



Environmental Assessment Level 2

SECTION 1

WORK DETAILS			
Project / Activity Name	Birubi Point Coastal Management Plan items CH079 and actions relating to E012	Section undertaking Project / Activity (Proponent)	Public Domain and Services
Project Manager / Works Supervisor	Roadside and Drainage Coordinator	Timing and Duration	Maintenance activities ongoing.
Environmental Risk Level	Determined during the Initiation Phase through an Enterprise Risk Assessment. See Project Management Framework. (Low, Medium, High or Extreme)	Project / Job Number	
		EDRMS	PSC2024-04709-0001
ACTIVITY DESCRIPTION			
Description	Coastal Management Plan action CH079 – “Undertake foredune stabilisation works at Birubi Point in accordance with the NSW Coastal Dune Management Manual (DLWC, 2001).” The fore dune is subject to erosion, primarily due to wind processes. Previous interventions, including planting and the installation of sediment control fences, need to be supported with ongoing maintenance and supplementary planting works. Coastal Management Plan actions under E012 – Beach management and Dune Rehabilitation Works to Birubi Point E012 – Consists of three components (north to south on map below). - Existing turf lawn and pathways surrounding SLSC and café subject to accretion of wind blown sands - Beach scraping to remove wind blown and water deposited sand from existing pedestrian beach access point and redeposit onto adjacent beach		
Justification and Objectives	Required works under the endorsed Coastal Management Plan. To manage foreshore access, revegetate dunes and fence them and complete ongoing maintenance as required to protect assets and maintain/ improve vegetation growth to the fore dune.		
Scope of Works	The proposed activities may include: - Temporary installation of site controls for erosion and sediment, traffic control and pedestrian signage - Rehabilitation of dunes including fencing, weed control, sediment control and revegetation. - Tree maintenance – pruning, hazard reduction - Beach clean-up of debris including dead animals and beach wrack. - Mowing of turfed areas. - Sand management- Minor scale sand carting or beach scraping to address accretion of sand and/or erosion in areas identified in the site map. All activities to occur above the mean high watermark. Activity initiation is based on observation. This is an ongoing maintenance scale activity that is only undertaken to: - make safe public accessways - address minor erosion to protect the integrity of the dunes, protect for landward assets - address the inundation of recreation areas. Machinery that may be used includes: - Pozi-track - Small excavators - Long reach excavators - Backhoe - Heavy haulage trucks only if required and for delivery of fill only - Ride on lawn mower - Edger - Auger - Chainsaws - Battery operated hand tools Key processes: - Revegetation works – digging small scale planting holes, native planting and erosion control - Delivery of materials – small tipper truck and/or work ute deliveries of materials. Heavy haulage vehicles may be required on occasion		

