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APPENDIX E

Mitigation Measures Table

SSD-1718

Proposed Ancillary Works at Narrabeen North Public School in a mapped Coastal Wetlands area

6 Namona Street North Narrabeen, Lot 3 DP 1018621

Prepared for: Department of Education/ School Infrastructure NSW
February 2023

Mitigation Measures submitted with EIS		
Environmental Impact	Mitigation Measure	Further Discussion in EIS and Appendices
Aboriginal Cultural Heritage	<ul style="list-style-type: none"> Should the proposed works be amended and result in potential impacts to areas previously not inspected as part of this assessment, further investigations may be required; That where the archaeologically sensitive landform (refer to Figure 13) may be potentially impacted by development activities, that either of the management strategies presented in Section 10.3 of the ACHA is implemented; All relevant staff and contractors should be made aware of their statutory obligations for heritage under the National Parks and Wildlife Act 1974, which may be implemented as a heritage induction; If during the course of development works, suspected Aboriginal cultural heritage material is uncovered, work should cease in that area immediately. Heritage NSW should be notified and works only recommence when an approved management strategy has been developed; In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area must be cordoned off. The Proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene, or possible Aboriginal remains. If the remains are thought to be Aboriginal, Heritage NSW must be contacted by ringing the Enviroline 131 555. A Heritage NSW officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence; 	Section 6.12 Appendix F
Access	<ul style="list-style-type: none"> Subject to further review at Detailed Design stage 	Section 6.17 Appendix B
Arborist	<ul style="list-style-type: none"> The Project Arborist is to be consulted during the detailed design phase to minimise impacts to retainable vegetation. Undertake a pre-start meeting with contractors before works commence. Tree Protection Fencing is to be erected before works commence and audited by the Project Arborist (Min AQF Level 5). Supervision by a Project Arborist (Min AQF Level 5) and Fauna Spotter/Catcher of the approved tree removals. Any works proposed within the TPZ of retained trees requires supervision of a minimum AQF5 Project Arborist. Tree Pruning is to be undertaken by a minimum AQF Level 3 Arborist. Lay down areas and site shed/office locations are to be identified/finalised and excluded from the Tree Protection Zones of retained trees and minimise public impact. Route vehicles and equipment outside of TPZs. If access is required within TPZ, mulch to a depth of 100mm and tree padding needs to be installed with the option of track mats as determined and signed off by a minimum AQF5 Project Arborist. Construction materials, spoil, stockpiles, tools and equipment are not permitted within the TPZs of retained trees. An exclusion zone is to be established along the perimeters of retained trees and cordoned off with a physical barrier of wire mesh fence, 1.8m in height, which is securely anchored (as noted on the Tree Protection Plan). The role of these fences is to prevent any damage to the complete tree including root system (SRZ & TPZ), stem and branch structure as well as the crown or canopy. Alternatively, and on approval of a minimum AQF5 Project Arborist, plastic mesh fencing, 1.2m in height, secured with star pickets and caps with straining wire can be utilised. All TPZ fencing will require appropriate signage to signify the relevant protection zones. This will require audit and sign off prior to operational works onsite. Engage an AQF5 minimum Project Arborist during the project life; <ul style="list-style-type: none"> Once tree protection fencing and signage has been established and finalised. Project Arborist (minimum AQF Level 5) to audit and sign off. Supervision of approved tree removals in conjunction with a fauna spotter. Any works within the TPZ of retained trees is required. If tree roots are encountered over 50mm in diameter outside of TPZs of retained trees. 	Section 6.3.1 Appendix G

