkesbury River and the flood risk assessment only considers impacts from stormwater runoff in storm events. As per the Resilient Valley, Resilient Communities 2017 (Infrastructure NSW) policy, the site is located within the probable maximum flood levels for the region.</p> <p>Therefore, an assessment on the proposed development in regard to the capacity for regional flood evacuation is required in addition to a flood evacuation management plan being developed and implemented for the site. The evacuation plans should be developed in consultation with SES in order to assess the cumulative impacts on the evacuation model that is currently being prepared by the Hawkesbury-Nepean Valley Flood Risk Management Directorate.</p>	<p>Refer to Appendix C.1 Civil Engineering Report and Storm Water Management Plan, with additional flood modelling. Given that the location of the site is well away from the coast, evaluating the effects due to flooding or sea level rise are not anticipated to be required. The report has been updated with additional modelling input:</p> <ul style="list-style-type: none"> • Based on Council advised PMF levels and extents due to the riverine mainstream flooding mechanism of the Hawkesbury River. • Peak flood level analysis for the PMF event based on the local overland flow mechanism using ARR87 guidelines; hydrology in XPRAFTS & hydraulics in TUFLOW. • Peak flood level sensitivity analysis based on the local overland flow flooding mechanism using ARR2016 guidelines. A 5% and 12% increase in rainfall for the 1% AEP event by 2070 was modelled. <p>The additional mapping results do not negatively impact the development. Flood levels due to local overland flooding in the PMF and increase in rainfall sensitivity analysis are still below the proposed finished floor levels. Therefore, there is no increase in flooding risk to the buildings and the finished floor levels provide freeboard of a minimum of 500mm above the 1% AEP event.</p>

	Issues Raised by Agency Submissions	Proponent's Response
		Refer to Appendix C3 for the Flood Evacuation Management Plan which summarises the flood risks within the site, identifies preparation measures that should be undertaken and provides an action plan with steps to be completed during a flood event.
1.2	Car Parking, Green Travel Plan and Traffic and Parking Management Plan	
	<ul style="list-style-type: none"> • It is recommended that survey data from other schools in the area is used to establish the existing demand consistent with the area for the purposes of establishing car parking demands for the proposed site in addition to the existing demand noted from the existing Hurlstone Agricultural High School in Glenfield. • The RtS should discuss whether the use of the University carparking would result in any non-compliance with existing University approvals or require modifications to these approvals. <ul style="list-style-type: none"> • A Green Travel Plan (GTP) is to be provided as part of the RtS and must include detailed site-specific measures that will be implemented to promote and maximise the use of more sustainable travel modes and should include: <ul style="list-style-type: none"> • site audit and data collection to establish base line data; • objectives and targets (i.e. site-specific, measurable, achievable and timeframes for implementation) to define the direction and purpose of the GTP; • actions to help achieve the objectives, including incentives for using sustainable transport modes; • measures to promote and support the implementation of the plan, including financial and human resource requirements; and • a process for monitoring and review that allows for the effectiveness of the GTP to be measured. • A draft Traffic and Parking Management Plan is to be submitted as part of the RtS that includes but not limited to: 	<p>The HAHS(Hawkesbury) will provide for specific educational needs as it will be a fully selective co-educational boarding high school which specialises in the study of agriculture and STEM (science, technology, engineering and maths related subjects).</p> <p>The school will cater for gifted and talented students and offer placements for day and boarding students. As the proposed school will not only draw students from the local public-school catchment areas but also from all regions of NSW. It is considered that comparison to other schools in the area will not be relevant or useful in determining the car parking demands. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 2.5.)</p> <p>Student numbers on the Western Sydney University (WSU) have decreased from approximately 6,000 to approximately 2,000 over the past decade. Accordingly, there is an oversupply of parking space onsite and the use of some of these parking spaces by the school staff/students would not result in any non-compliance with existing university approvals. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 5).</p> <p>It is requested that the provision of a Green Travel Plan (GTP) be a condition of consent. A final GTP cannot be provided until the school is operational as it would require input from the school principal, survey of students and operational data. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.4).</p> <p>It is requested that a Traffic and Parking Management Plan be a condition of consent. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.5).As data</p>



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	<ul style="list-style-type: none"> kerbside vehicle pick-up/drop-off management and orderly vehicle queuing; maintaining bus accessibility and student waiting areas; safe parent and student behaviour during pick-up/drop-off; and safe pedestrian movements to the school entrances, minimising vehicle-pedestrian conflicts. 	from knowing the current teaching staff would be needed to examine their transport and parking requirements.
1.3	<p>Site Contamination</p> <ul style="list-style-type: none"> As the submitted Preliminary Site Investigation Report states that soil sampling was undertaken at levels below recommended levels, a full Detailed Site Investigation Report is required to ensure that the site is suitable for the proposed sensitive uses on site in addition to meeting the requirements of Clause 7 of SEPP 55 – Remediation of Land. If the Detailed Site Investigation requires the preparation of a Remediation Action Plan (RAP), this should be included as part of the RtS. 	Refer to Appendix G.1 Soil Contamination Report for Detailed Site Investigation (Contamination) Report for the HAHs (Hawkesbury) site in Richmond and Appendix G.2 Remediation Action Plan (RAP) for the Remediation Action Plan.
1.4	<p>Attachment B: Additional Matters for Consideration</p> <p>Noise Monitoring</p> <ul style="list-style-type: none"> It is noted that the background noise level calculations do not meet the requirements of the NSW Industrial Noise Policy (INP). Background noise monitoring and the reporting of the results is to be undertaken as per Chapter 3 and Appendix B of the NSW INP in order to provide at least one week's worth of valid data. 	A minor error in displaying the noise logging data has resulted in this interpretation. Additional unattended noise logging has been conducted for a period of two weeks. Sufficient data has been obtained and incorporated into an updated version of the existing report which demonstrates the proposal can operate without nuisance. (Refer to Appendix H.1 SEARS Noise and Vibration Assessment)
1.5	<p>Bicycle Parking</p> <ul style="list-style-type: none"> Bicycle parking and end of trip facilities are to be located in secure, convenient, accessible areas which are close to main entrances and 	The main bicycle parking facility is proposed adjacent to the Hall (Building 4), accessible from a path off the school's main entry avenue and from the proposed new service road. In this location it will also provide amenity for community users of the Hall and be able to utilise the Hall's shower/toilets as end of journey facilities. A secondary bicycle parking

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	<p>away from vehicles access, incorporating adequate lighting and passive surveillance.</p> <ul style="list-style-type: none"> • These facilities are not shown on the submitted plans and are to be shown in plan as part of the RtS submission. 	<p>facility will be provided on the boarding accommodation site. (Refer to Appendix A.4 Bicycle Store.</p>
1.6	<p>Biodiversity</p>	
	<p>Unless it can be shown otherwise, an amended Biodiversity Assessment Report is required that addresses the impacts from the OSD and stormwater site works upon the region of the site where endangered ecological communities are located.</p>	<p>The Biodiversity Assessment Report (BAR) has been updated and the OSD basin assessed as having no impact upon the nearby Coastal Riverfront Forest EEC. (Refer to Appendix J.1 Biodiversity Assessment Report.</p>
1.7	<p>Crime Prevention through Environmental Design (CPTED) considerations and safety</p>	
	<p>Further considerations of CPTED principles is required in the overall concept design for the site including but not limited to:</p> <ul style="list-style-type: none"> • safety and appropriateness of the area between car park and school entrance including adequacy of surveillance from nearby school buildings. • Considerations are to be made to avoid “dead end spaces” such as that of the main school entrance during out of hours. Alternative methods to make this space and other similar external corridors more open or active should be considered in order to avoid the creation of unsafe spaces on the site. The plans should be annotated to outline any alleviating measures proposed. 	<p>The pathway will be shared by both the WSU and the school. Being within the University campus grounds will facilitate passive surveillance of the pathway by the adjacent university buildings such as J4 Microbiology, K12 Chemistry & Biology, K16 Forensic & Biology Labs and K27/ K17 University Gym and Covered Outdoor Court, and it will be integrated into the wider university security systems. Surveillance cameras will be installed along the route from the car park to the school entrance and monitored after hours by the WSU Security Office which is located nearby on Vines Drive. An appropriately sized pathway width will be provided along the desired line from school to bus stop. No entrapment areas nor blind corners will be located along the pathway. The pathway will be well lit to clearly illuminate the pavement and highlight features and any obstructions along it. Clear, well-lit signage will also be provided to assist in wayfinding.</p> <p>The landscaping design will aim to maximise natural and open surveillance. Trees will not obscure the field of vision between 1.0m and 1.8m and will be clear stemmed to a height of 1.8m. The pathway and all landscaping will be well maintained to enable unobstructed view lines and encourage passive surveillance. It is anticipated the presentation of well-maintained pathways will engender local community civic pride and discourage potential criminal activities.</p>

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1.8	<p>Submission of amended plans</p>	
	<ul style="list-style-type: none"> The submitted digital copy plans and hardcopy sets do not match. Based on drawing issues and dates, the hardcopy set appears to be the most recent and current set. As part of the RtS submission, all digital and hardcopy plans are to be the same. The new submitted set of plans is to be accompanied by a comprehensive drawing register that includes, but not limited to all submitted drawings names, revisions, titles and dates. 	<p>Newly submitted drawings are accompanied by a drawing register.</p>
1.9	<p>Out of Hours/Community Uses</p>	
	<ul style="list-style-type: none"> The RtS should include a discussion on proposed community uses of the school facilities after hours. Relevant assessments (e.g. traffic and noise) should be updated to include consideration of these uses. 	<p>Community use is all outside users beyond those operating in educational partnerships with the school, e.g. School/University shared events.</p> <p>Community use of facilities would be limited to the School Hall. As this is a new school, with no existing school community there are currently no existing agreements or arrangements with any third parties for use of the school facilities themselves.</p> <p>Community use of the Hall may be available at the discretion of the Principal between the hours of 7am and 10pm Monday to Friday, with a mechanism for the school to apply for extension of this time for special events.</p> <p>Limitations will be placed on Community Use Agreements due to the site being operational 7 days a week and in recognition that it is the home to staff and boarders.</p> <p>The management strategy for community access to school facilities will be in accordance with the Department of Education (DoE) "Community Use of School Facilities Implementation Procedures" policy. (Refer to Appendix M.1 Community Use of School Facilities Implication Procedures).</p>



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1.10	<p>Other matters to be addressed in RtS submission</p>	
	<ul style="list-style-type: none"> As per previous email correspondence with Chris Aspen on 6 February 2018, the RtS should correctly reference the amount of land the school will have access to use and for what purpose. 	<p>The proposed school will have access to Western Sydney Universities 1,400 hectares (ha) of agricultural land suitable for learning about modern day farming practices.</p>
2	<p>Hawkesbury Council</p>	
2.1	<p>State Environmental Planning Policy (Infrastructure) 2007</p>	
	<p>The Secretary's Requirements stipulated that consideration of State Environmental Planning Policy (Infrastructure) 2007 is to be undertaken. However, such a consideration has not been included within the Environmental Impact Statement.</p> <p>In particular, Clause 101 of this Policy provides the requirements for development with frontage to a classified road:</p> <p><i>(2) The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that:</i></p> <p><i>(a) where practicable, vehicular access to the land is provided by a road other than the classified road, and</i></p> <p><i>(b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of:</i></p> <ul style="list-style-type: none"> <i>(i) the design of the vehicular access to the land, or (</i> <i>ii) the emission of smoke or dust from the development, or</i> <i>(iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land, and (</i> 	<p>The Application was referred to RMS by the DPE through the SSD DA process. RMS have subsequently provided comments to be answered by the DoE/Mace and consultant team.</p>

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<p><i>c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.</i></p> <p>The proposed school is to be sited within the Western Sydney University Richmond Campus which has frontage to Londonderry and Blacktown Roads, which are classified roads.</p> <p>Clause 104 of State Environmental Planning Policy (Infrastructure) 2007 relate to traffic-generating development. In accordance with Schedule 3 to the Policy, any development having ancillary parking accommodation of 200 or more motor vehicles is identified as traffic-generating development. The proposed development includes the extension of an existing car park to cater for 220 cars plus a bus area for five buses. As a consequence, the application is required to be referred to the Roads and Maritime Services for comment.</p> <p>It is noted that State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 also have provision for traffic- generating development as detailed below.</p>	<p>The existing WSU P47 carpark accommodates approximately 142 car spaces.</p> <p>The design of the carpark extension has been further developed to cater for 235 car spaces (including 4 disabled person accessible spaces) and increased in number by 17 spaces to provide for the boarding students. In addition, 12 kiss 'n ride drop off/pick up car spaces and 5 bus stop spaces are to be provided. (Refer to Appendix A.2- P47 Carpark Extension plans).</p>
<p>2.2 State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017</p>	
<p>The aim of this Policy is to facilitate the effective delivery of educational establishments and early education and child care facilities across the State. Part 2 Division 1 of the Policy provides the consultation and notification requirements for educational establishments (including schools).</p> <p>Clause 12, in particular, requires consultation with the State Emergency Services for development on flood liable land. This clause defines flood liable land to mean 'land that is susceptible to flooding by the probable maximum flood event'. Section 4.4 of the Environmental Impact Statement provides an assessment of the proposal against the provisions of this Policy, however does not address the consultation and notification requirements and how they should be met.</p>	<p>This consultation clause applies to assessment under part 5 of the EP&A Act 1979. The project team has however consulted with the State Emergency Service (SES) as Nemesio BIASON Jr, Associate TTW and Bevan Botha, Project Manager Mace met with Peter Cinque Region Coordinator SES & Peter Fuller INSW on 26 June 2018.</p> <p>A draft version Flood Evacuation Management Plan was sent through on 9 July 2018 and 13 August 2018 to date no reply has been received.</p> <p>PMF levels due to riverine flooding govern and will be used in the development of an emergency evacuation strategy. Refer to Appendix C.1 Civil Engineering Report and Storm Water Management Plan which notes the PMF levels due to riverine flooding of the Hawkesbury and local overland flow of the local catchment.</p>



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	<p>In addition, the Application does not identify that the subject site has land levels below the probable maximum flood level, or the consequences of this. This is discussed further below.</p>	<p>Refer to Appendix C.3 for the Flood Evacuation Management Plan which summarises the flood risks within the site, identifies preparation measures that should be undertaken and provides an action plan with steps to be completed during a flood event.</p>
2.3	<p>Clause 35 (6) requires consideration of the following before determining the Application:</p>	
	<p>(a) the design quality of the development when evaluated in accordance with the design quality principles set out in Schedule 4, and</p> <p>(b) whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.</p> <p>The Application provides an assessment of the proposed development against the design quality principles, which is discussed further in this correspondence.</p> <p>The Environmental Impact Statement has identified that the proposal is defined as traffic-generating development under this Policy, and therefore referral to the Roads and Maritime Services is required.</p>	<p>The application was referred to RMS by the DPE through the SSD DA process. RMS have subsequently provided comments to be answered by the DoE/Mace and consultant team.</p>
	<p>Following is a discussion of the matters that Council Officers have identified as requiring additional information and further consideration prior to determination of the development application for Hurlstone Agricultural School (Hawkesbury). It is requested that the Department of Planning and Environment consider the matters discussed below before determining the Application.</p>	
2.4	<p>Approval pathways for other associated works</p>	
	<p>The Applicant proposes to commence certain works, including site clearing, earthworks and 'early works', whilst seeking approval for the use of the land for a school and associated buildings to facilitate the completion of the school by 2020.</p>	<p>The identified early works are generalised in nature which do not explicitly relate to the construction of the new school. In this regard the submitted EIS identified that an early work package would be pursued and development consent for these works would not be sought. A letter outlining the planning was sent to Hawkesbury City Council on the 13 August 2018.</p>



