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Upgrades to John Palmer Public School

Appendix B Environmental Assessment and Mitigation Measures

Prepared for
NSW Department of Education

Date
14 January 2021

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13 October 2021

Revision history

Issue Reference	Issue Date	Issue Status
A	8/10/2021	Draft for SINSW review
B	13/10/2021	Final
C	14/01/2021	Final V2

File Ref: 220114_john palmer ps_appendix b - updated environmental risk assessment and mitigation measures

Contents

1. Environmental risk assessment

In accordance with the SEARs, this section addresses the following significant environmental risk issues:

- Adequate baseline data;
- Consideration of potential cumulative impacts due to other development in the vicinity; and
- Measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment and triggers for each action.

The following table sets out the anticipated impacts, the level of respective impact in terms of severity (low, medium, high), identifies mitigation measures, and once these measures are applied, identifies residual risks (low, medium, high).

Table 1 Environmental Risk Assessment

Impact Theme	Impact Detail	Level of Impact	Mitigation Measures	Residual Risk
Traffic				
Construction	The peak number of trucks visiting the site per day would be 20 trucks (equivalent to 40 vehicle movements). Possible impacts of construction on vehicles / safety of kiss and ride facility with implications for school users There will not be sufficient parking for workers on-site, and workers will need to park in the local area with possible implications on residents and customers of The Ponds Shopping Centre. The Social Impact Assessment, prepared by Elton Consulting also provides mitigation measures.	Medium	Construction traffic and pedestrian management – A Detailed Construction Traffic and Pedestrian Management Plan will be developed and required to be prepared as a condition of consent and incorporated into the Construction Environmental Management Plan (**CEMP**).	Low
Operation	It has been determined that the proposed development will likely increase the pick-up/drop-off demand. Furthermore, existing car parking at the site does not cater for existing or future staff parking demand. However, a preliminary School Transport Plan (STP) has been prepared which outlines strategies to achieve a modal shift at the site, particularly offsetting demand in pick-up/drop-off activity with uptake in cycling and walking modes. Usage of on-street parking by staff is anticipated. However, analysis of on-street parking capacity shows good spare capacity, and staff will also be strongly encouraged to use	Medium	Implement recommendations from STP including arranging a Travel Coordinator to undertake an initial review following six months operation and every two years, following this initial review. Regarding the concerns of unsafe driving behaviour associated with pick-up/drop-off, this has been considered in the STP in Section the updated TAIA at **Appendix E**. This additional oversight will help to prevent any instances of unsafe driving.	Low

	alternative travel modes via the STP (including provision of new dedicated cyclist facilities). Dangerous driving behaviour associated with pick-up/drop-off have been raised as a concern during public exhibition. Other pedestrian safety concerns are associated with the poor lines of sight for drivers exiting from the loading dock of The Ponds Shopping Centre to The Ponds Boulevard.			
Noise & Vibration				
Construction	No receivers are anticipated to be highly noise affected (i.e., exceed an LAeq,15min of 75 dB(A)). Construction traffic would have a negligible impact, and will continue to meet the RNP criteria for surrounding residences.	Medium	A Detailed Construction Noise and Vibration Management Plan (**CNVMP**) will be required to be prepared as a condition of consent and included in the CEMP.	Low
Operation	Although not mandatory to apply the NPI to the use of the school hall, an assessment of high noise level activities has revealed a slight exceedance of 4 dB(A) at R2 in the evening. For the evening period this exceedance is marginal given both the level of exceedance and the likely frequency of events with internal noise levels of 85 d(B)A. As there are no changes proposed to the eastern façade of the existing hall, it is unlikely that there would be a significant change in impact from the existing use of the Hall at R2. Furthermore, it should be noted that the scenarios modelled are based on existing activities at the school hall. Furthermore, other noise emissions associated with operation of the school are expected to comply with the applicable noise criteria, subject to mitigation measures. Furthermore, in relation to internal noise levels, with suitable mitigation measures, rooms within the new building will achieve a level that is appropriate for students.	Medium	Amelioration strategies would be required to sufficiently treat noise emissions to minimise possible acoustic impacts on neighbouring areas: – The Public Address and School Bell Systems shall be designed, installed and operated in accordance with the recommendations in Section 7.5 of the Acoustic & Vibration Impact Assessment. – Internally lined ductwork comprising minimum 0.5 metres straight duct to be applied to each outdoor condenser unit discharge. Internal lining to be minimum 50 mm thick. – Noise barriers of 2m height surrounding outdoor condenser units located on the Northeast, and eastern property boundary servicing Building N North and Building N South. Where solid noise barriers are not possible due to air flow requirements, the barrier may be formed by acoustic louvres with an insertion loss equivalent to that shown in Table 24 of the Noise and Vibration Impact Assessment at **Appendix U** of the EIS**.** – A maximum of 165 OOSCH students located in the asphalt and COLA during the daytime period only (6:30am to 6pm). – Northern and western hangar door of the hall is to be closed during the evening for low noise level activities (i.e., indoor sports, OSHC, school assemblies) – Northern and western hangar door of the hall is to be closed during the day and evening for high noise level	Low