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Environmental Impact	Mitigation Measure	Further Discussion in EIS and Appendices
	<ul style="list-style-type: none"> • Changes to the plans occur. • On completion of the project to conduct a final audit and summary. 	
Heritage	<ul style="list-style-type: none"> • Ensure STOP WORK provisions are in place for any unexpected findings that could be considered archaeological relics or an Aboriginal object during the works to prevent any harm to the finds. Consult a suitably qualified archaeologist to inspect the find and advice on the appropriate management approach. • A photographic archival recording of Binidomes and their surroundings where the proposed development will take place should be undertaken prior to the commencement of any works in accordance with the Heritage NSW guidelines for Photographic recording of Heritage Items Using Film or Digital Capture (2006); • A built heritage specialist should be involved and be on site during all critical processes that require specialist heritage expertise and detailing 	Section 6.11 Appendix N

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Construction Traffic	<ul style="list-style-type: none"> • A construction fence and Class A Hoarding will be provided along the site boundaries to provide safe pedestrian access. The hoardings will consist of a combination of timber and chain wire fencing along the remaining site boundaries, that will be maintained for the duration of the construction program. • Traffic control would be required to manage and regulate traffic movements into and out of the site during construction, with pedestrian priority provided during peak hour periods to maintain accessibility to public transport facilities. • Disruption to road users would be kept to a minimum by scheduling intensive delivery activities outside of peak network hours. • Supervised traffic control will be required where two-way flow is restricted over any length of the roadway, depending on the number of truck movements required and would be managed outside of peak hour vehicle and pedestrian activity. • In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust, or dirt particles from depositing onto the roadway during travel to and from the site. • All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles. • Vehicle movements to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. • No tracked vehicles will be permitted or required on any paved roads. • Public roads and access points will not be obstructed by any materials, vehicles, refuse skips, or the like, under any circumstances. • At no stage shall queuing occur on the public road network. • A schedule for deliveries of materials and goods will be established prior to a typical workday. The project team will be liaising with the suppliers as well as the truck drivers to ensure deliveries arrive and leave the site with adequate buffer time to prevent queuing. • The incumbent contractor will be required to ensure contractors working on the project are aware of no on-site parking being available, and any reliance on on-street parking shall comply with parking restrictions displayed. • A tool drop-off and storage facility will be provided within the site. This would allow tradespeople to drop off and store their tools and machinery, allowing them to use public transport to travel to/ from the site on a daily basis. Workers will also be informed of appropriate tool/ equipment drop-off and storage arrangements made within site sheds and amenities provided on-site. • It is expected that the fencing/hoarding is to be located as close as possible to the property boundary, maintaining maximum footpath width along the Namona Street frontage of the site to minimise the impact on pedestrian amenity. • A mix of existing perimeter fencing and temporary construction fencing will be utilised along the entire boundary of the site and will be maintained for the duration of the construction program. The fencing is to ensure unauthorised persons are kept out of the Site. Two site access gates would be provided along Birnie Avenue and will be closed at all times outside of the permitted construction hours. • There is a requirement for authorised traffic controllers to be present throughout the construction stage of the project. • All workers and subcontractors engaged on-site would be required to complete a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, work, health and safety (WHS), driver protocols and emergency procedures. • A review of the CTMP shall occur monthly. 	Section 6.16.2 Appendix U