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<p>In this regard, it needs to be ensured that the works for which the Applicant is seeking approval under Part 5 of the Environmental Planning and Assessment Act, 1979, are works that can be carried out without consent under an environmental planning instrument.</p> <p>For example, it would appear that the widening and upgrading of Vines Drive and Maintenance Drive, and the provision of access roads, and stormwater drainage within the subject site would require development consent under State Environmental Planning Policy (Infrastructure) 2007.</p> <p>In addition, Section 89E(4) of the Environmental Planning and Assessment Act, 1979 (EP&A Act) states:</p> <p><i>4) If part of a single proposed development that is State significant development requires development consent to be carried out and the other part may be carried out without development consent:</i></p> <p><i>(a) Part 5 does not apply to that other part of the proposed development, and</i></p> <p><i>(b) that other part of the proposed development is taken to be development that may not be carried out except with development consent.</i></p> <p>As a consequence of Section 89E(4) of the EP&A Act, it would appear that all works associated with the establishment of the school would require development consent.</p> <p>In this regard, it is requested that the Applicant provide additional information clearly demonstrating how the ancillary and 'early' works can be carried out independently of the school development.</p> <p>Should it be demonstrated that ancillary and 'early' works can be carried out independently, there is a need to ensure that these works are appropriate to support the development, and there is a legal means by which to ensure that these works are carried out. If approval of these necessary works does not need to be sought with the development application, any development approval for the school needs to provide conditions of consent to ensure these works are actually carried out, and to the standard required to support the development.</p>	

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2.5	<p>Built form</p>	
	<p>It is understood that the philosophy of the layout and design of the school is based on Nature and the historic use of the Hawkesbury for agriculture and food production. In this regard, the layout of the buildings alludes to the structure and anatomy of flowering plants. The design of the buildings seek to reflect the simplicity of agricultural building forms.</p> <p>The Design Verification Statement provides an assessment of the development against the Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017. Relevantly, the following Principles apply:</p> <p>Principle 1- context, built form and landscape</p> <p><i>Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage. The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate. Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites.</i></p> <p>Principle 7- aesthetics</p> <p><i>School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood. The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.</i></p> <p>It is considered that the Design Verification Statement does not adequately address the suitability of the design of the development within the context of the locality and having regard to the Design Quality Principles identified</p>	<p>The following assessment of the principles established by the <i>State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017</i> (Education SEPP) has been provided by Phil Baigent of Conrad Gargett;</p> <p>The DoE's policy is not to require aboriginal community consultation, nor for the design to incorporate local aboriginal cultural heritage in its school programs. However the involvement of the local Aboriginal community in the activities and field enterprises of the school, will be sought once the school is operational.</p> <p>The site is a flat and open pastureland at present, so the proposed school development seeks to engage with the urban fabric and planning framework of the University, to establish its sense of place and connection to the campus setting. The main entrance avenue is aligned on an axis with the WSU Stables Square building and focusses on the Assembly Court at the heart of the school.</p> <p>The landscape, both in its natural and agricultural forms, is a key component in the design of the new agricultural high school. The sloping landform and green roof over the main entrance/ administration building proudly displays agriculture as the identity of the school. A greenhouse is proposed at the entrance to the main science/ general learning facility, in</p>

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<p>above. An assessment of the compatibility of the development to the existing built environment in the locality, both that of the University and of the adjoining residential areas, and the existing rural/agricultural character of the area should be undertaken.</p> <p>The Design Statement identifies that “the scale of the proposed new school buildings in relation to the neighbouring building, is significant. Most of the campus buildings are 1 to 2 storeys high & spread out across the WSU (Western Sydney University) site. This Statement further justifies how the visual impact of the development has been mitigated when viewed from Vines Drive and from within the University site. However, the Application does not provide a consideration of the visual impact of the development when viewed from outside of the University site, especially when viewed from Londonderry Road, or its impact on the streetscape of Londonderry Road.</p>	<p>Building 3. A heavily landscaped Assembly Court maintains the focus on the natural environment. Landscaped vistas extend through and in between buildings, towards outlying natural landscapes. Views in between buildings link the interiors and courts/COLA's to variously landscaped places, that feature relocated relics from the former HAHS (Glenfield) and an ANZAC memorial, to enhance the heritage connection of the new school to its past.</p> <p>As an open green field within a rural/agricultural setting, the school site is similar to other development sites within the WSU campus, a masterplan divided into a variety of educational precincts, each with buildings of various, age, scale, configuration and architectural character. The school seeks to establish a similar new educational precinct, with a group of buildings clustered around a central Assembly Court.</p> <p>In this regard, the site planning of the school is similar to two other prominent building complexes on the WSU campus, the original Hawkesbury Agricultural College and the Stables Square buildings, which are planned around quadrangle courtyards. Within this context we consider the school responds positively to the existing planning and built environment of the university campus. It will seek to establish its own sense of identity as a high school educational precinct in the neighbourhood.</p> <p>The landscaped grounds of the school will also enhance the general quality and existing rural/agricultural character of the area. Indeed this is one of the key objectives of the school.</p> <p>The sloping landform at the school address to Vines Drive, the adjacent “food forest” and agricultural enterprise fields in the western area of the site, will serve to blend the agricultural landscape of the school with the adjoining residential properties and ameliorate the visual presence of the school buildings.</p> <p>By comparison with the current population and size of the entire WSU campus of buildings, the school proposed on a much smaller site, will accommodate similar staff/student numbers and have a GFA almost equivalent in total floor area.</p> <p>To avoid the school being too spread out in 1 and 2 storey high buildings across the site (where lengthy circulation times and distances between classes would become prohibitive), but alternatively, a multi-storey development would concentrate the floor area in an overscaled building form, the design proposes a radial arrangement of 1 and 3 storey high buildings. The single storey high Buildings 1 & 4 are located in the northern and “front” areas of the site, and are appropriately scaled in height with the neighbouring Anglicare Chesalon nursing home and WSU student residential buildings. The 3 storey height</p>



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	<p>Buildings 2 & 3 are located towards the southern and “rear” areas of the site, and are well set back from neighbouring residential buildings.</p> <p>The existing remnant Cumberland woodland trees along the existing stormwater drainage channel, will help moderate the scale of Buildings 2 & 3 when viewed from the neighbouring properties to the south.</p> <p>The school site has no direct frontage to Londonderry Road and will have no impact on that streetscape. The existing vacant property to the south of the Anglicare Chesalon nursing home is proposed as a potential leasehold development site. In the future this will provide a visual buffer and mask views of the school buildings from Londonderry Road. In any case, the facades to Building 3 & 4 are well set back, some 300m in from Londonderry Road, with the school's agricultural fields located in between.</p> <p>Refer to Appendix A.1 3D Street View images of the school development, viewed across the adjoining properties from Londonderry Road and Vines Drive.</p>
<p>2.6 Traffic and car parking</p>	
<p>An existing car park area associated with the University is located adjacent to the proposed school. It is intended to modify this existing car park to cater for buses (5 bus spaces), provide a drop off facility (10-12 spaces) and to increase the number of car parking spaces from 142 to 220.</p> <p>Hawkesbury Development Control Plan requires the proposed school development to provide 276 spaces. A total of 220 car spaces are to be provided, which is a deficit of 56 spaces. In addition, the existing car park is currently associated with the University, resulting in 142 spaces being lost to the University.</p> <p>The Environmental Impact Statement justifies the provision of less car spaces as follows:</p> <p>A comparison of the demand for car parking for the existing Hurlstone Agricultural High School at Glenfield, and applied to the proposed number of staff and students for the subject development indicates a need for 225</p>	<p>The design of the carpark extension has been further developed to cater for 235 car spaces (including 4 disabled person accessible spaces) and increased in number by 17 spaces to provide for the boarding students. In addition, 12 kiss 'n ride drop off/pick up car spaces and 5 bus stop spaces are to be provided. (Refer to Appendix A.2- P47 Carpark Extension plans).</p> <p>Student numbers on the Western Sydney University (WSU) have decreased from approximately 6,000 to approximately 2,000 over the past decade. Accordingly, there is an oversupply of parking space onsite and the use of some of these parking spaces by the school staff/students would not result in any non-compliance with existing university approvals. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 5).</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>spaces based on a 95% usage rate for staff and a 10% usage rate for students.</p> <p>In accordance with the NSW Department of Education's Educational Facilities Standards and Guidelines, the number of car parking spaces for the proposed development is 130 spaces.</p> <p>The existing capacity at the University of 1,516 car spaces is sufficient to cater for University demand and any overflow requirements.</p> <p>Given the above, Council Officers consider that provision for car parking to cater for the new school is satisfactory, and that the loss of parking to the University will have no adverse impact on the demand for parking for the University.</p> <p>The Traffic Impact Assessment states:</p> <p><i>"Traffic modelling for the future travel demand has been modelled for 10 years of background growth and a total population of 1,200 travelling students and 100 staff. Intersections are shown to continue to operate at acceptable Levels of Service. The most critical delays occur at the intersection of Campus Drive and Blacktown Road, however all delays are internal to the site and it is anticipated that users will avoid this intersection as high levels of delay occur. Any traffic impacts within the Campus related to the School operation are expected to occur over only a short period of time, say 30 minutes or less."</i></p> <p>The Secretary's Environmental Assessment Requirements stipulated that the Environmental Impact Statement address <i>"the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works, if required"</i>.</p> <p>Whilst the Traffic Impact Assessment has predicted the future Levels of Services for road intersections surrounding the University site, no consideration of the impacts of the development has been given to traffic safety at these intersections. This is more important given that a significant</p>	

Issues Raised by Agency Submissions	Proponent's Response
<p>proportion of drivers accessing the University and School will be 'P' plate drivers or drivers with less experience.</p> <p>In particular, concern is raised in respect to increased traffic, including buses and trucks, at the intersections of Londonderry Road/Southee Road and Londonderry Road/Vines Drive given the close proximity of these intersections to each other, that the intersections are located on a bend, and the fact that Londonderry Road is a classified road.</p> <p>In this regard, it is requested that consideration be given to the intersections of Londonderry Road/Southee Road and Londonderry Road/Vines Drive being realigned to create a crossroad by redirecting Vines Drive to line up with Southee Road, and including an intersection treatment such as a roundabout.</p> <p>Safety concerns are also raised for the Campus Drive/Blacktown Road intersection given traffic volumes on Blacktown Road, and the fact that Blacktown Road is a classified road, especially when making a right hand turn from Campus Drive. Consideration is to be given to the need for the upgrading of this intersection, not only to improve its level of service (rated at LOS 'F' as a consequence of the proposed development) but to improve traffic safety.</p> <p>In addition, no discussion has been provided in respect to the need, or otherwise, for the upgrading of public roads and intersections in the vicinity of the University based on the predicted impacts arising from the development. It would appear that attention has been predominantly given to the impacts of traffic within the University site and the upgrading of roads and parking areas within the University site, and not those on public roads. It should be noted that roads within the University site are private roads, owned and maintained by the University to service the campus.</p> <p>The Applicant also needs to provide details as to whether or not 40km/hr 'school zones' will be required for public roads within the vicinity of the University site, such as Londonderry Road and Southee Road, and the likely traffic impacts resulting from these zones.</p>	<p>Refer to Appendix D.3 for the Concept Design Road Safety Audit relating to Londonderry Road, Vines Drive and Southee Road. The audit identifies elements of the proposal which could be altered or removed to improve safety for road users and details these issues in the Table of Audit Findings.</p> <p>These findings combined with available information from the NSW Centre for Road Safety (covering period from 2012 to 2016) which shows no recorded history of crashes at these intersections results in a finding from TTW (appendix D.1) as follows;</p> <p><i>“Overall it is considered that there is not a need to modify the intersection layout (beyond widening to cater for the design vehicle), and a cross intersection may increase vehicle conflicts and introduce traffic hazards by condensing vehicle movements. The current proposed, including changes to improve road safety is deemed adequate for the desired purpose. “</i></p> <p>Refer to Appendix D1 Response to Submission Traffic and Parking Sections 2.2 and 4.1. for information about the Blacktown Road intersection and Appendix D.2 for the Concept Design Road Safety Audit relating to Campus Drive and Blacktown Road. The audit identifies elements of the proposal which could be altered or removed to improve safety for road users and details these issues in the Table of Audit Findings within the audit report.</p> <p>It is not considered necessary to provide 40km/h 'School Zones' on the public roads in the vicinity leading to the WSU campus. However, designated 'School Zones' will be provided within the bounds of the university campus along Vines Drive, in closer proximity to the school, as indicated in the civil engineer's drawings included in Appendix C.2. Civil Drawing Package. (Refer to Appendix D1 Response to Submission Traffic and Parking Sections 4.4 and 2.3.3).</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>2.7 Flooding</p> <p>The Civil Engineering Report and Stormwater Management Plan provides a flood risk assessment for the development. However, it should be noted that this assessment only relates to flooding as a consequence of stormwater runoff in storm events, and not an assessment of the impacts of riverine flooding from the Hawkesbury River.</p> <p>The development is located on land that has a level above the 1 in 100 year flood level of 17.5m AHD for the locality, and consequently flood consideration under Clause 6.4 of Hawkesbury Local Environmental Plan 2012 do not apply. However, the land is below the probable maximum flood level.</p> <p>Recently Infrastructure NSW released the <i>Resilient Valley, Resilient Communities - the Hawkesbury-Nepean Valley Flood Risk Management Strategy</i>. This Strategy provides nine key Outcomes with associated Actions to be taken, including the development of a regional land use and road planning framework to assist in the future development of the Hawkesbury Nepean Floodplain in relation to flood risks and the capacity for regional flood evacuation. The timeframes for the completion of the Actions are unknown at this time.</p> <p>Given this Strategy considers flood impacts on land affected by flood events up to and including the probable maximum flood, it is considered that the impact of the proposed development on the capacity for regional flood evacuation needs to be assessed. It is also considered that any favourable determination of the proposal should require a flood evacuation management plan to be developed and implemented.</p>	<p>Refer to Appendix C.1 Civil Engineering Report and Storm Water Management Plan which notes the PMF levels due to riverine flooding of the Hawkesbury and local overland flow of the local catchment. PMF levels due to riverine flooding govern and will be used in the development of an emergency evacuation strategy.</p> <p>Refer to Appendix C.3 for the Flood Evacuation Management Plan which summarises the flood risks within the site, identifies preparation measures that should be undertaken and provides an action plan with steps to be completed during a flood event. This was developed following consultation with the SES and INSW.</p>



	Issues Raised by Agency Submissions	Proponent's Response
2.8	<p>Contamination</p>	
	<p>Clause 7 of State Environmental Planning Policy No. 55 – <i>Remediation of Land</i> prevents the granting of development consent unless it is established whether a site is contaminated or not, to what degree at site is contaminated, and whether or not the site is suitable for its proposed use in its contaminated state, or whether the site will be remediated to be made suitable.</p> <p>The Preliminary Site Investigation Report submitted with the Application states that the frequency of soil sampling carried out on the site was below the recommended level required by the NSW Environment Protection Authority for full site characterisation. Therefore, a Detailed Site Investigation is required to properly determine whether or not the site is contaminated. As this Detailed Site Investigation has not been finalised, approval cannot be granted in accordance with Clause 7 of State Environmental Planning Policy No. 55 - Remediation of Land.</p>	<p>The details site investigation, followed by the remediation action plan (RAP) has been prepared. Refer to Appendix G.1 for the detailed Soil Contamination Report for the HAHS (Hawkesbury) site in Richmond and Appendix G.2 for the Remediation Action Plan (RAP). The proposed site will be suitable for the proposed use.</p>
2.9	<p>Social Impact</p>	
	<p>It is considered that the social impacts of the school development on the locality have not been adequately addressed. In this regard it is requested that additional information be sought in respect to:</p> <ul style="list-style-type: none"> • The impacts of the development on community services in the locality such as youth services; and • The management measures required to be implemented to avoid potential issues associated with school aged students being in close proximity to university accommodation. 	<p>Operational procedures will be implemented to mitigate any risks associated with shared student campus during normal school hours, including the following:</p> <ul style="list-style-type: none"> • The school's design facilitates entry and exit to the school for students via the main administration building and adjacent gates and boarding house entries within the campus. All visitors to the site will be required to sign in at the administration office and provide appropriate identification and, where appropriate, WWCC details. • School fencing separates school grounds from university accommodation. In addition, students would only be in the adjacent grounds with teacher supervision. • All access to the Boarding House facility is via the central office and the area is secured by fencing.