			activities (i.e., live and/or amplified music, school concerts, school dances/discos, community use). – Minimum acoustic performance for glazed elements, ventilation louvres and opaque elements at the eastern façade of the proposed classroom building, to be implemented in the design as provided in Section 7.7 of the Noise and Vibration Impact Assessment at **Appendix U** of the EIS.	
Historical Archaeology				
Construction and operation	There are no built heritage impacts arising from the proposed works.	N/A	N/A	N/A
Aboriginal Heritage				
Construction and operation	There are no Aboriginal cultural heritage constraints for the proposed development.	N/A	None required. If any human remains are identified during the earthworks within the impact footprint, works should cease immediately and the Police and NSW Heritage should be contacted.	N/A
Contamination				
Construction and operation	The potential for contamination constraints at the site is relatively low. However, as with any site, there is always the potential that concealed structures and / or contaminated materials may be present at the site, and this should be considered during bulk earthworks for the proposed development.	Low	An Unexpected Finds Protocol will need to be established for use during earthworks, to ensure that due process is carried out in the event of a possible contaminated find.	Low

2. Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed development are detailed in **Table 2** below.

These measures have been derived from the environmental risk assessment and those detailed in appended consultant's reports.

Table 2 Recommendations and Mitigation Measures

Item	Mitigation Measures
Aboriginal Heritage	An "Unexpected Finds Protocol" will be put in place prior to the commencement of work for the instance that any archaeological remains are found. If human remains, or suspected human remains, are found during excavation, all work in the vicinity should cease immediately. The site should be secured and the NSW Police and the DPIE notified.
Historical Archaeology	As the site is unlikely to hold any known archaeological relics of state or local significance, the proposal is likely to have nil heritage impact. However, should unexpected archaeological relics of local of state significance be uncovered during site works, workers are expected to follow an unexpected finds procedure.
Operational Traffic	Traffic and accessibility management measures will be implemented in accordance with the updated Transport and Accessibility Impact Assessment prepared by TTW at **Appendix E**. A STP will be further implemented to achieve a shift in sustainable modes of traffic. In conjunction with additional bicycle spaces and end of trip facilities, implementation of the STP will ensure that a greater uptake of active travel modes and public transport modal share thereby limiting the number of private vehicle trips and demand for parking and drop-off/pick-up area. Furthermore, local road improvements such as reduced number of driveways along The Ponds Boulevard as well as new raised zebra crossing and walkway to Jetty Street entrance (under the Roads Act 1993) will improve the existing walking and bicycle connections to the school, providing further incentive for greater uptake of active travel modes. The STP provides further measures to manage demand and the daily operation of existing staff car park and pick-up/drop-off area on Pebble Crescent. A splay will be added to the north-east corner of JPPS as a method to improve pedestrian safety and lines of sight for drivers travelling northbound and exiting the loading dock of The Ponds Shopping Centre to The Ponds Boulevard.
Construction Traffic	Construction traffic measures will be addressed in accordance with the Preliminary Construction Traffic and Pedestrian Management Plan (**CTPMP**) within the updated Transport and Accessibility Impact Assessment prepared by TTW at **Appendix E**. A detailed CTPMP will be required to be prepared as a condition of consent. The CTPMP will address traffic impacts during construction, concerns raised by the community during consultation, through several measures: – Access arrangements – measures to ensure as minimal disruption to pick/up/drop-off area on Pebble Crescent as possible;

	– Parking – providing on-site parking for workers where possible and implementing mitigation measures for on-street parking of workers so as to reduce nuisance to neighbours; – Vehicle Management – managing deliveries and truck visits to the site to ensure congestion of streets is avoided.
Geotechnical	The proposed development is to be carried out in accordance with the recommendations outlined in the Geotechnical Investigation Report prepared by Douglas Partners at **Appendix P** of the EIS. In particular, the proposed development is required to be managed impact of saline soils on the proposed development in accordance with a Salinity Management Plan, which is anticipated to be a condition of consent on any SSDA.
Structural	It is anticipated the following conditions of consent will be imposed on the development: – "All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA." – "Prior to the commencement of construction, the Applicant must submit to the satisfaction of the Certifier structural drawings prepared and signed by a suitably qualified practising Structural Engineer that demonstrates compliance with this development consent."
Contamination	The proposed upgrade works will be delivered in accordance with the recommendations in the Detailed Site Investigation (Contamination) prepared by Douglas Partners (**Appendix Q** of the EIS). More specifically, an Unexpected Finds Protocol will need to be established for use during earthworks, to ensure that due process is carried out in the event of a possible contaminated find.
Arboricultural	A total of 148 trees were assessed as part of the site and all were deemed to be of low and medium retention value and none of high retention value. This equates to a tree canopy of 8.7% of the site area (2,582sqm). A total of 36 trees are identified for removal to accommodate the proposed development. The Arboricultural Impact Assessment also includes a Tree Protection Plan for the remaining trees to be retained as part of the proposed development, to ensure their longevity during construction works and operation. The proposed upgrade works will be delivered in accordance with the Tree Protection Plan and tree protection measures within Section 4 of the Arboricultural Impact Assessment Report attached at **Appendix Q** of the EIS to ensure that only the trees that have been identified for removal are impacted because of the proposed development.
Ecologically Sustainable Development	The proposal aligns with targeted initiatives under the Green Star scorecard and proposes a 5-star Green Star Rating. The 5 Star Green Star rating is deemed to represent Australian Excellence in development. Through early design input the proposed design has incorporated various sustainability initiatives: – passive cooling and heating design principles to reduce the school's reliance on artificial lighting and heating, ventilation and air conditioning systems, including external shading, operable windows and clerestory windows.