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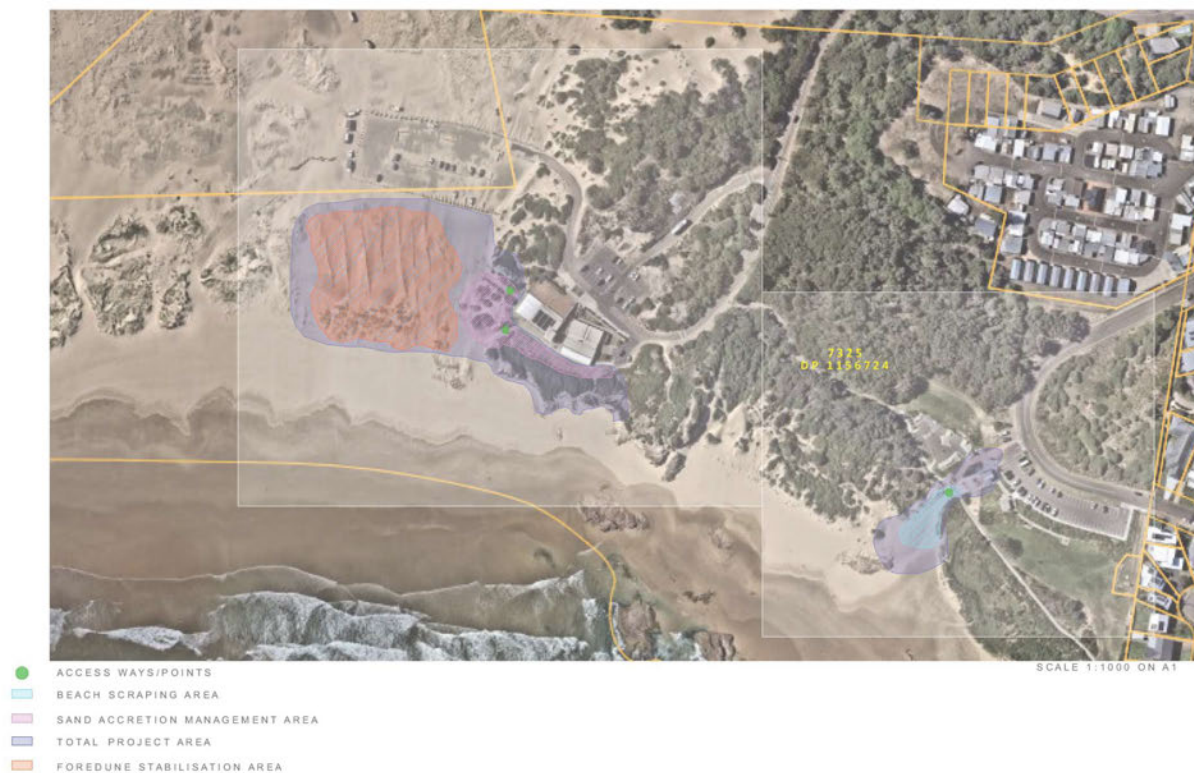
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	- Demolition – limited to removal of old and/ or damaged fencing as part of maintenance activities and any failed plantings. - New/ replacement fencing - Post hole digging to a typical depth of approx. 800mm. May also include staked fencing driven into existing ground; primarily wind blown sands. Timber, shade cloth, wire. - Stockpiling – Mostly existing materials on site, or sand from within the system. Imported material such as gravel for access - Machinery, Vehicles and tools – typically small trucks/utes and earth moving equipment, auger, ditch witch. - Weeding – low impact, hand removal expected. Use of herbicides may be required. - Irrigation – utilisation of existing irrigation systems where feasible. Establishment irrigation by hand or vehicle mounted equipment may be required		
Consideration of Alternatives	CH079 – stabilisation works are required to maintain the existing fore dune structure and protect assets behind the dune. E012 – Maintenance is required for public safety and to avoid potential impacts due to asset failure. No alternatives possible. These are ongoing maintenance activities that manage sand and debris accretion at areas of high public use.		
LOCATION			
Address (including Lot and DP)	Lot 7325/DP1156724	Land Zoning	C1
Landowner	☐ Port Stephens Council ☒ Other- Crown <i>If the activity impacts another public authorities land (e.g. Hunter Water, National Parks etc), they are also a determining authority. The EA must be provided to them to produce a decision statement to accompany PSC's determination.</i>	Date of Site Inspection	
Existing Environment	Birubi Point Aboriginal Place, approximately 56 hectares (ha) of coastal land at Anna Bay, was gazetted as Aboriginal Place in 2007. Birubi Headland lies at the interface of the mobile dune landscape of Stockton Bight and the rocky coastline of the Tomaree peninsula. As a result of this location the most prevalent coastal processes continuing to shape the landscape are coastal erosion, coastal recession and wind-blown transport of sand. E012 – Consists of three components (north to south on map below). - Existing turf lawn and pathways surrounding SLSC and café subject to accretion of windblown sands - Beach scraping to remove windblown and water deposited sand from existing pedestrian beach access point and redeposit onto adjacent beach CH079 - Existing fore dune between ocean and existing carpark. Existing revegetation works that require improvement and maintenance of the fore dune to ensure their ongoing success. Part of earlier works include a series of sediment fences aimed at accreting sand to maintain volume in the dune.		



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BIRUBI BEACH SITE PLAN



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Management Action E012 – Sand Management Action

Birubi Point Activities (Figure D-1)

1.

Not in scope of this EA
2. Removal of accreted sand from around the SLSC, usually four times a year.
3. Management of sand accreted in drainage channel and beach scraping around the boat ramp. The works are usually undertaken twice a year (at an estimated cost of \$3,000 each time) after a big swell or coastal storm event where debris and sand accumulate in the playground and at the boat ramp. Clearing of the stormwater outlet/channel is undertaken to ensure Robinson Reserve can drain freely. Sand is pushed onto the adjacent beach.



Figure D-1 – Birubi Point Sand Management Activities

APPROVAL PATHWAY

These Environmental Assessment forms are for Pathway 3: Part 5 Environmental Assessment under SEPP (Transport and Infrastructure) only.

See Environmental Assessment Guide - Planning Pathway Overview Chapter (and Flowcharts) for support in this Section.