Issues Raised by Agency Submissions	Proponent's Response
	<ul style="list-style-type: none">• Students will be presented with a school Code of Conduct that clearly outlines expected behaviours in relation to WSU campus access and interactions.• Students in Years 7-10 will remain on campus for the duration of the school day with a structured timetable. Students in Years 11 and 12 will sign in and out of the campus with more flexible timetable. Senior school structures will be facilitated with a senior school Code of Conduct which will include specific reference to campus use and travel to and from the school.• School students and staff will carry identification at all times, enabling clear identification for campus security and other necessary parties.• All teaching/sporting periods that require access to the campus will be recorded as a 'variation to routine' and clearly identified within the school's daily operational calendar. <p>Operational procedures will be implemented to mitigate any risks associated with shared student campus outside normal school hours:</p> <ul style="list-style-type: none">• Students within the Boarding House facility will utilize the 'House' administration procedures for signing in and out of the facility. Clear protocols will be agreed upon between the school, parents and students in regard to these procedures. Protocols will address interaction on the campus and use of campus facilities.• Access to the 'House' will only be granted to approved persons. This will be in line with the 'House' procedures and entry is via the Duty Office only. Supervising staff are present in the 'House' outside normal school hours.• Any school events held outside school hours will be planned according to the school's Variation to Routine procedures and require a clear risk management and details relating to the staff member responsible for supervision. All such events will be recorded within the school's daily operational calendar and notified, where necessary, to campus security. <p>Associated Department of Education (DoE) policies/procedures are: Child Protection, Working with Children Check, Excursion Policy.</p>

	Issues Raised by Agency Submissions	Proponent's Response
2.10	<p>Safety</p>	
	<p>The Crime Prevention through Environmental Design Statement highlights that “<i>Access from the school car park ‘drop off’ zone and bus stop, to the school entrance gate, need to be carefully considered</i>”, however no further discussion is provided within the Environment Impact Study in respect to the appropriateness, or otherwise of the pedestrian access from the car park to the school entrance in terms of safety. An assessment needs to be undertaken having regard to the following consideration:</p> <ul style="list-style-type: none"> • The separation of the car park from the school; • The nature/frequency of use of the rooms within Building 1 and the adequacy of surveillance of the car park and pedestrian access from these rooms; • Adequacy of surveillance from other buildings within the school; • Whether areas where surveillance can be carried out are being occupied at critical times. 	<p>The pathway will be shared by both the WSU and the school. Being within the University campus grounds will facilitate passive surveillance of the pathway by the adjacent university buildings such as J4 Microbiology, K12 Chemistry & Biology, K16 Forensic & Biology Labs and K27/ K17 University Gym and Covered Outdoor Court, and it will be integrated into the wider university security systems.</p> <p>Surveillance cameras will be installed along the route from the car park to the school entrance and monitored after hours by the WSU Security Office which is located nearby on Vines Drive.</p> <p>An appropriately sized pathway width will be provided along the desired line from school to bus stop. No entrapment areas nor blind corners will be located along the pathway. The pathway will be well lit to clearly illuminate the pavement and highlight features and any obstructions along it. Clear, well-lit signage will also be provided to assist in wayfinding.</p> <p>The landscaping design will aim to maximise natural and open surveillance. Trees will not obscure the field of vision between 1.0m and 1.8m and will be clear stemmed to a height of 1.8m. The pathway and all landscaping will be well maintained to enable unobstructed view lines and encourage passive surveillance. It is anticipated the presentation of well-maintained pathways will engender local community civic pride and discourage potential criminal activities.</p>

	Issues Raised by Agency Submissions	Proponent's Response
2.11	<p>Noise</p>	
	<p>It is noted that the Noise and Vibration Assessment report states: <i>“Operational noise emission criteria have been set in accordance with the NSW INP (Industrial Noise Policy) and apply predominantly to the proposed non-emergency period alarm, children at play and limited mechanical services noise emissions from the site. As the design progresses, noise mitigation measures will need to be incorporated into the design of the buildings and the surrounding landscape to ensure that noise from the operation of the school can comply with the INP noise emission criteria at neighbouring noise-sensitive land uses.”</i></p> <p>In addition to those matters listed above, noise criteria has also been determined for sporting and concert events to be carried out within Building 4.</p> <p>Prior to the determination of any application, it should be demonstrated that measures can be incorporated into the design of the development to meet the noise emission criteria.</p>	<p>The following design elements aid in minimising noise breakout from the Building 4 Hall space:</p> <ul style="list-style-type: none"> • orientation of the building with main vertical lift doors facing away from nearby and neighbouring property noise sensitive receivers • use of general learning spaces and ancillary facilities (first aid room, storerooms, etc.) on northern facade provided additional separation between the gym/basketball court space to northern facade • additional specification of acoustically rated high-level glazing may be incorporated into the design, if required, to reduce noise breakout • perforated ply panels are incorporated around the gym walls and ceiling to control reverberation time and help reduced noise breakout from the Hall space.
3	<p>NSW Officer of Environment and Heritage</p>	
3.1	<p>Biodiversity</p>	
	<p>The Biodiversity Assessment Report (BAR) prepared by Narla Environmental Pty Ltd dated December 2017 identifies the endangered ecological community (EEC), River Flat Eucalypt Forest as being present</p>	<p>The BAR has been updated and the OSD basin assessed as having no impact upon the nearby Coastal Riverfront Forest EEC. (Refer to Appendix J.1 Biodiversity Assessment Report).</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>on the site. This is shown highlighted in green in Figure 1 extracted below. Although there appear to be no direct impacts on this EEC from the school building footprint, there is no consideration in the Biodiversity Assessment Report of the impacts on this EEC from the proposed on-site detention (OSD) system and following works that are located in the vicinity of the EEC:</p> <ul style="list-style-type: none">• proposed above ground 3,200sqm OSD system• 2x above ground tanks• culvert and• 130m2 bioretention system <p>Also, the Arborists report identifies that Trees 4 to 14 within the EEC area of River Flat Eucalypt Forest are to be retained. It is unclear whether the proposed OSD system will impact on the Tree Protection Zones. The scale of this proposal makes it likely that there will be impacts on the EEC (either directly or indirectly).</p> <p>Further, the Biodiversity Assessment Report argues that as per section 9.5 of the FBA, an assessor is not required to assess areas of land on the development site without native vegetation under Chapter 4 or Chapter 5 of the FBA, unless the SEARs issued for the project require an assessment of the land. The SEARs required an assessment of the land in accordance with the FBA, and the relevant section of the SEARs is extracted below:</p> <p>Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless where otherwise agreed by the OEH, by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995:.</p> <p>OEH requires that a Biodiversity Assessment Report be submitted that assesses the site and proposal in accordance with FBA. While the proponent's ecological consultants may have considered that there was no native vegetation being impacted, and therefore that the FBA does not need to be applied, OEH consider that the OSD works are likely to</p>	<p>Urban Arbor have updated the Tree Removal table and the arborist's report is included in Appendix I.1 Aboricultural Impact Assessment Report, which has been reviewed as part of the updated BAR prepared by Narla Environmental.</p>

Issues Raised by Agency Submissions	Proponent's Response
<p>impact on the EEC. OEH therefore requires the preparation of a BAR that considers the impacts from the OSD and related stormwater/site works, unless it can be demonstrated there will not be any direct or indirect impacts from the site work.</p>	
<p>3.2 Flooding</p>	
<p>The site is within the Hawkesbury-Nepean floodplain and within the extent of the PMF event. The proposed school can be classed as special uses facility due to the vulnerability of its users (the students). Therefore, it is prudent to adequately address flood risk for the full range of floods (i.e. up to the PMF) particularly risk to life. This can be achieved through a detailed floodplain risk management assessment that addresses emergency response measures including evacuation plans in a regional context. The evacuation plans should be prepared in consultation with the State Emergency Service (SES) in order to assess the cumulative impacts on the evacuation model that is currently being prepared by the Hawkesbury-Nepean Valley Flood Risk Management Directorate.</p> <p>The Civil Engineering Report and Stormwater Management Plan (TTW. September 2017) does not adequately identify the above floodplain risk management issues, as the Assessment in Chapter 11 is limited to the 1% AEP flood event which does not provide a comprehensive understanding of the flood risk to people and properties for the full range of floods for existing and future conditions.</p> <p>The following general comments are made regarding the assessment in Chapter 11:</p> <p>(a) It is not ideal to have open channels with the high hazard in a 1% AEP event and possibly also during more frequent events on school grounds. Consideration and discussion on the flood risk to people needs to be provided. Appropriate measures need to be considered to separate the playgrounds with the open channels. This is</p>	<p>Refer to Appendix C.1 Civil Engineering Report and Storm Water Management Plan which notes the PMF levels due to riverine flooding of the Hawkesbury and local overland flow of the local catchment. PMF levels due to riverine flooding govern and will be used in the development of an emergency evacuation strategy.</p> <p>Refer to Appendix C.3 for the Flood Evacuation Management Plan which summarises the flood risks within the site, identifies preparation measures that should be undertaken and provides an action plan with steps to be completed during a flood event.</p> <p>Additional modelling for the local overland flow flooding mechanism has been undertaken to evaluate storm events in excess of the 1% AEP flood. PMF modelling for the local catchment as well as increases in rainfall for 12% and 20% have been provided to evaluate future conditions.</p> <p>(a) The stormwater drainage channel, that extends as a tunnel under Buildings 3 & 4 has 2 lockable grille gates to prevent unauthorised access. In areas where there are open drainage channels or OSD basins, a 2100mm high perimeter fencing is proposed to prevent unauthorised access.</p> <p>(b) The existing pipe from the university is included on the pre and post development mapping results.</p> <p>(c) A new afflux map is available, showing grading colours as well as text boxes with change in depth.</p> <p>(d) Additional modelling for the local overland flow flooding mechanism has been undertaken to evaluate storm events in excess of the 1% AEP flood. PMF modelling for the local catchment as well as increases in rainfall for 12% and 20% have been provided to evaluate future conditions. An increase in sea level rise was not</p>

Issues Raised by Agency Submissions		Proponent's Response
	<p>especially a concern as the channels are piped underneath the buildings on the western side which provides an additional hazard.</p> <p>(b) Figure 7 (Pre-development) does not show the existing pipe from the university as shown in Figure 6. Clarification is sought on whether the pipe was modelled in the pre-development case. As the pipe is existing it should be include in the pre-development case.</p> <p>(c) The afflux map presented in Figure 9 is confusing to read. A legend should be on the figure as Well as a simplification of how the afflux is presented. The text boxes with impact are confusing as to the exact location and the extent of the flood is hidden by these text boxes as well.</p> <p>(d) The assessment should provide a sensitivity analyses to determine the potential impacts from climate change on flooding behaviour, as per the flooding requirements issued in the SEARS for the proposal.</p>	<p>considered necessary given the inland location of the property and distance from the coastline.</p>
3.3	<p>Aboriginal Cultural Heritage</p> <p>In relation to Aboriginal cultural heritage, OEH has decided not to provide comments at this time. This does not constitute OEH support for the proposal and this matter may still need to be considered by the consent authority.</p>	<p>Refer to Appendix F.1 Aboriginal Cultural Heritage Management Plan, for the detailed investigations into Aboriginal Cultural Heritage on the proposed site.</p>
4	<p>Transport for NSW</p>	
4.1	<p>Bicycle Parking</p> <p><u>Comment</u></p>	<p>The main bicycle parking facility is proposed adjacent to the Hall (Building 4), accessible from a path off the school's main entry avenue, and from the proposed new service road. In this location it will also provide amenity for community users of the Hall and be able to</p>

	Issues Raised by Agency Submissions	Proponent's Response
	<p>Section 3.7.2 of the EIS mentions the provision of approximately 75 bicycle parking spaces, however the Architectural Drawings in Appendix C does not clearly identify the proposed locations.</p> <p><u>Recommendation</u></p> <p>The Architectural Drawings should include the location of the proposed bicycle parking. Bicycle storage facilities should be designed in accordance with <i>AS 2890.3: Parking Facilities for Bicycle Parking (2015)</i> and Austroads Guidelines. This can be achieved by locating bicycle parking and end of trip facilities in secure, convenient, accessible areas which are close to main entrances and away from vehicles access, incorporating adequate lighting and passive surveillance.</p>	<p>utilise the Hall's shower/toiles as end of journey facilities. A secondary bicycle parking facility will be provided on the boarding accommodation site.</p> <p>Under the DoE's EFSG guide notes, bicycle parking numbers are generally to be provided at 1 space per 20 students. Therefore, for 1,200 day school students, 60 spaces are proposed. For 300 boarding students, 15 spaces are proposed and will be provided on the boarding accommodation site. The bicycle parking facility will be designed to comply with AS2890.3 - Facility Class 2. (Refer to Appendix A.4- Bicycle Store).</p>
4.2	<p>Future Bus Services</p>	
	<p><u>Comment</u></p> <p>The TfNSW Growth Services Program routinely monitors regular bus routes and improvements can be made, subject to demand and funding.</p> <p><u>Recommendation</u></p> <p>Prior to commencement of school operations, the proponent should provide additional data and the proposed student catchment area to determine the likely demands on the transport network (all modes). With particular regard to bus usage, data should also be provided on existing and expected patronage by route. This data could be obtained by travel surveys of staff and students (prior to transfer of students and new enrolments).</p> <p>The student catchment area and travel data provided to TfNSW will assist with future service planning.</p>	<p>Further consultation with the current local bus service provider and TfNSW has commenced and will continue to occur prior to start of operations.</p> <p>(Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.2.)</p>
4.3	<p>Modification of Western Sydney University Campus Car Park</p>	
	<p>1. Pick-up/Drop-off Zones</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p><u>Comment</u> Section 6.3 – Transport and Accessibility of the EIS specifies the provision of 10-12 drop-off/pick-up spaces. However, the Architectural Drawings provided in Appendix C of the proposed modification to the existing WSU P47 car park, only includes 4 drop-off/pick-up zones.</p> <p><u>Recommendation</u> Amend the architectural drawings to incorporate the additional proposed pick-up/drop-off zones.</p> <p>2. Bus Bays</p> <p><u>Comment</u> Section 6.3 – Transport and Accessibility of the EIS specifies the provision of 5 bus spaces. However, the Architectural Drawings provided in Appendix C of the proposed modification to the existing WSU P47 car park, only includes 3 bus spaces.</p> <p><u>Recommendation</u> In support of strategic planning objectives in the NSW Long Term Transport Master Plan 2012 and Sydney's Bus Future 2013, the proposed car park and pick-up/drop-off area should include provisions for 5 bus bays. The design plans should demonstrate appropriate bus turning path diagrams for the bus area, including buses accessing all 5 bus bays when the site is fully operational.</p>	<p>The design of the existing WSU P47 carpark and extension has been further developed. The updated architectural drawing of the layout indicates 12 kiss 'n ride drop-off/pick-up car spaces, are included.</p> <p>The design of the existing WSU P47 carpark and extension has been further developed. The updated architectural and civil engineering drawings of the layout indicates 5 bus spaces, are included in Appendix A.2 P47 Carpark Extension plans.</p> <p>Turning paths are provided in Appendix C.2 Civil Drawing Package of the P47 Carpark Extension.</p> <p>Note - Busways have advised (verbally) that the 5 bus stop bays need not operate fully independently, and pulling into the bays one by one, would be considered acceptable.</p>



Issues Raised by Agency Submissions		Proponent's Response
4.4	Recommended Conditions of Approval	
4.4.1	Green Travel Plan	
	As part of the operation of the school, a detailed Green Travel Plan (GTP), which includes target mode shares for both staff and students to reduce the reliance on private vehicles, shall be prepared. The GTP must be implemented accordingly and updated annually.	It is requested that the provision of a GTP be a condition of consent. A final GTP cannot be provided until the school is operational as it would require input from the school principal, survey of student and operational data. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.4.)
4.4.2	Traffic and Management Plan	
	<p>The Applicant shall prepare a Traffic and Parking Management Plan, which details the measures to safely manage the daily transport task to/from the school. Traffic management measures that need to be addressed include:</p> <ul style="list-style-type: none"> • kerbside vehicle pick-up/drop-off management and orderly vehicle queuing; • maintaining bus accessibility and student waiting areas; • safe parent and student behaviour during pick-up/drop-off; and • safe pedestrian movements to the school entrances, minimising vehicle-pedestrian conflicts. <p>The plan shall also detail the responsibilities of various personnel executing the plan and include measures to monitor, review the performance and make improvements to the plan. This plan should be implemented as part of the ongoing operation of the school.</p>	It is requested that the provision of a Traffic & Parking Management Plan be a condition of consent, as operational data is required to make the plan workable. (Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.5.)
4.4.3	Road Safety Evaluation	