	– artificial lighting will optimise energy efficiency through LED type lighting, use of timed or sensor feedback functionality. – heating, ventilation and air conditioning will have timed or sensor feedback functionality for energy conservation. Selection of energy efficient appliances and equipment – responsible procurement of products, materials and services reduce resource consumption by encouraging the selection of lower-impact materials, as well as reduction and recycling of generated waste. – implementation of 99.5kW solar photovoltaics (PV) system on the roof of the new 3 storey building (this is estimated to reduce energy to 55.2% of a building without PV). – adopting efficient hydraulic services to assist water efficient design, including, but not limited to rainwater reuse via a 50Kl rainwater tank which services toilets, water efficient appliances and recycled water supply to toilets where demand is not met by rainwater tanks (this is estimated to achieve a 70% reduction in potable water). The proposed upgrade works will be delivered in accordance with the ESD Report prepared by AECOM attached at **Appendix R** of the EIS.
Accessibility	A BCA Report and Accessibility Report prepared by Philip Chun at **Appendix AC** of the EIS and **Appendix I** indicate that the proposed development is capable of complying with the relevant statutory requirements at detailed design stage.
Ecology	An amended Biodiversity Development Assessment Report (BDAR) was prepared by Kleinfelder Australia Pty Ltd and is appended at **Appendix G**. Potential direct and indirect impacts associated with the proposed development would be avoided and/or minimised through the implementation of mitigation and management measures outlined in Section 5.2.3 of **Appendix G**.
Waste	Construction and operational waste will be managed in accordance with the measures identified in the Operational Waste Management Plan by EcCell Environmental Management at **Appendix Y** of the EIS, and the Construction Waste Management Plan prepared by EcCell Environmental Management at **Appendix Z** of the EIS. Regarding the risk of hazardous building materials, it should be noted that all buildings to be removed and demolished were installed at the site post-2006. Therefore, it is unlikely that these buildings will contain hazardous building materials. Notwithstanding, if required, a hazardous material survey can be undertaken prior to commencement of works. It is also anticipated that the consent authority will impose conditions of consent to ensure that proper handling of any hazardous materials uncovered during construction: – Construction Waste Management Plan to address the removal of hazardous materials and disposal at an approved waste facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of any building works; – Applicant to consult with SafeWork NSW concerning the handling of any asbestos waste that may be encountered during construction. Also, compliance with the POEO Regulation 2014 with reference to Part 7 'Transportation and management of asbestos waste'.

Infrastructure Management	The proposed upgrade works are to be designed in accordance with the measures outlined in the Building Services Infrastructure Report Plan prepared by AECOM (**Appendix AB** of the EIS) and Civil Report prepared by enstruct (**Appendix W** of the EIS).
Operational Noise and Vibration	Amelioration strategies would be required to sufficiently treat noise emissions to minimise possible acoustic impacts on neighbouring areas as well as the impacts of surrounding uses on the proposed school facilities are identified in the Noise & Vibration Impact Assessment in **Appendix U** of the EIS**.** – Recommendations have been provided to minimise the impact of external noise emissions associated with the public address and school bell systems of the proposed development to the nearest sensitive receivers. Refer to Section 7.5 of **Appendix U** of the EIS. – Acoustic treatments to be incorporated into the design to limit acoustic emissions from outdoor condenser units as per Section 7.2.2 of **Appendix U** of the EIS, including lined ductwork for each outdoor condenser unit and noise barriers/acoustic louvres. – Limitations on the type of activities to be conducted from the school hall, such as maximum internal reverberation noise levels and management measures such as closing of openings during certain activities. – Limits on the number of students that are capable of being accommodated on the site for the purpose of OOSCH without obtaining further acoustic information to consider impacts on surrounds.
Construction Noise and Vibration	A detailed CNVMP shall further assess the noise impact of construction works and shall include a protocol to minimise any potential noise impacts to identified sensitive receivers, and ensure that appropriate noise control measures are defined and implemented to comply with all relevant noise guidelines.
Construction management	Construction will be managed in accordance with the measures identified in the Preliminary Construction Management Plan prepared by Jacobs at **Appendix Z** of the EIS. A Detailed CEMP is to be prepared prior to construction commencing on site.
Light spill	External lighting is to be carried out in accordance with the design initiatives outlined in the Lighting Strategy at **Appendix V** of the EIS. It is anticipated that a condition will be imposed on any consent to the effect of: “Prior to commencement of lighting installation, evidence must be submitted to the satisfaction of the Certifier that all outdoor lighting within the site has been designed to comply with AS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements and AS 4282-2019 Control of the obtrusive effects of outdoor lighting.”