Pathway 1: Local Development (Part 4) → if YES, commence a Development Application

Are the works **Permitted with Consent** under **SEPP (Transport and Infrastructure)**?

See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts Planning Pathway

Yes ☐

No ☒

Do the works trigger the **SEPP (Resilience and Hazards)**?

See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts SEPP (Resilience and Hazards)

Yes ☐

No ☒

Pathway 2: Tree / Vegetation Removal → if YES commence an Environmental Assessment : Trees & Vegetation

SECTION 2

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Is this activity solely involving vegetation and/or tree removal? See <i>Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts tree removals</i>		Yes ☐	No ☒
Pathway 3: Transport and Infrastructure SEPP (Part 5)			
a) Is the activity permissible under the LEP? (i.e. not listed as Prohibited in the Land Use Table?) If NO, rethink the proposed activity and its location. If YES move to (b).		Yes ☒	No ☐
b) Are the works permitted as Exempt under SEPP (Transport and Infrastructure) but assessed as greater than negligible in Section 3 Environmental Impact Triggers in the Environmental Assessment Level 1 Form? <u>Or</u>		Yes ☐ Clause:	No ☒
c) Are the works <u>Permitted without Consent</u> under SEPP (Transport and Infrastructure)? <u>If YES to either of these questions, move to Section 3: Environmental Impact Triggers of this Form.</u>		Yes ☒ Clause: Div 25 Part 2.165 (3)	No ☐

ENVIRONMENTAL IMPACT TRIGGERS			
See <i>Environmental Assessment Guide – Technical Specialists & Impact Assessments Chapters</i> for support in this Section.			
SECTION 3	BIODIVERSITY - Known impact to Threatened Species or Ecological Communities (including clearing of habitat) - Known impact on SEPP (Koala Habitat Protection) - Known impact to areas mapped on the Biodiversity Values map - Working within a declared area of outstanding biodiversity value (AOBV)	<i>Supporting comments and/or evidence, summaries of technical reports</i> Works to improve native habitat and biodiversity and the types of works are not likely to cause long term impacts or harm. Works will improve foredune vegetation habitat. Species viewed in the area over time include Loggerhead turtle (E1), White-Bellied Sea Eagle (V), Shy Albatross (E1), Koala (E1), Little Tern (E1), Pied Oystercatcher (E1), Leatherback Turtle (E1), Southern Giant Petrel (E1) and NZ Fur Seal (V)	No
	COASTAL Known impact to SEPP (Resilience and Hazards) mapped areas (including proximity) of Coastal Wetland and/or Littoral Rainforest while undertaking exempt works? See <i>Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts SEPP (Resilience and Hazards)</i>	N/a	No
	HERITAGE Known impact to Aboriginal and / or non-indigenous heritage?	Sensitive area for indigenous heritage but works are to be completed within wind blown sands only and do not propose excavations into natural sand/ soil profile. Birubi Point historic cemetery is approximately 200m from the most western extent of works. Fully separated from the works by distance and large elevation change. No chance of impacts.	No

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	NATIONALLY SIGNIFICANT		
	Potential impact to Matters of National Environmental Significance? <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Some evidence of endangered bird species but works unlikely to be of impact	No
	<i>If all of the above are NO, continue with this Level 2 Environmental Assessment.</i>		
	<i>STOP: If you've said YES to any of the above criteria, move to a Level 3 Environmental Assessment and / or talk to the relevant technical specialist. See Environmental Assessment Guide – Technical Specialists & Impact Assessments Chapters.</i>		



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SECTION 4 : Approvals, Concurrence, Licences, Permits and Notification

See *Environmental Assessment Guide: External Agency Consultation* for support in this Section.

Specifically refer to **Flowchart: Publishing EAs on Council's Website** to determine if this assessment requires publication on Council's website.

The permits/licences highlighted below will trigger publication onto Council's Website