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	<p>A Road Safety Evaluation (RSE, refer to <i>NSW Centre for Road Safety Guidelines for Road Safety Audit Practices</i> and <i>Austrroads Guide to Road Safety Part 6: Road Safety Audit</i>) shall be conducted on all relevant sections of road utilised for bus and private vehicle pick-up and drop-off.</p> <p>Appropriate road safety measures and/or traffic management measures shall be implemented based on the outcomes of the RSE.</p>	<p>Two Road Safety Audits have been undertaken by TTW for for project looking at Campus Drive and Blacktown Road, and Londonderry Road, Vines Drive and Southee Road, they recommended a number of changes which were included in the RTS from TTW (Refer to Appendix D.1, 2, 3).</p>
5	NSW Environment Protection Authority	

Issues Raised by Agency Submissions	Proponent's Response
<p>5.1</p> <p>(a) the need for a detailed assessment of potential site contamination, including information about groundwater and a detailed assessment of the footprint and surrounds of existing buildings following their demolition;</p> <p>(b) construction phase noise and vibration impacts (including recommended standard construction hours and intra-day respite periods for highly intrusive noise generating work) on noise sensitive receivers such as surrounding residences;</p> <p>(c) construction phase dust control and management,</p> <p>(e) construction phase erosion and sediment control and management;</p> <p>(f) operational noise impacts on noise sensitive receivers (especially surrounding residences on adjoining and adjacent holdings) arising from operational activities such as public address/school bell systems, community use of school facilities, waste collection services and mechanical services (especially air conditioning plant);</p> <p>(g) the need to assess feasible and reasonable noise mitigation and management measures (including time restrictions on the use of the facilities proposed to be available for community use) to minimise operational noise impacts on surrounding residences;</p> <p>(h) the need to properly manage pesticides use, especially in the proposed 'agricultural field' within the school grounds;</p> <p>(i) the need to properly manage odours, especially in the proposed 'agricultural field';</p> <p>(j) the need to prevent water pollution including properly managing effluent, especially any effluent from the proposed 'agricultural field' and 'agricultural enterprise area';</p> <p>(k) practical opportunities to implement water sensitive urban design principles, including stormwater re-use; and</p> <p>(l) practical opportunities to minimise consumption of energy generated from non-renewable sources and to implement effective energy efficiency measures.</p>	<p>The queries raised by the EPA are addressed as follows;</p> <p>(a) Refer to Appendix G.1 Soil Contamination Report for an undated report.</p> <p>(b) Refer to Appendix H.1 for an updated acoustic report.</p> <p>(c) and (e) Refer to the preliminary construction management plan, an environment management plans will be prepared by the contractor prior to commencement of the works.</p> <p>(f) and (g) Refer to Appendix H.1 for an updated acoustic report, which proposes strategies for ensuring the proposed school operates within its regulatory environment for noise.</p> <p>(h) and (i) The Department of Education has a number of policies for the management of pesticide use, refer to appendix M.2, 3, 4 & 5 for additional information. It is noted that the existing school at Glenfield has operated for a long time and a number of teacher with that knowledge of agriculture management will be maintained.</p> <p>(k) Various supply and demand opportunities for water reuse for the development site have been considered. The proposed strategy includes 180 kL of rainwater collection from roof areas (clean catchment) to be used for irrigation of agricultural activities and landscaping is proposed. The reuse opportunity for irrigation is proportionally high in the overall water balance for the site, due to the agricultural activities proposed within the school's curriculum. Furthermore, the rainwater system will be backed up with recycled water from Sydney Water's local recycled water supply.</p> <p>(l) Operational energy consumption will be minimised through the implementation of the following initiatives:</p> <ul style="list-style-type: none"> • Minimal air conditioning, the majority of the developed area will be ventilated naturally or via mechanically assisted ventilation. • 100 kw PV array will supply baseline power to the development. • Efficient LED lighting and controls to be installed throughout the development. • Space heating to be provided via in slab hydronic heating system. Heat to be generated via natural gas hot water heaters.



Issues Raised by Agency Submissions		Proponent's Response
5.2	<p>General</p> <ul style="list-style-type: none"> The EPA considers that the project comprises distinct phases of construction and operation and has set out its comments on that basis. The EPA notes the proximity of surrounding residences which may be adversely affected by noise impacts during demolition, site preparation, construction and operation phases of the project. 	
5.3	Construction Phase	
5.3.1	<p>Site Contamination</p> <p>EIS Appendix X comprises a Preliminary Site Investigation (PSI) Report derived from a desktop study, site visit, and soil sampling. Whilst the EPA considers the site investigation methodology to be typical of a preliminary site assessment, sampling frequency is low and thus does not fully characterise the contamination status of the site.</p> <p>Section 11 of EIS Appendix X suggests that despite the lower than expected sampling frequency mentioned above "... the risk of significant contamination being present, that prevents the redevelopment of the site without significant remediation, is low". The EPA considers that given the sensitive nature of the proposed use, a detailed site investigation is warranted to ensure the site is suitable for that proposed use.</p> <p>Appendix X of the EIS omits a procedure for unexpected finds of contamination that may be encountered during development activities, including site preparation and bulk excavation.</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>Recommendation</p> <p>The proponent be required to:</p> <ul style="list-style-type: none"> a) (prior to commencing any work on the development site) ensure that a detailed site investigation is undertaken to fully characterise the contamination status of the site; b) (prior to commencing any work on the development site) prepare and implement a procedure for identifying and dealing with unexpected finds of site contamination (including asbestos containing materials) and that the procedure includes details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved; c) ensure that it notifies the EPA under section 60 of the Contaminated Land Management Act of any contamination encountered on the development site which meets the triggers in the EPA's Guidelines for the Duty to Report Contamination; and d) ensure that the processes outlined in State Environmental Planning Policy 55 - Remediation of Land (SEPP 55) are followed in order to assess the suitability of the land and any remediation required in relation to the proposed use. 	<ul style="list-style-type: none"> (a) Refer to Appendix G.1 for an updated Soil Contamination Report. (b) Refer to Appendix G.2 for Remediation Action Plan. Section 9.2 which includes contingencies for unexpected finds.
<p>5.3.2 Noise and Vibration</p>	
<p>The EPA anticipates that site preparation (including tree clearing), bulk earthworks, construction and construction-related activities are likely to have significant noise and vibration impacts on the adjoining Western Sydney University Village residences and Anglicare's Chesalon Nursing Home.</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>5.3.3 General construction hours</p> <p>The EPA emphasises that site preparation, bulk earthworks, construction and construction-related activities should be undertaken during the recommended standard construction hours.</p> <p>EIS section 6.16 indicates that despite acknowledging the recommended standard construction hours the "... Project Managers would like to undertake work outside of the standard hours.", including –</p> <ul style="list-style-type: none"> (a) 7.00 am to 8.00 am as well as 1.00 pm to 6.00 pm on Saturdays (b) 7.00 am to 6.00 pm on Sundays, (c) fit-out between 6.00 pm to 11.00pm Monday to Friday, (d) fit-out between 1.00pm to 11.00 pm Saturdays, and (e) fit-out between 7.00 am to 11.00 pm on Sundays. <p>The EPA emphasises that the proponent is a 'public authority' within the meaning of the Protection of the Environment Administration Act 1991. And further, that the Environment Protection Authority has general responsibility under that Act for amongst other things:</p> <ul style="list-style-type: none"> (a) ensuring that the best practicable measures are taken for environment protection in accordance with the environment protection legislation and other legislation, and (b) coordinating the activities of all public authorities in respect of those measures. (c) The EPA does not accept that productivity or the preference of Project Managers is adequate justification for undertaking site preparation, bulk earthworks, and construction and construction-related activities outside the standard hours recommended in Table 1 to the EPA's Interim Construction Noise Guideline. <p><u>Recommendation</u></p>	<p>The proponent accepts that all site preparation, bulk earthworks and general construction works will be undertaken during construction hours.</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>The proponent be required to ensure that as far as practicable all site preparation, bulk earthworks, construction and construction-related activities likely to be audible at any noise sensitive receivers such as surrounding residences are only undertaken during the standard construction hours, being -</p> <ul style="list-style-type: none"> (a) 7.00 am to 6.00 pm Monday to Friday, (b) 8.00 am to 1.00 pm Saturday, and (c) no work on Sundays or gazetted public holidays. 	
<p>5.3.4 Intra-day respite periods</p>	
<p>The EPA anticipates that those site preparation, bulk earthworks, construction and construction-related activities generating noise with particularly annoying or intrusive characteristics (such as those identified as particularly annoying in section 4.5 of the Interim Construction Noise Guideline) would be subject to a regime of intra-day respite periods where –</p> <ul style="list-style-type: none"> (a) they are only undertaken after 8.00 am, (b) they are only undertaken over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours, and. (c) 'continuous' means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of the intrusive and annoying work referred to in Interim Construction Noise Guideline section 4.5 <p>The EPA emphasises that intra-day respite periods are not proposed to apply to those site preparation, bulk earthworks, construction and construction-related activities that do not generate noise with particularly annoying or intrusive characteristics.</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p><u>Recommendation</u></p> <p>The proponent be required to schedule intra-day 'respite periods' for construction activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers, including surrounding residents.</p>	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction, which included the recommended acoustic measures.</p>
<p>5.3.5 Idling and queuing construction vehicles</p>	
<p>The EPA is aware from previous major infrastructure projects that community concerns are likely to arise from noise impacts associated with the early arrival and idling of construction vehicles (including concrete agitator trucks) at the development site and in the residential precincts surrounding that site.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure construction vehicles (including concrete agitator trucks) involved in site preparation, bulk earthworks, construction and construction-related activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.</p>	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction.</p>
<p>5.3.6 Reversing and movement alarms</p>	
<p>The EPA has identified the noise from 'beeper' type plant movement alarms to be particularly intrusive and is aware of feasible and reasonable alternatives. Transport for NSW (nee Transport Construction Authority), Barangaroo Delivery Authority/Lend Lease and Leighton Contractors (M2 Upgrade project) have undertaken safety risk assessments of alternatives to the traditional 'beeper' alarms. Each determined that adoption of 'quacker' type movement/reversing alarms instead of traditional beepers on all plant</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>and vehicles would not only maintain a safe workplace but also deliver improved outcomes of reduced noise impacts on surrounding residents.</p> <p>Interim Construction Noise Guideline Appendix C provides additional background material on this issue.</p> <p><u>Recommendation</u></p> <p>The proponent be required to consider undertaking a safety risk assessment of site preparation, bulk earth works, construction and construction-related activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety</p>	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction.</p>
<p>5.4 Dust Control and Management</p>	
<p>The EPA considers dust control and management to be an important air quality issue during site preparation, bulk earthworks and subsequent construction.</p> <p><u>Recommendation</u></p> <p>The proponent be required to :</p> <ul style="list-style-type: none"> (a) minimise dust emissions on the site, and (b) prevent dust emissions from the site. 	<p>Agreed & Noted.</p>
<p>5.5 Sediment control</p>	
<p>Managing Urban Stormwater Soils and Construction, 4th Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective sediment control on construction sites. The proponent</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>should implement all such feasible and reasonable measures as may be necessary to prevent water pollution in the course of developing the site.</p> <p>The EPA emphasises the importance of –</p> <p>not commencing demolition, site preparation, bulk earthworks, construction and construction- related activities until appropriate and effective sediment controls are in place, and</p> <p>daily inspection of sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.</p>	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction.</p>
<p>5.6 Waste control and management (general)</p>	
<p>The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the Waste Avoidance and Resource Recovery Act 2001, is one that ensures that resource management options are considered against the following priorities:</p> <ul style="list-style-type: none"> ● Avoidance including action to reduce the amount of waste generated by households, industry and all levels of government ● Resource recovery including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources ● Disposal including management of all disposal options in the most environmentally responsible manner. ● All wastes generated during the project must be properly assessed, classified and managed in accordance with the EPA's guidelines to ensure proper treatment, transport and disposal at a landfill legally able to accept those wastes. 	



Issues Raised by Agency Submissions	Proponent's Response
<p>The EPA further anticipates that, without proper site controls and management, mud and waste may be tracked off the site during the course of the project.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that :</p> <ul style="list-style-type: none"> (1) all waste generated during the project is assessed, classified and managed in accordance with the "Waste Classification Guidelines Part 1: Classifying Waste" (Department of Environment Climate Change and Water, December 2009); (2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and (3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises. 	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction.</p>
<p>5.7 Waste control and management (concrete and concrete rinse water)</p>	
<p>The EPA anticipates that during the course of the project concrete deliveries and pumping are likely to generate significant volumes of concrete waste and rinse water. The proponent should ensure that concrete waste and rinse water is not disposed of on the project site and instead that –</p> <ul style="list-style-type: none"> (a) waste concrete is either returned in the agitator trucks to the supplier or directed to a dedicated watertight skip protected from the entry of precipitation, and (b) concrete rinse water is directed to a dedicated watertight skip protected from the entry of precipitation or a suitable water treatment plant. 	