Mitigation Measures submitted with EIS		
Environmental Impact	Mitigation Measure	Further Discussion in EIS and Appendices
Demolition and Construction Waste	<ul style="list-style-type: none"> • Skip bins may require alternative placement across construction operations to facilitate the safe and efficient storage of materials and will be retained within property boundaries to avoid illegal dumping. • A waste storage area shall be designated by the demolition and construction contractor and shall be sufficient to store the various waste streams expected during operations. • The WMP will be retained on-site during the excavation and construction phases of the development, along with other waste management documentation (e.g. contracts with waste service providers). • A logbook that records waste management and collection will be maintained on site, with entries including: <ul style="list-style-type: none"> • Time and date of collections; • Description of waste and quantity; • Waste/processing facility that will receive the waste; and • Vehicle registration and company name. 	Section 6.10 Appendix V
Noise and Vibration Impacts - Construction	<ul style="list-style-type: none"> • Construction noise shall be managed by implementing the strategies listed below: <ul style="list-style-type: none"> • Plant and equipment <ul style="list-style-type: none"> o Use quieter methods. o Use quieter equipment. o Operate plant in a quiet and effective manner. o Where appropriate, limit the operating noise of equipment. o Maintain equipment regularly. o Where appropriate, obtain acoustic test certificates for equipment. • On-site noise management <ul style="list-style-type: none"> o Strategically locate equipment and plant. o Avoid the use of tonal reversing alarms or provide for alternative systems (such as broadband reversing alarms). o Maximise shielding in the form of existing structures or temporary barriers. o Schedule the construction of barriers and structures so they can be used as early as possible. o Brief Project staff and workers on the noise sensitivity of the neighbours to the site, particularly the residents nearby. The staff and workers need to be mindful of the noise from their discussions and colour of the language, particularly in sensitive periods, for example, during the pre-start times or “toolbox talk” as they gather to commence for work in the morning. • Consultation, notification and complaints handling <ul style="list-style-type: none"> o Provide information to neighbours before and during construction. o Maintain good communication between the community and Project staff. o Have a documented complaints process and keep register of any complaints. o Give complaints a fair hearing and provide for a quick response. o Implement all feasible and reasonable measures to address the source of complaint. • Work scheduling <ul style="list-style-type: none"> o Schedule activities to minimise noise impacts. • All practical means are to be used to minimise impacts on the affected buildings and occupants from activities generating significant levels of vibration on-site. The following considerations shall be taken into account: <ul style="list-style-type: none"> • Modifications to excavation and construction equipment used. • Modifications to methods of excavation and construction. • Rescheduling of activities to less sensitive times. • If, during construction, an item of equipment exceeds either the NML at any location or the maximum recommended equipment noise levels, the following noise control measures, together with construction best practices presented in Section 6.5.1 (of the CNVIA), shall be considered to minimise the noise impacts on the neighbourhood. <ul style="list-style-type: none"> • Modifications to construction equipment used: <ul style="list-style-type: none"> o Avoid the use of large excavators – use the smallest size practicable; o Avoid the use of vibratory rollers – switch off vibration mode, or use the smallest size practicable if vibration must be employed; 	Section 6.7 Appendix I

Mitigation Measures submitted with EIS		
Environmental Impact	Mitigation Measure	Further Discussion in EIS and Appendices
	<ul style="list-style-type: none"> o Avoid the use of tracked vehicles on site, where practicable, particularly large tracked excavators and cranes – use vehicles with tyres. • Modifications to methods of construction: <ul style="list-style-type: none"> o Saw cutting can be considered for rock removal rather than conventional rock hammering techniques to limit vibration when close to vibration sensitive locations. • Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver. For example, residential receivers are likely to be more sensitive to noise before 9 am than the other receivers. • Consider implementing equipment-specific screening or other noise control measures recommended in Appendix E of AS2436. • Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site. • When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks. • Avoid unnecessary idling of trucks and equipment. • Ensure that any miscellaneous equipment (extraction fans, hand tools, etc) not specifically identified in this assessment incorporates silencing/shielding equipment as required to meet the noise criteria. • The Contractor is to establish a communication register for recording incoming complaints. The registration of a particular item will remain open until the complaint has been appropriately dealt with. • A Construction Environmental Management Plan (CEMP) shall be prepared further to the CNVIA by the engaged Contractor. 	
Flood	<ul style="list-style-type: none"> • New pedestrian ramp to be located outside the 1% AEP flood extent. • Substation to be located outside of the 15 AEP flood extent. 	Section 6.8.1 Appendix K
Geotechnical	<ul style="list-style-type: none"> • Remediation Action Plan and Acid Sulphate Soil Management Plan should be reviewed prior to construction. Should any works be identified for the Coastal Wetlands Mapped area, these should be undertaken prior to construction. 	Section 4.4.4 and 6.9 Appendix L Appendix M

School Infrastructure is committed to undertaking all of the above mitigation measures.