Trigger		Type	Authority	Applicability
Land Owner	Working on land not owned or controlled by PSC	Land owner consent Land access licence	Marine Parks, Hunter Water, Forestry, National Parks, Australian Government	Yes
	Working on Crown Land and disturbing the ground	Native Title Referral	Port Stephens Council- refer to Strategic Property NTS Corp	Yes
	All works on Crown Land	Land Claim Search and Assessment	Port Stephens Council- refer to Strategic Property	Yes
National Parks	Working adjacent to a national park, nature reserve or other area reserved under NPW Act 1974	Written notice of intention to carry our works and scope of works to NPWS	National Parks and Wildlife Service (NPWS)	Yes
Roads	Working on a classified road not under PSC control or agreement	Concurrence	Transport for New South Wales	No
Water	Natural water usage (dewatering or ground water use)	Water Access Licences and work/use approvals	NSW Department of Climate Change, Energy, the Environment and Water	No
	Discharging to sewer	Trade Waste Agreement	Hunter Water	No
Utilities	Earthworks near services (gas, telecommunications, electricity, water)	Before you Dig check	Before you dig Australia	No
	Working in a mine subsidence area	Approval	Subsidence Advisory NSW Government	No
Heritage	Working near items on the State Heritage Register	Heritage Act: S57(2) exempt notification S60 approval S140 excavation approval	NSW Department of Climate Change, Energy, the Environment and Water	No
	Harm or potential harm to Aboriginal objects and places	Aboriginal Heritage Impact Permit (AHIP) S90 NPW Act	NSW Department of Climate Change, Energy, the Environment and Water	No
	Local heritage item	Concurrence	Port Stephens Council	No
Waterways/ Marine	Working near or in a Marine Park	Marine Park Permit	Department of Primary Industries (Marine Parks)	Yes
	Constructing a fixed or floating structure in or over navigable waters (e.g. new boat ramp)	Written notice of intention to carry our works and scope of works to Transport for NSW	Transport for NSW	No
	Dredging or reclaiming of waterways	Land owner consent Fisheries Permit S201 Marine Park Permit Crown Land License	Land owner: - DPI (Fisheries) - DPI (Marine Parks) - DPE (Crown Lands)	No
		Environmental Protection Licence (EPL)	NSW Environmental Protection Authority (EPA)	No
	Controlled activity in, on or under waterfront land	Controlled Activity Approval	NSW Department of Climate Change, Energy, the Environment and Water	No
	Use explosives or electrical devices in a waterway	Fisheries Permit	DPI (Fisheries)	No
Flora and Fauna	Working near aquatic reserves, habitat or marine vegetation	Fisheries Permit S205	DPI (Fisheries)	No
	Obstructing fish passage	Fisheries Permit S219	DPI (Fisheries)	No

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	Taking or possessing fish or marine vegetation Undertaking Aquaculture	Fisheries Permit S37 /S144	DPI (Fisheries)	No
	Working near or with threatened species or part of an ecological community.	Threatened Species Licence	NSW Department of Climate Change, Energy, the Environment and Water	No
	Research, education or conservation activities involving protected, threatened and/or endangered species.	Scientific Licence	NSW Department of Climate Change, Energy, the Environment and Water	No
	Harm of native fauna	Licence	National Parks and Wildlife Service (NPWS)	No
Pollution and hazards	Noise	Showing inconsistency with Construction Noise Guidelines	NSW EPA	No
	Pollution / Scheduled Activity	Environmental Protection Licence (EPL)	NSW EPA	No
	Asbestos removal	Licenced removalist	SafeWork NSW	No
	Storage of hazardous chemicals	Hazardous chemical notification	SafeWork NSW	No
Flooding	Carry out development that may be permitted without consent under a relevant provision (see s2.13 SEPP T&I) on flood liable land	Written notice of intention to carry our works and scope of works to State Emergency Service	State Emergency Service (SES)	No
Mine Subsidence	Development on land in a mine subsidence district	Written notice of intention to carry our works and scope of works to Mine Subsidence Board	Mine Subsidence Board	No
National	Matters of National Environmental Significance	Concurrence and permit EPBC Act	Australian Government (Department of Climate Change, Energy, the Environment and Water)	No



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SECTION 5 : Environmental Impact Assessment

Aspect: If the aspect is applicable to your activity undertake the impact assessment. If the aspect is not applicable to your activity, the impact assessment is not required but you may provide evidence as to why it is not applicable eg. dates and outcomes of GIS searches and communication with technical specialists.

Impact Description: If the aspect is applicable, you must identify and describe the specific impacts from the activity. Descriptions can include the cause, extent, severity and duration; identification of any source and receivers; if the impact is current, occurs only during works or continues post works.

Impact Without Control: Consider the level of impact from what you've described without any environmental controls identified.

Environmental Controls: If impact without control is greater than negligible, identify appropriate environmental controls to reduce impact. Hierarchy of environmental controls include Elimination, Substitution, Engineering, Administration, Safeguards. Refer to the standard bank of controls document for further guidance.

Impact With Control: Considering the initial impact of the activity and your identified environmental controls, determine the final impact on the environment from the activity.

Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
AIR	Dust Applicable	Low potential for dust creation as present soil is almost entirely sand. Potential for dust generation during the activities outlined in the scope of works due to vehicle movements and plant operations. Dust emissions are expected to be negligible due to the large particle size of the sand and unlikely disturbance to other soils. Air quality is unlikely to be significantly affected and dust generation is expected to be minimal.	Minor: Dust generated during works but confined to the site.	- Dust complaints will be dealt with in accordance with Council's complaints handling procedures and the source eliminated or reduced where practical. - Access to work sites and around work areas will be via boat ramps and existing vehicle access ways to reduce disturbance. - No disturbance to sand to be made during high wind events, monitor conditions. - Dust generation to be visually monitored and controlled if required.	Negligible: Minimal to no dust generated.
	Odours Applicable	Potential for odours from fumes generated from plant and equipment exhaust. Plant and equipment likely to generate odorous includes vehicles and excavators. This will be only short term. The air quality is unlikely to be significantly affected. Distance from closest residence is approximately 130m (or more depending on works) and some works directly adjacent to SLSC and Crest.	Negligible: Minimal to no odours detectable.	- Plant, equipment and materials -used in construction will be maintained, serviced and stored in accordance with all relevant standards and procedures. - Complaints will be dealt with in accordance with Council's complaints handling procedures and the source eliminated or reduced where practical.	Negligible: Minimal to no odours detectable.

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	Emissions <i>Applicable</i>	Potential for emissions generated from heavy machinery and plant exhaust. This will be limited and short term. The air quality is unlikely to be significantly affected.	<i>Minor: Minor emissions release short-term.</i>	- All vehicles and machinery will be maintained to industry standards to maintain exhaust emissions within manufacturer's specifications. - Machinery and vehicles will not be left running or idling for long periods when not in use. - Complaints will be dealt with in accordance with Council's complaints handling procedures and the source eliminated or reduced where practical	Negligible: Minimal to no emissions emitted.
	Aspect	Impact Description	Impact Without Control	Environmental Controls	Impact With Control
NOISE	Noise <i>Applicable</i>	Noise is expected from the following sources during works: 1. Personnel 2. Plant and equipment 3. Vehicles Noise is not expected to be loud enough to cause disruption, but some noise generation is unavoidable and restricted to the works period only. Distance from closest residence is approximately 130m (or more depending on works) and some works directly adjacent to SLSC and Crest.	<i>Minor: Minor noise detectable during works with complaints unlikely.</i>	- Plant and machinery will only be utilized during ordinary construction working hours. Works will not be undertaken outside of 7:00am – 5:00pm Monday to Friday and 8:00am – 2:00pm Saturdays. No maintenance work or deliveries will occur in Sundays or public holidays at night. - Plant, equipment and materials will be maintained in accordance with all relevant standards and procedures to reduce noise created. - All equipment used will comply with the Australian Standards. - Plant and equipment which is used intermittently will be either shut down in intervening periods or throttled down to a minimum. - Machinery and vehicles will not be left running or idling for long periods when not in use. - Noisy plant and equipment where possible will be positioned and orientated so as to minimise impact to nearby public and residents. - Any noise complaints would be addressed immediately in accordance with Council's complaints handling procedures and resolved where possible.	Minor: Minor noise detectable during works with complaints unlikely.
	Vibration <i>Applicable</i>	Minimal localised vibration may occur from heavy machinery. Distance from closest residence is approximately 130m (or more depending on works) and some works directly adjacent to SLSC and Crest.	<i>Minor: Minor vibration detectable during works with complaints and asset damage unlikely.</i>	- Plant and machinery will only be utilized during ordinary construction working hours. Works will not be undertaken outside of 7:00am – 5:00pm Monday to Friday and 8:00am – 2:00pm Saturdays. No maintenance work or deliveries will occur in Sundays or public holidays at night. - Any complaints would be addressed immediately in accordance with Council's relevant codes and policies.	Minor: Minor vibration detectable during works with complaints and asset damage unlikely.