Issues Raised by Agency Submissions		Proponent's Response
	<p><u>Recommendation</u></p> <p>The proponent be required to ensure that concrete waste and rinse water are</p> <ul style="list-style-type: none"> (a) not disposed of on the development site, and (b) prevented from entering waters, including any natural or artificial watercourse. 	<p>A Preliminary Construction Management Plan (CMP) has been prepared and is attached in Appendix L.1. This outlines the main contractors' responsibilities to meet these requirements and further develop the CMP prior to commencing construction.</p>
5.8	<p>Operational Phase</p> <p>The EPA considers that environmental impacts that arise once the development is operational should be able to be largely averted by responsible environmental management practices, particularly with regard to:</p> <ul style="list-style-type: none"> (a) feasible and reasonable noise mitigation measures; (b) waste management in accordance with the waste management hierarchy; (c) water sensitive urban design; and (d) energy conservation and efficiency. 	<p>Agreed and noted.</p>
5.9	<p>Noise and vibration impacts</p> <p>The EPA anticipates the proposed development (especially out of hours use of school facilities by external parties) may have significant operational noise impacts on nearby sensitive receivers, especially the adjoining Western Sydney University Village residences and Anglicare's Chesalon Nursing Home.</p> <p>The EPA notes with concern the proximity of the surrounding noise sensitive receivers and is aware from long experience of the need for appropriate</p>	<p>The adjacent nursing home has been consulted during the project development and is aware of the proposed School. The regular community use is likely to be restricted to the School Hall which has noise attenuation measure proposed and is located away from sensitive noise receivers.</p> <p>As outlined within the Updated Noise and Vibration Report in Appendix H.1, a potential measure could include the implementation of a Noise Management Plan that would identify operational measures to manage potential impacts. While the proposed school represents a change from the open field it is currently, given the site forms part of the WSU grounds,</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>operational noise mitigation and management measures, particularly in regard to:</p> <ul style="list-style-type: none"> (a) the nature of and times during which school facilities are made available for community use; (b) the design and operation of the school public address/bell system; (c) the design and location of waste storage facilities; (d) time restrictions on waste collection services; (e) design, selection and operation of mechanical plant and equipment; and (f) time restrictions on grounds maintenance using powered equipment (e.g. leaf blowers, brush cutters and lawn mowers). <p>The EPA also anticipates significant noise impacts from use of tractors and other powered agricultural plant and equipment including pumps.</p>	<p>and as it is consistent with the current zoning it is a satisfactory development with respect to noise and the impacts on the amenity of the Universities own residents and the adjacent Nursing Home.</p>
<p>5.9.1 Background noise measurement</p>	
<p>The EPA emphasises that properly establishing background noise levels in accordance with guidance material in the New South Wales Industrial Noise Policy (INP) is fundamental to a consistent approach to the quantitative assessment of noise impacts of development.</p> <p>The NSW Industrial Noise Policy (INP) specifies that at least a 'week's worth' of monitoring data is required to establish background noise levels. And that, those noise levels should be measured at the most affected or potentially most affected noise sensitive receiver locations. However, EIS Appendix T indicates that background noise monitoring was undertaken from midday on Wednesday 30 August 2017 through to midday Wednesday 6 September 2017. And, that approximately two days of this data is affected by wind speeds greater than 5 metres per second. Therefore, the EPA estimates that only about 5 days of valid data has been submitted and used</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>to calculate background noise levels and this is not in accordance with the INP.</p> <p>Figure 1 to EIS Appendix T shows the approximate location of background noise monitoring was undertaken at Western Sydney University residential village student accommodation.</p> <p>EIS Appendix T does not report the background noise monitoring data in day to a page format necessary to enable a proper assessment of INP background noise levels.</p> <p><u>Recommendation</u></p> <p>The proponent be required to undertake background noise monitoring and to report the monitoring results in accordance with the guidance material provided in Chapter 3 and Appendix B to the New South Wales Industrial Noise Policy so as to provide at least a week's worth of valid noise monitoring data.</p>	<p>This location, in the neighbouring property, was identified as the nearest potentially affected receiver. Day to a page logger graphs have been included in the updated report for both the initial and supplementary noise logging periods. (Refer to Appendix H.1 SEAR's Noise & Vibration Assessment.)</p> <p>The initial noise logging was conducted on site from 11.45 am, 30/8/17 to 10.45 am, 7/9/17 (total hours = 215 , 7.95 days). Wind data was measured at 10m and was not scaled down to microphone height prior to input into the data processing. Update reveals sufficient data exists. The data is wind-affected, which is difficult to avoid as it is fairly characteristic of the area. We argue that wind is a feature of the area and it has little detrimental impact on establishing the background noise levels.</p> <p>Additional unattended noise logging has been conducted for a period of two weeks. Sufficient data has been obtained and incorporated into an updated version of the existing report. No significant differences in measured levels was observed resulting in no change in established criteria.</p>
<p>5.9.2 'Out of hours' community use of school facilities</p>	
<p>Section 6.2 to EIS Appendix T under the heading 'Sporting/concert events' indicates that use of Building 04 (i.e. school hall/gymnasium) for sporting and concert events is proposed to be assessed during the detailed design stage of the project. Whilst the development site plan does not appear to</p>	<p>It is proposed that the Hall (Building 4) will be used for a variety of sporting and performance activities. The floor area of the Hall can be expanded into the covered external areas beyond the building enclosure, via vertical lift panel door openings. To the rear (west) of Building 4, a basketball hardcourt is proposed within the general school playground area.</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>indicate the location of any outdoor sports courts, the EPA nevertheless anticipates the provision of such facilities.</p> <p>The EPA is aware of government policy to encourage out of hours community use of school facilities provided that use does not cause noise emissions that interfere unreasonably with the comfort or repose of persons not on the premises.</p> <p>The EPA considers the proposed community use of school facilities (especially the gymnasium/hall and any outdoor sports courts) outside normal school hours needs to be carefully managed to ensure noise impacts on nearby student accommodation and the Chesalon Nursing Home are minimised.</p> <p>The EPA further considers that its recommended restrictions on community use of school facilities should only be relaxed following –</p> <ul style="list-style-type: none">(a) detailed noise impact assessment of use of the school hall/gymnasium for sporting, concert and other potentially high noise impacts events, especially events involving amplified sound equipment outside normal school hours, and(b) comprehensive noise compliance monitoring of representative community uses of the school hall/gymnasium and any outdoor sports courts. <p><u>Recommendation</u></p> <p>The proponent be required to ensure that the school hall/gymnasium is not made available for community use other than for the purposes of undertaking noise compliance monitoring of representative potentially high noise impact uses, including sporting and concert events.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that any outdoor sports courts are not made available for community use –</p>	<p>It is proposed for the school to utilise the WSU sporting facilities and play fields on a shared basis.</p>



Issues Raised by Agency Submissions	Proponent's Response
<ul style="list-style-type: none">i. during week day mornings,ii. later than 6.00 pm on week nights,iii. other than between the hours of 8.00 am and 6.00 pm on Saturdays, oriv. during Sundays and public holidays. <p><u>Recommendation</u></p> <p>The proponent be required to –</p> <ul style="list-style-type: none">(a) undertake comprehensive noise compliance monitoring of representative uses of the school hall/gymnasium and any outdoor sports courts and associated facilities (e.g. parking) outside school hours to demonstrate that the level, nature, quality and character of noise emitted by those uses and the time at which and frequency of those uses would not interfere unreasonably with or be likely to interfere unreasonably with the comfort or repose of persons not on the development site, especially the occupants of nearby residences and Chesalon nursing home.(b) submit a detailed noise compliance monitoring report with noise measurements reported against relevant noise criteria and the outcomes of appropriate community consultation together with detailed recommendations concerning any additional feasible and reasonable noise mitigation and management measures, including further or more relaxed restrictions on the times at which and the frequency of each type of use of the 'futsal' fields and outdoor sports courts and associated facilities (e.g. parking) outside school hours.(c) ensure that noise compliance monitoring referred to in paragraph (a) above, would include quantitative noise impact assessment to address noise emissions arising from amongst other things – <ul style="list-style-type: none">• audience/spectator noise,• referee whistle noise,	<p>The updated Noise and Vibration Assessment (Appendix H.1 of the RTS) considered the use of the school hall for after-hours community activities and the impact of the school/bell, which met the relevant criteria at NSR's. Resonate Acoustics considered the use of the school hall for after-school activities and the impact of the school bell, which met the relevant criteria at NSR's.</p> <p>Community access outside of school hours to the area aside from the School Hall are not proposed at this stage due to the required security fence.</p>



Issues Raised by Agency Submissions	Proponent's Response
<ul style="list-style-type: none"> • training sessions as well as sporting events, • any amplified sound during sporting events and any associated training sessions, • any amplified sound during concerts or the like, and • post-event audience/spectator noise, including vehicle door slamming and departure noise. 	
<p>Mechanical plant and equipment</p> <p>Section 6.1 to EIS Appendix T incorrectly suggests that "... classroom buildings forming part of the development would be considered the nearest sensitive receivers". However, the purpose of any noise impact assessment is to determine the degree of noise impact that might interfere unreasonably with the comfort of repose of any person not on the premises from which the noise is emitted. Section 1.3 to the New South Wales Industrial Noise Policy states that the "Internal or occupational noise within any workplace is a separate issue ...".</p> <p>Section 6.1 to EIS Appendix T indicates that mechanical plant and equipment noise would be limited to a number of rooftop fans. However, the EPA notes that –</p> <ul style="list-style-type: none"> • the project ground floor plan indicates a plant room in Building 01, and • EIS section 3.1 indicates that the development includes a workshop shed building. <p>Similarly, the EPA anticipates that mechanical plant and equipment would include tractors and other powered agricultural machinery including fixed and mobile pumps.</p> <p><u>Recommendation</u></p> <p>The proponent be required to:</p>	<p>Refer to Appendix H.1 SEARs Noise and Vibration Assessment which considers the mechanical plant and equipment use, as part of the detailed design phase these requirements will be given due consideration and compliance with the necessary legislation will be achieved.</p> <p>The DoE is able to accept conditions of consent with regard to ensuring that mechanical plant and equipment does not generate noise that exceeds the appropriate noise limits and standards.</p> <p>Plant room equipment proposed for this project is generally of low noise impact. Further detailed assessment will be undertaken during the detailed design phase, when the need or otherwise for acoustic attenuation for plant rooms will be determined.</p>



Issues Raised by Agency Submissions	Proponent's Response
<ul style="list-style-type: none">(a) provide a comprehensive quantitative assessment of operational noise impacts on surrounding noise sensitive receivers, especially the adjoining aged care facility and residences;(b) ensure mechanical plant and equipment (including pumps, plant rooms and workshop plant and equipment) installed on the development site does not generate noise that –<ul style="list-style-type: none">i. exceeds 5 dBA above the rating background noise level (day, evening and night) measured at the boundaries of the development site, andii. exhibits tonal or other annoying characteristics.	



Issues Raised by Agency Submissions	Proponent's Response
<p>5.9.3 Public address and school bell system</p> <p>The EPA notes numerous reports of community concern arising from inadequate design and installation as well as inappropriate use of school public address and bell systems and considers that appropriate design, installation and operation of those systems can both –</p> <ul style="list-style-type: none"> • meet the proponent's objectives of proper administration of the school and ensuring the safety of students, staff and visitors, and • avoid interfering unreasonably with the comfort and repose of occupants of nearby residences. <p><u>Recommendation</u></p> <p>The proponent be required to design, install and operate the school public address/bell system to implement all such other measures as may be necessary to ensure use of that system does not interfere unreasonably with the comfort and repose of occupants of nearby residences.</p>	<p>Notification of period end and emergency alarms will be predominantly delivered through a closed wireless network to the student's mobile devices, with loudspeaker notifications only occurring within enclosed learning spaces. Minimal adverse environmental noise emission impact is anticipated as a result.</p>
<p>5.10 Waste collection services</p> <p>The EPA notes numerous reports of community concern arising from waste collection services undertaken at schools and especially during evening and night times.</p> <p><u>Recommendation</u></p> <p>The proponent be required ensure waste collection services are not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.</p>	<p>Normal practice in schools is to undertake waste collection services from 7am. Therefore the following is proposed:</p> <ul style="list-style-type: none"> • Waste Collection Services – Only between 7.00am – 6.00pm Mon-Fri



	Issues Raised by Agency Submissions	Proponent's Response
5.11	Grounds maintenance using powered equipment	
	<p>The EPA notes numerous reports of community concern arising from grounds maintenance involving the use of powered equipment (example: leaf blowers, lawn mowers, brush cutters) at schools during early morning and evening periods as well as on weekends and public holidays.</p> <p><u>Recommendation</u></p> <p>The proponent be required ensure grounds maintenance involving the use of powered equipment is not undertaken outside the hours of 7.30 am to 6.00 pm Monday to Friday.</p>	<p>Normal practice in schools is to undertake ground maintenance and machinery work from 7am and at times it is necessary for safety purposes to undertake some such activities on a Saturday morning.</p> <p>Therefore the following is proposed:</p> <ul style="list-style-type: none"> • Ground Maintenance (using powered equipment) – Only between 7.00am – 6.00pm Mon-Fri and 8am-12 noon Saturday.
5.12	Agricultural field management using powered equipment	
	<p>The EPA understands that it is not unusual for farms to operate tractors and other powered farm machinery during the evening (6.00 pm to 10.00 pm) and night periods (10.00 pm to 7.00 am) and on weekends.</p> <p>The EIS does not appear to assess noise impacts of tractor and other powered machinery being operated other than during the day period Monday to Friday.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that tractors and other powered agricultural machinery are only operated between the hours of 7.30 am to 6.00 pm Monday to Friday.</p>	<p>Normal practice in schools is to use powered agricultural machinery from 7am and at times it is necessary for safety purposes to undertake maintenance activities on a Saturday morning.</p> <p>Therefore the following is proposed:</p> <ul style="list-style-type: none"> • Tractors & other Ag Machinery - Only between 7.00am – 6.00pm Mon-Fri and 8am-12 noon Saturday.
5.13	Waste Management	
	<p>The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the Waste Avoidance and Resource Recovery Act 2001, is one that ensures that</p>	<p>The school will implement the DoE's "Environmental Education Policy for Schools" (EEPS), which requires schools to develop a school environmental management plan that addresses 3 focus areas: curriculum, management of resources and management of</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>resource management options are considered against the following priorities:</p> <p>Avoidance including action to reduce the amount of waste generated by households, industry and all levels of government</p> <p>Resource recovery including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources</p> <p>Disposal including management of all disposal options in the most environmentally responsible manner.</p> <p><u>Recommendation</u></p> <p>The proponent be required to identify and implement feasible and reasonable opportunities for the re- use and recycling of waste, including food waste.</p>	<p>school grounds. The application of the EEPS will be in accordance with the "Implementing the Environmental Education Policy in your School" guidelines, which addresses waste reuse and recycling. Refer to Appendix M.5 Environmental Education Policy for Schools & M.6 Implementing the Environmental Education policy in your School for the policy documents.</p>
<p>5.14 Agricultural Activities (water pollution)</p>	
<p>The EPA notes that the development site is within the Hawkesbury-Nepean River catchment area, albeit about 4 kilometres from the Hawkesbury River.</p> <p>The EIS site plan (i.e. drawing HASH-00-DD-AR-DR-1001 Revision G) indicates areas proposed to be allocated for an 'agricultural field' and 'agricultural enterprise area'. The EPA anticipates –</p> <ul style="list-style-type: none"> (a) the application of fertiliser and pesticides to the agricultural field, and (b) that the agricultural enterprise area is likely to be used in part for the keeping of livestock and associated localised deposits of animal wastes in livestock pens and enclosures. <p>EIS Appendix K Civil Engineering and Stormwater Management Plan provides an assessment of stormwater quality control measures, including retention ponds and wetlands presumably sited within the area designated</p>	<p>The application of fertiliser and pesticides will be carried out in accordance with the Chemical Safety in Schools (CSIS) procedures (Refer to Appendix M.4 Chemical Safety in Schools Extract from Online Tool) to ensure runoff from the fields and enterprises will not pollute the stormwater drainage channel waters. Animal waste will be disposed of in an 'approved manner' in accordance with the CSIS. The manner varies between local government areas. The Hawkesbury City Council and the local meat inspector will be contacted to obtain accurate information on the correct disposal method for the area.</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>'stormwater detention basin' of the project site plan. The EPA reaffirms that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory 'arms length'. And accordingly, has not reviewed Appendix K.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that runoff from the agricultural field and agricultural enterprise area does not pollute waters, including artificial watercourses such as stormwater drainage channels.</p>	
<p>5.14.1 Agricultural Activities (Odours)</p>	
<p>The EIS indicates that the western side of the development would be developed for an 'agricultural field' operated in conjunction with the school. The EPA notes that the proposed agricultural field adjoins Western Sydney University Village residences and Anglicare's Chesalon Nursing Home.</p> <p>The EPA acknowledges that agricultural activities would be expected to generate odours consistent with a rural setting. However, the EPA is aware from long experience that certain agricultural activities (e.g. pig keeping, application of processed poultry manure) carried on in an 'environmentally unsatisfactory manner' are likely to generate significant odour emissions on school premises adjoining residences are likely to generate significant odour emissions.</p> <p>The EPA anticipates that livestock pens and enclosures would be regularly mucked out and accumulated manure and food waste stored in weather and vermin proof bins for later composting or other re-use.</p> <p><u>Recommendation</u></p>	<p>The only "livestock" currently proposed to be housed on the School site is poultry. This facility is to be located in a purpose-built poultry shed, at the western end of Building 3, several hundred metres away from the closest neighbour, the Chesalon nursing home.</p> <p>Odour emissions will initially be managed by small herd and flock sizes. The school will not be operating with large commercial numbers in livestock or poultry. The flocks or future herds will be operating in paddocks, not intensive feedlots, limiting odours.</p> <p>Poultry will be housed in purpose-built sheds and odour emissions will be managed using routine shed maintenance procedures to ensure low moisture content and the removal of waste materials. Materials will be utilised on-site direct land application. Any short-term stockpiling will be on an impervious base and will be covered to prevent odour and dust generation.</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>The proponent be required to ensure that livestock are housed in such a manner and at such distance from the adjoining Western Sydney University Village residences and Anglicare's Chesalon Nursing Home as may be necessary to minimise the emission of odours at the development site.</p> <p><u>Recommendation</u></p> <ul style="list-style-type: none"> (a) The proponent be required to ensure that any highly odorous fertilisers (e.g. aged/processed poultry manure) are applied by such means as may be necessary to: (b) minimise the emission of odours at the development site, and (c) prevent the emission of odours from the development site. 	
<p>5.14.2 Agricultural Activities (pesticides)</p>	
<p>The EPA anticipates that the school is likely to apply pesticides from time to time, particularly to that part of the school grounds designated on the site plan as 'agricultural field'.</p> <p>A pesticide includes any –</p> <ul style="list-style-type: none"> (a) agricultural chemical product (within the meaning of the Agvet Code), and (b) veterinary chemical product (within the meaning of the Agvet Code) for the external control of ectoparasites of animals. <p>The proponent should be aware that pesticide use includes -</p> <ul style="list-style-type: none"> (a) applying, spraying, spreading or dispersing the pesticide by any means, (b) storing the pesticide, and (c) preparing the pesticide for use. <p>The EPA anticipates that pesticide use on the grounds of the development site would be undertaken by such means as may be necessary to avoid –</p>	<p>Pesticides including fertilisers, insecticides, fungicides, herbicides and any veterinary chemicals are to be stored and prepared for use in accordance with the DoE approved Chemical Storage in Schools (CSIS) procedures. Refer to Appendix M.3 Extract: Chemical Safety in Schools & M.4 Chemical Safety in Schools Extract from Online Tool.</p> <p>Notification of intended pesticide use within 20m of any neighbouring properties will be given in accordance with the "Pesticide Use Notification Plan". Refer to Appendix M.2 Pesticide Use Notification Plan.</p> <p>All pesticides are to be stored within the purpose-built and weather-tight Agricultural Workshop buildings, as shown in the architectural drawings, Appendix A.7</p>



Issues Raised by Agency Submissions	Proponent's Response
<p>(a) injury to any person (b) damage to the property of another person, (c) harm to a non-target animal, or (d) harm to a non-target plant.</p> <p>The EPA emphasises that the grounds of the development site are a 'prescribed public place' in respect of the use of any pesticide and that the proponent as a public authority has particular obligations concerning the notification of use of any pesticide on those grounds. The EPA is aware that the proponent has finalised a Pesticide Use Notification Plan to ensure that those who have a potentially high sensitivity to exposure to pesticide are appropriately notified so as to avoid or minimise risk of exposure.</p> <p>Whilst the EPA is aware that the proponent has adopted a Pesticide Use Notification Plan for the grounds of all its schools, the EPA remains concerned about the potential risk to human health of unnotified pesticide use within 20 metres of the common boundary with -</p> <ul style="list-style-type: none">• Chesalon Nursing Home, or• any existing or future school, pre-school, kindergarten or child care centre that may operate on that part of Western Sydney University immediately adjoining the development site. <p><u>Recommendation</u></p> <p>The proponent be required to ensure that any pesticide, including any insecticide, herbicide, fungicide, and any veterinary chemical used for external control of ectoparasites of animals, is only stored, prepared for use or used on the development site in such manner as may be necessary to prevent –</p> <p>(a) injury to a person, (b) damage to the property of any person other than the proponent,</p>	



Issues Raised by Agency Submissions	Proponent's Response
<p>(c) harm to a non-target animal, and (d) harm to a non-target plant.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that any use of a pesticide on the grounds of the development site is not undertaken within 20 metres of the common boundary with Chesalon nursing home or any school, pre-school, kindergarten or child care centre, unless it has given 5 days prior notice of the proposed pesticide use to the management of that nursing home, school, pre-school, kindergarten or child care centre.</p> <p><u>Recommendation</u></p> <p>The proponent be required to ensure that all pesticides on the development site are stored and prepared for use in a dedicated weather-proof structure designed and constructed –</p> <ul style="list-style-type: none"> (a) to prevent unauthorised access to any stored pesticide, (b) to prevent overheating of any stored pesticide, (c) to prevent any spilled pesticide being released to the environment, and (d) to be adequately ventilated for pesticide storage in accordance with relevant material safety data sheets and pesticide labelling, and (e) to be adequately ventilated for pesticide preparation in accordance with relevant material safety data sheets and pesticide labelling. 	
<p>5.14.3 Agricultural Activities (Fuel Storage)</p>	
<p>The development site appears to be located on land within an Underground Petroleum Storage System (UPSS) environmentally sensitive zone. The EPA anticipates that the proponent is likely to store fuel on the development site for re-fuelling tractors and other powered agricultural plant and equipment.</p>	<p>The DoE's general policy is that no fuel will be stored in tanks within its school properties. No underground fuel storage tanks will be installed on site.</p>

Issues Raised by Agency Submissions	Proponent's Response
<p>Should the proponent store any type of fuel in an underground storage system, they must design, install and operate any such Underground Petroleum Storage System with regard to Guidelines issued by the EPA and available via the following link –</p> <p>http://www.epa.nsw.gov.au/your-environment/contaminated-land/preventing-contaminated-land/upss</p> <p><u>Recommendation</u></p> <p>The proponent be required to design, install and operate any underground petroleum storage system in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage System) Regulation 2014.</p>	
<p>5.15 Water sensitive urban design and energy conservation and efficiency</p>	
<p>The EPA acknowledges that EIS Appendix V comprises an environmentally sustainable development report that proposes –</p> <ol style="list-style-type: none"> 1. a range of water sensitive urban design measures, including – 2. rainwater harvesting and re-use, and 3. water efficient fixtures; and 4. a range of measures to maximise energy efficiency and minimise energy consumption, including – 5. natural ventilation and lighting of all teaching and learning spaces, 6. installation of solar photovoltaic arrays 	<p>Agreed and noted.</p>
<p>6 NSW Rural Fire Service</p>	



	Issues Raised by Agency Submissions	Proponent's Response
6.1	Inner Protection Area	
	<p>At the commencement of building works, and in perpetuity, a 50 metre area around any proposed buildings shall be managed as an Inner Protection Area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.</p>	<p>The Bush Fire Mitigation Strategy (BFMS) prepared for the WSU Hawkesbury Campus dated 22nd October 2009 contains recommendations to manage the area surrounding the proposed buildings as a Strategic Fire Zone. Beyond this area to the south; including the paddock to the south of the creekline, the BFMS requires the vegetation to be managed as a Critical Asset Protection Zones. As such, there are current management practices in place that demonstrate compliance with Condition 1.</p> <p>Any future Bushfire Emergency and Evacuation Management Plan (BEEMP) will contain detail outlining the management actions specific for an Inner Protection Area.</p>
6.2	Planning for Bushfire Protection 2006	
	<p>The provision of water, electricity and gas shall comply with section 4.2.7 of 'Planning for Bush Fire Protection 2006'.</p>	<p>The proposed development is able to comply with the necessary service and utility requirements. (Refer to Appendix K2 Planning for Bushfire Protection – Services Comments.)</p>
6.3	Roads	
	<p>Internal roads shall comply with the following requirements:</p> <ul style="list-style-type: none"> • Internal roads are two wheel drive, sealed, all-weather roads. • Internal perimeter roads are provided with at least two traffic lane widths (carriageway 8 metres minimum kerb to kerb) and shoulders on each side, allowing traffic to pass in opposite directions. • Dead end roads incorporate a minimum 12 metres outer radius turning circle, and are clearly signposted as a dead end. • Traffic management devices are constructed to facilitate access by emergency services vehicles. 	<p>The proponent is unable to comply.</p> <p>The RFS have provided specific requirements for the design and construction of all new internal access roads in accordance with section 4.2.7 of Planning for Bushfire Protection 2006 (PBP 2006). Whilst the proposed development is able to comply with the majority of the design requirements, the requirement for all roads to be 8m wide is considered unnecessary as the proposed roads are not intended for public use.</p> <p>Use of the service roads will be limited to service and maintenance personnel and emergency services. Primary public access and egress to the proposed buildings is via the existing internal road network and vehicle parking is provided by existing car parking areas.</p> <p>Refer to Appendix K.1 Bushfire Overlay Study which indicates the two (2) proposed internal access roads that service the proposed buildings. Both roads are a minimum 4m wide and</p>

Issues Raised by Agency Submissions	Proponent's Response
<ul style="list-style-type: none"> • A minimum vertical clearance of 4 metres to any overhanging obstructions, including tree branches, is provided. • Curves have a minimum inner radius of 6 metres and are minimal in number to allow for rapid access and egress. • The minimum distance between inner and outer curves is six metres. Curves have a minimum inner radius of 6 metres and are minimal in number to allow for rapid access and egress. • Maximum grades do not exceed 15 degrees and average grades are not more than 10 degrees. • Crossfall of the pavement is not more than 10 degrees. • Roads do not traverse through a wetland or other land potentially subject to periodic inundation (other than flood or storm surge). • Roads are clearly signposted and bridges clearly indicate load ratings. • Internal road surfaces and bridges have a capacity to carry fully-loaded fire fighting vehicles (15 tonnes). 	<p>are provided with multiple turning/ passing bays and turning loops with outer radii greater than 12m.</p> <p>All students and employees are not able to access the proposed service roads and they will not be identified as emergency evacuation routes. The service roads may be used for operational access for emergency services personnel. In this regard, the proposed service roads are not considered publicly accessible and satisfy the Performance Criteria for Internal Roads in section 4.2.7 of PBP 2006.</p> <p>(Refer to Appendix K.3- Vehicular Turning Manoeuvre plans & K.4 Response for Item 6.3 (RFS).)</p>
<p>6.4 Evacuation Plan</p>	
<p>A Bush Fire Emergency Management and Evacuation Plan shall be prepared consistent with 'Development Planning- A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan December 2014' and Australian Standard AS3745 2010 'Planning for Emergencies in Facilities'. Suitable management arrangements must be established for consultation and implementation of the Emergency and Evacuation Plan.</p>	<p>A Bush Fire Emergency Management and Evacuation Plan (BEEMP) will be prepared for the proposed development using the existing WSU management plans and mitigation strategies.</p> <p>It is requested that the provision of a BEEMP be a condition of consent to be completed prior to operation.</p>
<p>7 Sydney Water</p>	



Issues Raised by Agency Submissions		Proponent's Response
7.1	Water	
	<ul style="list-style-type: none"> • Our servicing investigation shows that the trunk drinking water system has adequate capacity to accommodate the proposed development. • The proposed development can be serviced by the existing 200mm or 150mm main within the University grounds. 	<p>The current proposal is to service the site via connection to the Londonderry Road Sydney Water potable water main. A Feasibility Letter Request for preliminary advice was submitted and a response has been received from Sydney Water stating the existing 200mm water main in Londonderry Road is suitable for connection. (Refer Appendix E.2 Sydney Water: Feasibility Letter Main School & E.3 Sydney Water: Feasibility Letter Boarding Accommodation.)</p>
7.2	Wastewater	
	<ul style="list-style-type: none"> • Our servicing investigation shows that the trunk wastewater system has limited capacity to service the proposed development. • A detailed planning assessment will be provided after application of a Section 73 Certificate, in order to ensure that Sydney Water's existing infrastructure has capacity to meet the requirements of this development as well as the existing system. • If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must wait for approval of this permit before any business activities can commence. 	<p>Section 73 application will be submitted on receipt of SSDA approval. A Feasibility Letter Request for preliminary advice was submitted and a response has been received from Sydney Water stating that the proposed connection to the existing gravity sewer on Londonderry Road may incur significant upgrade to the nearest wastewater pump station. Refer to Appendix E.2 Sydney Water: Feasibility Letter Main School & E.3 Sydney Water: Feasibility Letter Boarding Accommodation. Alternate connection opportunities are being assessed and will be proposed to Sydney Water via a further WSC feasibility application.</p> <p>An application requesting permission to discharge trade waste water to Sydney Water's sewerage system will be submitted prior to construction works commencing.</p>
7.3	Sydney Water Servicing	
	<ul style="list-style-type: none"> • A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water. • Make an early application for the certificate, as there may be water and wastewater pipes to be built that can take some time. This can 	<p>A Section 73 application will be submitted on receipt of SSDA approval. A Feasibility Letter Request has been submitted and a response from Sydney Water has been received. (Refer to E.2 Sydney Water: Feasibility Letter Main School & E.3 Sydney Water: Feasibility Letter Boarding Accommodation.)</p>



	Issues Raised by Agency Submissions	Proponent's Response
	also impact on other services and buildings, driveways or landscape designs.	
7.4	Building Plan Approval	
	<ul style="list-style-type: none"> The approved plans must be submitted to the Sydney Water Tap in™ online service to determine whether the development will affect any Sydney Water sewer or water main, stormwater drains and/or easement, and if further requirements need to be met. 	The approved plans will be submitted to the Sydney Water Tap in™ online service prior to construction works commencing.
7.5	Backflow Prevention Requirements	
	<ul style="list-style-type: none"> All properties connected to Sydney Water's supply must install a testable Backflow Prevention Containment Device appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum. Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property. Before you install a backflow prevention device: <ol style="list-style-type: none"> Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on 1300 889 099 	<p>Appropriate backflow prevention will be provided in accordance with Sydney Water and AS3500 requirements. Details will be provided in the Sydney Water "Water Meter Application" during construction.</p> <p>Fire hydrant water supply will be extended from Western Sydney University's ring main. A new connection for fire hydrant water supply is not proposed.</p> <p>A Sydney Water Pressure and Flow Enquiry has been received and has formed the basis for design.</p> <p>A site assessment to confirm the hazard rating of the property and its services is to be undertaken at the time of water meter application.</p>

	Issues Raised by Agency Submissions	Proponent's Response
7.6	Contingency Plan Recommendation	
	<ul style="list-style-type: none"> • Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons . These interruptions can be planned or unplanned. • A contingency plan to access water must be developed 	A connection to the Sydney Water recycled water main (in addition to the SW potable water main), is proposed as one contingency measure. Also, the rainwater tanks may be used to access water in addition, if required.
8	Government Architect NSW	
8.1	Passive Environmental Performance and Pedestrian Connection	
	<p>GANSW supports the proposal, recognising the designers' bold and considered response to a complex brief and challenging site. We commend the linear pedestrian connection to WSU's Stable Square and the generous allocation of publicly accessible garden adjacent to Vines Drive. The 'Assembly Court' acts as an attractive focal point from which the school is easily navigated. We also support and commend the strategy towards a passive environmental system for thermal comfort and energy use.</p> <p>Notwithstanding the above, two concerns lead our response to the scheme:</p> <ol style="list-style-type: none"> (1) The proposal's passive environmental performance is unverified; (2) There are aspects of the linear pedestrian connection and associated landscape feature which require further definition and/or design development. <p>Prior to approval, we recommend that the proponent is requested to provide the following additional information and to consider changes noted below:</p>	<p>The GANSW comments are noted, however the overriding controls for a number of the queries are established by the Educational Facilities Standards and Guidelines (EFSG). The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ol style="list-style-type: none"> (a) Refer to comments in 8.5 (b) Refer to comments in 1.7 and 8.2 (c) Refer to comments in 8.6 (d) Refer to comments in 1.5 and 8.2 (e) Refer to comments in 1.9 (f) Refer to comments in 8.8 (g) Refer to comments in 8.2 (h) Refer to comments in 8.5 (i) Refer to comments in 8.2 (j) Refer to comments in 8.7

Issues Raised by Agency Submissions	Proponent's Response
<ul style="list-style-type: none"> (a) Develop passive environmental design strategies to ensure indoor thermal conditions are acceptable to achieve an appropriate level of comfort required; (b) Provide amended design drawings to show design development of the publicly accessible inclined garden, adjoining grassed roof of Building 1 and the main pedestrian access way in response to comments made in the Review regarding safety, viewlines and amenity; (c) Provide on-site accessible parking and safe after-hours staff parking; (d) Provide conveniently located secure bicycle storage and end of trip facilities; (e) Provide an operational statement demonstrating the afterhours and community use strategy, particularly access to Building 4; (f) Rationalise the atrium stair in Building 03 to reduce travel distances and extend to serve all levels; (g) Review the arrangement of toilets, ancillary storage and services rooms to improve use of forecourt areas beneath Buildings 3; (h) Investigate ways to increase onsite water storage facilities, and to incorporate a harvested water system for toilet flushing; (i) Demonstrate engagement with Aboriginal cultural heritage in the landscaping and planning and provide documentation of consultation with local Aboriginal community groups; (j) Demonstrate on the plans the strategy for emergency and maintenance vehicle access to the site; (k) Ensure the design of landscaping and screens is coordinated so that screens can be maintained and cleaned, for example via an elevated work platform; (l) Investigate ways of modifying the existing drainage channel to better integrate with landscape design and regenerate native habitats; provide further detail of landscaping associated with stormwater detention basins; 	<ul style="list-style-type: none"> (k) Refer to comments in 8.7 (l) Refer to comments in 8.10 (m) Refer to comments in 8.5 (n) Refer to comments in 8.11

Issues Raised by Agency Submissions	Proponent's Response
<p>(m) Provide a landscape plan that demonstrates a future 40% tree canopy coverage for all areas not directly associated with agricultural planting and a site security strategy that will minimise high security fencing. All fences and gates should be clearly marked on drawings;</p> <p>Provide plans of a typical learning space with a variety of furniture layouts or usages to demonstrate the principles of the adopted pedagogy.</p>	
<p>8.2 Landscape Feature</p>	
<p>The proposed school entrance addresses Vines Drive with an 80m wide (to the street) and 140m deep inclined landscape feature. Located along the central axis of this landscape feature is the only pedestrian access way to the School. This 95m long pathway is 6m wide towards Vines Drive and widens to 12m at the gated threshold to Building 01. Two continuous gabion retaining walls topped with balustrades flank this access way. The walls increase in height from approximately 0.2m towards Vines Drive to 4.0m at the gated threshold to Building 01. The secure fence line is shown intersecting the inclined landscape feature 65m from the Vines Drive site boundary, making the 5,100 square metre inclined landscape feature and 3,700 square metres of surrounding landscape area accessible to the public.</p> <p>While the proposed school entrance concept is a dramatic and engaging architectural strategy and one that provides generous public amenity which we strongly support, we recommend further consideration of the following issues:</p> <p>(a) The scale and elevation of the landscape feature restricts views of the attractive school buildings and limits the passive surveillance of the entry. During school hours, the access way offers pedestrians a blinkered journey from street to threshold with limited views of the attractive elevated gardens or glimpses of scholarly activity. A wider and potentially vertically splayed inner wall form would create a more open, visually linked and welcoming spatial experience whilst remaining in keeping with the current concept;</p>	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> • The sloping landscape feature was conceived as a landscaped "agricultural narrative space" to create a distinctive identity for the school, facilitate "hands on" agricultural activities, and to enable students to be seen "in the field", cultivating the crops, tilling the soil, etc. It is intended to immerse the students in an agricultural experience, first and foremost at the threshold of the school entrance. One important role of the sloping landform, is to very deliberately mask the buildings behind from view, so they may be revealed in a heightened agricultural context, after the experience of the main entry avenue and upon arrival in the Assembly Court. • The walls of the entry avenue will incorporate signage and graphic motifs to reinforce the agricultural theme and the heritage of HAHS. The avenue is splayed open towards the main school gate and entrance place (rather than away from it), to improve passive surveillance from the school staff/administration offices and to enhance the sense of arrival. (Refer to Appendix A.5 Entry Avenue (BLD1).) • It is proposed to provide an additional 2100mm high security gate at the northern end of the school entrance, to close off access to the entry avenue and prevent it becoming a deadend safety concern after school hours. (Refer to Appendix B.2 Site Fencing Plan.) • The intention is to open up views from the school gate area and the "front of house" school staff/administration offices, to facilitate improved visibility and passive surveillance. This has created the splayed effect, though the 6m width of the avenue at the exit is considered generous in proportion. • The existing topsoil of the site is unsuitable for agricultural and landscape cultivation, so it is proposed to remove the top 300-400mm depth of soil and remediate it with nutrients

Issues Raised by Agency Submissions		Proponent's Response
	<p>(b) The access way may become a 95m long 'dead end' out of hours, with potential associated safety issues. We recommend further investigation of means to improve safety outcomes, for example via improved visibility into this space out of hours, or ensuring the access way is left open at both ends at all times;</p> <p>(c) The plan narrows towards the exit. Can the designers explain the rationale behind this decision?</p> <p>(d) With no excavation or site grading indicated, significant amounts of fill will be required to build the landscape feature. Provide a statement on how this</p>	<p>before re-utilising it for fill where required. New topsoil will be provided to the new landscaped areas. Approximately 25-30% of the area of the sloped landform will accommodate school administration offices and staff facilities, under the elevated levels of a greenroof.</p> <ul style="list-style-type: none"> The remaining area under the sloping levels down to Vines Drive, will be bound by retaining walls and back filled, with the topsoil laid in terraces. The provision of underground irrigation water storage tanks is also to be considered here.
8.3	Aboriginal Cultural Heritage	
	<p>In establishing their design philosophy, the designers refer only to post settlement European agricultural history and practices. The benefit of Aboriginal cultural heritage consultation goes beyond the proponent meeting their obligations under the Heritage and National Parks and Wildlife Act 1974. Purposeful engagement with local Aboriginal community groups at this stage will help the designers deliver a scheme that better incorporates Aboriginal cultural practices, specifically around native food and indigenous agriculture, wayfinding and place identity.</p>	<p>The DoE's policy is not to require aboriginal community consultation, nor for the design to incorporate local aboriginal cultural heritage in its school programs. However, the involvement of the local aboriginal community in the activities and agricultural field enterprises of the school, will be sought once the school is operational.</p>
8.4	Forecourt to Building 3	
	<p>Shaded outdoor space has been provided in abundance, which is commended. However, the ground floor area of Building 03 (adjacent to the assembly court) could be better configured to support a greater range of student and community uses. In Building 3, The cleaners store (G.34), Electrical MDB room (G.03), Toilets (G36) and Plant room (G.38) all occupy 'prime real estate'. Communal amenity similar to the canteen in Building 02 would be supported.</p>	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> While we understand this comment, the building services and toilet amenities are located here because of the area's central relationship to the Assembly Court & forecourts of Buildings 3 & 4, and between the Building 3 entrance & its atrium. The ground floor of the Building 3 atrium, provides an important collaborative courtyard space between the flanking building wings, which accommodate the various TAS learning units.



Issues Raised by Agency Submissions		Proponent's Response
		<ul style="list-style-type: none"> In this regard, the facilities serve to provide important amenity and support to the communal areas around them.
8.5	Sustainable, efficient, durable	
8.5.1	Thermal performance	
	<p>The designers have adopted a passive environmental design strategy to informally achieve a 5-star best practice GBCA equivalency outcome. No active heating, cooling or mechanical ventilation systems for inhabitable rooms have been proposed other than for IT infrastructure.</p> <p>The passive design objectives identified in this submission are supported, however evidence has not been provided to demonstrate that the proposed design achieves the indoor environmental conditions for year-round thermal comfort. A number of small habitable rooms across the three buildings do not have access to cross ventilation and ventilation strategies for these are not provided.</p> <p>The mean air temperature at WSU Hawkesbury at 9am in July is 8.8 degrees Celsius,(BOM) however no active or passive systems to heat the building have been proposed. Internal shade studies for Buildings 02 and 03 only show screen performance in winter, not summer. Those shown for winter indicate low levels of direct sun penetration which may result in inadequate daylighting levels and low passive solar thermal gain.</p> <p>We recommend further development of the passive environmental design strategy to ensure that the stated goals of the passive system are achieved.</p> <p>A 180kL rainwater storage capacity has been proposed on site for agricultural purposes and no harvested rainwater toilet flushing systems have been proposed. A larger storage capacity may support a wider range of uses for harvested rainwater, increasing the ESD credentials of the proposal.</p>	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> The DoE have briefed the project since the SSD DA submission, for the design to now achieve a 4-star GBCA equivalency outcome. (Refer to Appendix E.1- ESD Report.), this is part of the requirements of the Educational Facilities Standards & Guidelines (EFSG). The development has been designed and arranged to capitalise on the passive performance of the building, by maximising daylight and natural ventilation where feasible. Mechanically assisted ventilation will be provided to all spaces that do not achieve adequate natural ventilation. External sun shading devices have been designed into the facade screening to reduce solar gain. Operable glazed louvres, located above the door heads, and wall mounted fans in the smaller rooms will assist air movement. Additionally, ceiling fans are proposed to all general learning space areas. Space heating via an in-slab hydronic heating system is proposed throughout the interior spaces. Additionally, the building envelope has been designed to exceed NCC BCA Section J Parts J1 Building Fabric and J2 Glazing by at least 15%. The DoE's policy is for potable water to be preferably for toilet flushing only, due to a higher likelihood of school children coming in contact with WC flushing water, than the general public. The development has a significant catchment roof area and proposes to capture this in a rainwater reuse storage system (180kl). There is a proportionally high rainwater site demand for irrigation to serve the agricultural activities, fields and landscaped areas. Furthermore, the rainwater storage system will be backed up by recycled water from Sydney Water's local recycled water supply. The main bicycle storage facility is proposed adjacent to the MPHAAH (Building 4), accessible from a path off the school's main entry avenue and from the proposed new

Issues Raised by Agency Submissions	Proponent's Response
<p>Provision for cycling is identified as a SEARs requirement, however bicycle storage and associated end-of-trip facilities are not yet identified on the architectural drawings. The vibrant activity of cyclists should be thoughtfully integrated at this early stage.</p> <p>The landscape plan should aim for 40% tree canopy coverage in order to reduce the heat loading to the school and surrounds. Particular attention should be paid to any hardstand area.</p>	<p>service road. In this location it will also provide amenity for community users of the Hall and be able to utilise the Hall's shower/toilets as end-of-trip facilities. A secondary bicycle parking facility will be provided on the boarding accommodation site. (Refer to Appendix A.4- Bicycle Store.)</p> <ul style="list-style-type: none"> Refer to the landscape drawings in Appendix B.2 Tree Canopy Coverage, which illustrate the estimated extent of the future shade canopy for trees in 5, 10 and 25 years after planting. While this will likely be short of 40% coverage in the near future – shade from buildings and covered walkway should also be considered. Budget constraints have limited the number and size of the proposed advanced trees to be planted in the school ground. Mass planting areas, which are identified on the drawings also include tree species. We anticipate that the trees in these mass planting areas, will ultimately provide shade and a continuous tree canopy when fully grown in the future.
<p>8.6 Accessible and inclusive</p>	
<p>By using existing parking area P47 for general parking cars are kept off the school grounds, which is strongly supported. However, we identify two issues with using P47 exclusively: Firstly, people with limited mobility are required to travel more than 240m between the three accessible parking places and the school gates. Secondly, there is no after-hours staff parking near building access points, notwithstanding this being identified in the designers' CPtED strategy. Provision of limited onsite parking to cater for people who are unable to walk to P47 would be supported.</p>	<p>The design developed car parking layout proposes 4 x disabled persons carparking spaces. (Refer to Appendix A.2- P47 Carpark Extension).</p> <p>The proposal to use the existing P47 car parking under a shared arrangement with WSU is considered suitable, and the proposed accessible car parking is considered easy for the following reasons:</p> <ul style="list-style-type: none"> The proposed accessible car parking spaces within P47 are conveniently located nearest the path to the proposed school entrance. No parking is possible along Vines Drive; The proposed accessible car parking spaces within P47 are visible from Vines Drive. <p>The travel distance from proposed accessible car parking to proposed school main entrance, while 240m, is noted as occurring over perfectly level surfacing which will assist persons with mobility impairments to travel longer distances between rest stops:</p> <ul style="list-style-type: none"> The current grass verge between the proposed school avenue entrance and Microbiology building, J4, will be hard paved to improve the path of travel for traversing by wheelchair or other mobility aid, and provide a safer option to persons crossing the road to continue on existing hard surfacing if they require;

Issues Raised by Agency Submissions		Proponent's Response
		<ul style="list-style-type: none"> Rest seating complying with AS1428.2 can be introduced at reasonable intervals (maximum 60m apart) along the path of travel, to assist persons with mobility impairments who may be more easily fatigued.
8.7	Vehicular & pedestrian access	
	The landscape proposal must ensure vehicular access within the site – for maintenance, transport and in emergencies. A strategy for building maintenance must ensure adequate access to facades. Secondary pedestrian egress / access to the site would be advantageous.	Refer to the drawings in Appendix B.3 Maintenance & Emergency Vehicular Access plans.
8.8	Internal Circulation	
	<p>Internal circulation within and between school buildings is generally clearly thought out, intuitive and direct, however:</p> <p>(a) The stair within the internal courtyard of Building 03 should also serve the ground floor and flights should land on the same side of the atrium to reduce travel distance;</p> <p>(b) Stair 1 in Building 03 could be more generously proportioned because it is the primary stair.</p>	<p>The intended use of the atrium stair, is to provide convenient access between the science GLS's and laboratory facilities on Levels 1&2. So there is no need to extend this stair to ground level so as to serve all levels. The 4x perimeter egress stairs provide general access to all levels of Building 3.</p> <p>The atrium stair flights start and finish in different positions, to reduce congestion on the linkages around the void. Stair 1 is 2m wide and considered a generous proportion for a stair provided in this location at Level 1. Since Building 3 is a very large building and will accommodate the majority of the school's students at any one time, the planning intention is to disperse the students evenly throughout the floor level and reduce congestion at peak activity change-over times.</p>
8.9	Health and safety	
	<p>The proposal provides a healthy and safe environment for school students, staff, users and visitors, provided:</p> <p>(a) Adequate thermal comfort can be achieved;</p> <p>(b) Accessible parking is not difficult to access,</p>	See comments above

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<p>(c) A strategy for providing safe after-hours staff parking is developed.</p> <p>(d) A management strategy for community access to school facilities is developed;</p> <p>(e) Issues relating to the landscape feature are addressed.</p>	
<p>8.10 Amenity</p>	
<p>The design of the buildings and landscape demonstrate high levels of amenity for students and staff. A mixture of indoor and outdoor spaces support learning and recreation. Further consideration should be given to ways of enhancing covered outdoor areas so that they serve as COLAs.</p> <p>The performance of the façade screens should be reviewed at this stage to ensure that adequate levels of daylighting are achieved.</p> <p>Landscape amenity could be improved modifying the 6m wide drainage channel so that it better incorporates into the landscape design and the school's pedagogical objectives.</p>	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> • Buildings 2, 3 and 4 have large roof overhangs and shelter COLA-type spaces that will be provided with concrete seating to enhance the use and amenity of the outdoor learning areas. Steel framed wind buffer screened shelters will provide additional places in the landscaped areas, to engage in outdoor learning activities. • Extensive study into the design of the façade screens, was undertaken to optimise their environmental performance with respect to sunlight penetration and shading in both summer and winter. The primary consideration, as a requirement of the DoE EFSG, being to reduce the effect of glare within the learning space environments. In Building 2, the climatic facade screening is different on both elevations. This is due to the different orientations of the building facades and response to the different sun angles at various times of the day. The fenestration is directly influenced by the sun's path. The screening to Building 3 follows a similar approach where the "solid" elements are strategically positioned for shade and shelter, and removed where they are not necessary to provide. The veranda style outdoor corridors provide shelter, but where required, the screens shade the sunlight. Where not required on predominantly south facing facades, the openness will maximise daylighting of the interiors. Further detailed information and the daylighting studies can be provided as a condition of approval. • The site is very flat and achieving the required falls for drainage to the main southern stormwater channel is challenging. The civil engineers advised that the concrete base of the existing drainage channel should be retained as there is no 'free board' to modify or increase the fall in the channel. However, the landscape design has been developed further, with the proposal to modify the existing banks to create different slopes and a curved top, which will help to make the channel appear more natural. The drainage



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		channel and swales will be planted with water sensitive urban design and bio retention edge plants, to soften the appearance, provide banks stabilisation and increase native habitat. In addition, appropriate native planting will be added to the stormwater detention basin (PA6) and wetland basin (PA7) to integrate these structures better into the natural landscape and enhance their qualities to be appreciated as outdoor learning spaces. (Refer to the landscape drawings in Appendix B.1 Planted Swale, Detention and Wetland Basin.)
8.11	Whole of life, flexible and adaptive	
	The general master planning strategy supports future development of the school following the radial arrangement of buildings around the assembly court. Further information should be provided on ways that the proposed buildings can be reconfigured to accommodate various models of teaching and learning.	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> • The spatial and functional planning of the school accommodation has involved extensive teacher/stakeholder and DoE Future Learning Unit consultation during the design process. • A key design driver is to facilitate flexibility, adaptability and reconfiguration of the educational settings to accommodate a variety of teaching and learning pedagogies. The radial arrangement of buildings facilitate a variety of different configurations, both by extension and concentration of the learning spaces. • There is the potential for the spaces to expand and open into the outdoor landscaped spaces between buildings, or to interconnect and combine multiple spaces within the buildings. A variety of different planning arrangements are possible, with operable dividing partitions/large sliding doors and mobile furniture, to facilitate different modes of teaching and promote collaborative learning between staff and students. • Refer to the drawings in Appendix A.3 GLS Flexible Learning plans in Building 3, which illustrate the variety of potential planning configurations.
8.12	Aesthetics	
	The rich and varied landscaping will make for an attractive and interesting school environment. The variety of different façade screens serve to give each building a unique character. Priority should be given to the	<p>The following is noted by Phil Baigent Registered Principal Architect of Conrad Gargett;</p> <ul style="list-style-type: none"> • Longevity was a key consideration in the selection of the building materials. Anodised and prefinished aluminium materials are proposed for both the cladding and perforated

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	environmental performance of the façade screens. The materials have been chosen for durability which is important given that the enduring attractiveness of the school relies upon quality construction. Further detailed information should be provided on cladding and lining materials, details and furniture arrangements.	metal panel screening, because of its high durability qualities. Prefinished CFC panels and Colorbond steel wall cladding are also proposed. The "KingZip" roofing system is a long length, on-site fabricated, rolled sheet system and the material is prefinished aluminium. Further detailed information on the material selections can be provided, if requested, as a condition of approval.
8.13	Design Excellence Process	
	GANSW are not aware of any design excellence process has been undertaken for this project. It is noted that the architectural firm is included on the NSW Government Architects Pre-Qualification List for Strategy and Design Excellence.	There is no requirement for a design competition to be undertaken for proposed new building developments outside the City of Sydney. Conrad Gargett is an architectural firm that is on the DoE's Pre-Qualification Panel for Education Facilities projects. Conrad Gargett was appointed as the Head Design Consultant (HDC) as a result of a competitive price/non-price tender process.
9	Roads and Maritime Services	
9.1	Flood Evacuation	
	The application does not provide any details about consultation with INSW and the State Emergency Service in relation to the impact of the proposed development on the regional flood evacuation route (Hawkesbury Nepean Flood Risk Management Strategy). This matter was raised in the previous response from Roads and Maritime dated 4 August 2017. The applicant is requested to consult with INSW and the State Emergency Service to ensure that the safety of students and staff is adequately considered for the proposed development.	Refer to Appendix C.3 for the Flood Evacuation Management Plan which summarises the flood risks within the site, identifies preparation measures that should be undertaken and provides an action plan with steps to be completed during a flood event. This was developed after consultation with the SES and INSW, with no objection raised to date following receipt of the draft document.
9.2	Upgrades required on the Londonderry Road and Vines Drive intersection	
	The submitted Traffic report indicates that 50% of vehicles will be arriving and departing the school via the intersection of Londonderry Road and Vines Drive, which is currently under priority control arrangements. Given	Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.2 which balances the safety audit with crash data and other standards

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<p>the likely increase in traffic movements negotiating this intersection and the Londonderry Road and Southee Road intersection, it is requested that the applicant should realign the Londonderry Road/Vines Drive intersection so that it forms a cross intersection with Southee Road.</p> <p>Plans with a concept design should be submitted to Roads and Maritime for further review and concurrence in accordance with Section 138 of the Roads Act 1993.</p>	<p>Refer to Appendix D.3 for the Concept Design Road Safety Audit relating to Londonderry Road, Vines Drive and Southee Road. The audit identifies elements of the proposal which could be altered or removed to improve safety for road users and details these issues in the Table of Audit Findings.</p>
<p>9.3 Safety Issues</p>	
<p>The Traffic report states that approximately 50% of vehicles will be arriving and departing the school from Blacktown Road through the University via College Drive and Campus Drive. This may encourage motorists to “rat run” through the narrow turning roads within the campus to reach the school which is not appropriate. The school would need to discuss and negotiate the promotion of such a route with the University of Western Sydney and additional traffic calming measures would need to be implemented to increase safety for the pedestrians that access the school and university from the railway line.</p> <p>The proposed development will generate additional pedestrian and cyclist movements in the area. Pedestrian and cyclist safety is to be considered in the vicinity.</p> <p>A significant number of vehicles and pedestrians will access the site at the start and end of the school day. School Zones must be installed along all roads with a direct access point (either pedestrian or vehicular) from the school. School Zones must not be provided along roads adjacent to the school without a direct access point. Road Safety precautions and parking zones should be incorporated into the neighbouring local road network and 40km/hr School Zones are to be installed in accordance with the conditions below. The consent authority should ensure that parking, drop-off and pick-up zones and bus zones are incorporated in accordance with Roads and Maritime standards. Roads and Maritime is responsible for speed management along all public roads within the state of New South Wales. That is, Roads and Maritime is the only authorised organisation that can</p>	<p>Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.4.2 and Appendix D.2 for the Concept Design Road Safety Audit relating to Campus Drive and Blacktown Road. The audit identifies elements of the proposal which could be altered or removed to improve safety for road users and details these issues in the Table of Audit Findings within the audit report.</p> <p>Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.3 Safety Issues which notes;</p> <ul style="list-style-type: none"> • <i>Campus Routes</i> • <i>RMS has expressed concern regarding motorists “rat running” through campus roadways when accessing the site from College Drive or Campus Drive.</i> • <i>There are not considered to be any possible routes through the campus where motorists could “rat run” and create safety or operational issues. All routes between the School and various public roadways are via the only possible access route.</i> • <i>All internal roadways are currently marked as 40 km/hr areas. Introduction of 40 km/hr School Zones on any internal roadways would not change vehicle speeds and therefore there would be no incentive for drivers to use alternative routes if available.</i> • <i>Pedestrian & Cyclist Safety</i> • <i>RMS has noted that pedestrian and cyclist safety are to be considered in the vicinity of the site. The proposed development includes new pedestrian footpaths connecting to the existing pedestrian network, utilising existing (improved) pedestrian crossings plus new pedestrian crossings in the car park area. Cyclists will be able to utilise existing shared</i>

Issues Raised by Agency Submissions	Proponent's Response
<p>approve speed zoning changes and authorise installation of speed zoning traffic control devices on the road network within New South Wales.</p> <p>Therefore, the Developer must obtain written authorisation from Roads and Maritime to install School Zone signs and associated pavement markings, and/or remove/relocate any existing Speed Limit signs.</p> <p>To obtain authorisation, the Developer must submit the following for review and approval by Roads and Maritime, at least eight (8) weeks prior to student occupation of the site:</p> <ul style="list-style-type: none"> (a) A copy of Council's development Conditions of Consent. (b) The proposed school commencement/opening date (c) Two (2) sets of detailed design plans showing the following: <ul style="list-style-type: none"> (i.) School property boundaries. (ii.) All adjacent road carriageways to the school property. (iii.) All proposed school access points to the public road network and any conditions imposed/proposed on their use. (iv.) All existing and proposed pedestrian crossing facilities on the adjacent road network. (v.) All existing and proposed traffic control devices and pavement markings on the adjacent road network (including School Zone signs and pavement markings). (vi.) All existing and proposed street furniture and street trees. <p>School Zone signs and pavement marking patches must be removed and installed in accordance with Roads and Maritime approval/authorisation, guidelines and specifications.</p>	<p><i>paths and the widened roadway along Vines Drive will improve vehicle-cyclist separation and safety.</i></p> <ul style="list-style-type: none"> • <i>School Zones</i> • <i>It is anticipated that School Zones will be installed along Vines Drive and Maintenance Lane, as the only two roads with direct access points to the school. The school is considered to be the leased parcel of land within the larger university site.</i> • <i>No School Zones are expected to be provided on external public roads including Londonderry Road and Blacktown Road (which are frontages to the broader WSU parcel of land).</i> • <i>All development and installation of School Zone signage will be in accordance with RMS requirements as detailed in the RMS submission.</i>

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<p>9.4 Traffic Impact Assessment</p> <p>The proponent has not modelled the development traffic impacts on the intersection of Londonderry Road and Southee Road as requested in Roads and Maritime's SEARs response.</p> <p>Traffic modelling undertaken for the Blacktown Road and Campus Drive intersection indicates that the level of service is likely to deteriorate from LoS C to LoS F in 2027. Lengthy delays will be experienced by those trying to exit Campus Drive, particularly turning right onto Blacktown Road. While the consultant accepts these delays on the basis the impact is on traffic within the campus grounds and thus won't impact the main road traffic flow, Roads and Maritime does not consider this to be satisfactory. Drivers frustrated by lengthy delays tend to take greater risks and the potential for accidents increases and safety at the intersection will decrease. It is also noted that the adjacent intersection of Blacktown Rd, Lennox St and Bourke St while operating at LoS A has a poor accident history of 19 accidents in 5 years.</p>	<p>Refer to Appendix D.1 Response to Submission Traffic and Parking, Section 3.4; which states;</p> <ul style="list-style-type: none"> • <i>Southee Road</i> • <i>RMS has stated that traffic impacts at the intersection of Londonderry Road and Southee Road have not been modelled, as requested in the SEARs. This statement is incorrect.</i> • <i>Modelling for this intersection was undertaken and discussed in the Transport and Accessibility Impact Assessment (see page 28), demonstrating a Level of Service 'A' maintained at this intersection.</i> • <i>Blacktown Road</i> • <i>RMS has noted the deterioration of the intersection of Blacktown Road and Campus Drive from Level of Service 'C' to 'F' and does not consider this to be satisfactory.</i> • <i>In addition to consideration of all queuing being within the public site:</i> • <i>The painted median island and centre-of-road space provides for safer vehicle movements and storage space relative to other intersections along Blacktown Road (such as The Driftway or Bennett Road).</i> • <i>Modelling has allocated 5% of total traffic generation to a right turn from Campus Drive to Blacktown Road. Given the delays even under the existing scenario, demand for this movement may be lower than even the 5% estimate. It is recommended that discussions take place between the University and the Department of Education to implement improvements to wayfinding and highlight the improved site egress via College Drive to Bourke Street.</i> • <i>The vehicle allocation of 5% is a total of only 13 vehicles during the PM peak, relative to current demand of 44 vehicles (growing to 49 vehicles by 2027). With such low demand for this movement (particularly in relation to the more than 1,000 vehicles per hour travelling along the major road), the delay experienced by drivers is considered to be acceptable.</i> • <i>The 95th percentile queue length is only 4 vehicles which is considered to be a short queue in which drivers can clearly see the front of queue and the source of any delays.</i>

Issues Raised by Agency Submissions	Proponent's Response
	<ul style="list-style-type: none"> <i>In responding to the findings of the Road Safety Audit, it is proposed that improvements be made to signage, line marking, and safety devices (such as RRPMS) to improve driver awareness and safety. These changes will be coordinated with RMS during the detailed design stage as this will involve minor maintenance works on Blacktown Road.</i> <p>Refer to Appendix D.1, 2, 3, for more detailed discussions and audits.</p>
<p>9.5 On-site Car Parking</p> <p>The proposed school is located some 600m from the closest State Road (Londonderry Road) the parking arrangements and is unlikely to affect the main road network. However, "No Stopping" should be installed along the length of both sides of Vines Drive to ensure the narrow carriageway remains clear for two way traffic, including passing buses. It is understood the school proposes to take the existing parking area known as P47, which is currently dedicated to university patrons, and allocate it to the school parking lot. This will mean university staff and students will be required to find alternate parking.</p> <p>It is also proposed that the P47 car park (which is located adjacent to the school site) will be increased in size from 142 spaces to approximately 220 spaces with a bus zone for 5 buses plus a car drop off and pick up zone. It is noted that adjustments to the car park will be considered as a separate application from that of the school. This should not be the case. The application for the proposed car park should be undertaken in conjunction and conditionally with the application for the proposed school to ensure that an appropriate carpark, Bus Bay and drop off / pick up area has been completed and is functional prior to the school opening.</p> <p>The carpark layout shown in figure 4.1 is not ideal as buses are utilising the same area as the parent car park and the drop off / pick up zone. There needs to be physical separations. Furthermore, the carpark does not meet Council's DCP of 276 spaces.</p>	<p>The following comment is provided in the RTS from TTW (section 3.5) as summarised:</p> <ul style="list-style-type: none"> The request for 'No Stopping' signage is agreed, given that Vines Drive currently operates sufficiently without the signage in place, and the overall desire to minimise signage from the University, an appropriate spacing and location of signs will be determined for the site. While it was anticipated that the car park could be delivered early, it remains as part of this application. P47 has also been modified to address concerns about the shared bus / car usage in order to provide a fully separated bus drop-off area including kerb separation, pedestrian fencing, pedestrian crossings and modified access for improved safety. \ The capacity of the carpark is based on school and university demand as detailed in the Transport and Accessibility Impact Assessment. Due to the unique characteristics of this School being a sought after fully selective school, local school would be considered unreliable as reference guides.



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<p>9.6 Other comments/requirements</p> <p>The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004, AS2890.6-2009 and AS 2890.2 – 2002 for heavy vehicle usage.</p> <p>The swept path of the longest vehicle (including garbage trucks, building maintenance vehicles and removalists) entering and exiting the subject site, as well as manoeuvrability through the site, shall be in accordance with AUSTRROADS. In this regard, a plan shall be submitted to the consent authority for approval, which shows that the proposed development complies with this requirement.</p> <p>A Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to the relevant consent authority for approval prior to the issue of a Construction Certificate.</p>	<p>All carparking and vehicle area are designed in accordance with the relevant Australian Standards and Austroads guidelines. Certification will be required and provided by the Civil engineer and architect prior to provision of the relevant Construction Certificate.</p> <p>A Preliminary Construction Management Plan (CMP) has been prepared. Refer to Appendix L.1 Preliminary Construction Management Plan. However, prior to commencement of the construction works, the Main Contractor will be required to further develop and submit a CMP, which will include a detailed Construction Traffic Management Plan indicating:</p> <ul style="list-style-type: none">• Vehicle routes.• Parking & access arrangements.• Loading zones.• Traffic control measures.• Frequency of arrival & number of construction vehicles.

Appendix A.1 3D Street Views

Appendix A.2 P47 Carpark Extension

Appendix A.3 GLS Flexible Learning

Appendix A.4 Bicycle Store

Appendix A.5 Entry Avenue (BLD1)

Appendix A.6 Ground Level Facilities (BLD3)

Appendix A.5 Entry Avenue (BLD1)

Appendix A.6 Ground Level Facilities

Appendix B.1 Planted Swale, Detention and Wetland Basin

Appendix B.2 Tree Canopy Coverage

Appendix B.3 Maintenance / Emergency Vehicular Access

Appendix B.4 Site Fencing Plan

RPS

Appendix C.1 Civil Engineering Report and Storm Water Management Plan

RPS

Appendix C.2 Civil Drawing Package

Appendix D.1 Response to Submission Traffic and Parking

RPS

Appendix E.1 ESD Report

Appendix E.2 Sydney Water: Feasibility Letter Main School

Appendix E.3 Sydney Water: Feasibility Letter Boarding Accommodation

Appendix F.1 Aboriginal Cultural Heritage Management Plan

Appendix F.2 Aboriginal Cultural Heritage Contractor Briefing Document

Appendix G.1 Soil Contamination Report

RPS

Appendix G.2 Remediation Action Plan (RAP)

Appendix H.1 SEARs Noise and Vibration Assessment

RPS

Appendix I.1 Arboricultural Impact Assessment Report

Appendix J.1 Biodiversity Assessment Report

Appendix K.1 Bushfire Overlay Study

Appendix K.2 Planning for Bushfire Protection – Services Comments

Appendix K.3 MRV Vehicle Turning Manoeuvres Plan

RPS

Appendix K.4 Response for Item 6.3 (RFS)

RPS

Appendix L.1 Preliminary Construction Management Plan

Appendix M.1 Community Use of School Facilities Implication Procedures

RPS

Appendix M.2 Pesticide Use Notification Plan

Appendix M.3 Extract: Chemical Safety in Schools

RPS

Appendix M.4 Chemical Safety in Schools

Extract from Online Tool

Appendix M.5 Environmental Education Policy for Schools

Appendix M.6 Implementing the Environmental Education policy in your School