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Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
WATER	Stormwater	There is the potential for the spread of sediment, litter, debris and fuel and oil from plant and equipment during the maintenance works Implementation of the erosion and sedimentation control is documented in the CEMP. Ensure all downstream drains or waterways are protected by installing and maintaining appropriate erosion and sediment controls before beginning the work. All staff will be trained in spill response procedures and all spills will be cleaned up immediately.	<i>Minor: Minor temporary change to stormwater quality or flows that is contained within the site.</i>	- Existing stormwater swales and pits will remain operational during the maintenance works, but will have erosion and sedimentation controls (blue book) to prevent pollutants entering stormwater system. - Installation of erosion and sedimentation controls around stormwater swales and pits. - Re-fuelling of plant to be performed offsite where possible or in a bunded area. - Drainage systems will be checked and maintained regularly to ensure they are operating at capacity e.g. removal of debris. - All staff will be trained in spill response procedures and all spills will be cleaned up immediately. - An emergency spill kit is to be kept on site at all times. All staff are to be made aware of the location of the spill kit and trained in its use. - All chemicals onsite (within work truck) to be stored securely without being opened. - Any chemical handling activities will be carried out in a bunded area. - All chemicals, fuels and oils will be stored in suitable bunded areas with the capacity of the bund at least 120 per cent of the volume of the largest container stored within the bunded area. - Equipment will not be used if there are any signs of fuel, oil, or hydraulic leaks. Leaks would be repaired immediately or the equipment will be removed from site and replaced. - No equipment, machinery or works vehicles would be washed on site	Positive: Stormwater will be restored or enhanced.
	Applicable				

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				- All storage and handling of chemicals and fuels on site will be kept in accordance with the relevant legislative and regulatory requirements. - Use of chemicals on site will be minimised. - Stockpiles are to comply with blue book and be contained. - No work to be carried out in extreme weather events such as storms and flooding. - Remove all excess and loose materials from gutters immediately on finishing. - Erosion and sedimentation controls are to be implemented until grass in swale is established.	
	Groundwater <i>Applicable</i>	No impact to ground water. Projects address existing fore dune and wind blown sand only. Fencing is otherwise to use existing post holes to minimise disturbance opportunities.	<i>Negligible: No disturbance of groundwater.</i>	- Refer to chemicals and hazardous materials controls. - Posts of fencing to be replaced to reuse existing locations to minimise any impacts to ground water	Negligible: No disturbance of groundwater.
	Water Bodies <i>Applicable</i>	Works will be concentrated in the natural dune area, above the mean high water mark and within already disturbed areas. Activities are considered low impact.	<i>Negligible: Works may be carried out adjacent to a water body but will cause minimal to no change.</i>	- Ensure minimisation and mitigation measures for storm water have been correctly implemented to ensure minimal impact to water bodies - Pesticide use shall not be permitted within 10 metres of any riparian areas.	Negligible: Works may be carried out adjacent to a water body but will cause minimal to no change.
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
SOIL	Erosion and Sediment <i>Applicable</i>	All soils are heavily based on sand with a high capacity for wind and water erosion. The sites have been previously disturbed for the construction of the existing structures or from ongoing beach access by the public. The proposed works will not halt the erosion and sand accumulation process but rather the works are ongoing maintenance to ensure the structures and reserves are functional and can be safely used by the public.	Minor: Erosion disturbance and release of sediment but contained within the site.	- Appropriate Erosion and Sediment controls will be installed and maintained in accordance with the "Blue Book". An accurate record of these controls and their maintenance is to be kept and provided upon request. Including silt fences and barriers around drains. - All erosion and sediment controls will be put in place prior to excavation activities and remain in place until maintenance is completed and re-established. - Erosion and sediment control measures will be routinely inspected and maintained. This includes	Positive: The activity will address current impacts from erosion and sediment issues at the site.

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		The risk of sedimentation is considered minor due to the type of soil (sand) being moved. The works are expected to be short term, however the works will be undertaken as an ongoing activity as part of foreshore maintenance. The works are proposing the movement of already exposed sand soils. Erosion and sediment impacts are expected to be low as no new vegetated areas are proposed to be exposed. Future erosion will be further mitigated by revegetation works to the foredune; protecting the foredune itself and potentially mitigating windblown sand accretion to the carpark.		before and after expected heavy rainfall, with any issues corrected promptly. - Disturbed areas will be stabilised as soon as practically possible. Site disturbance will be minimised by containing machinery access to the maintenance site only and only when required. - Works exposing soils would be only undertaken when heavy rain is not predicted within the following 24 hours, unless emergency works are required. - Access to work sites and around work areas (where appropriate) would be planned and managed to reduce disturbance. - Run-off shall be diverted around the work site and erosion sediment control devices shall be installed immediately downslope of disturbed areas. - Vehicle and machinery movements would be minimised during and immediately following wet weather to avoid/minimise disturbance to ground cover. - Erosion and sediment controls are to be checked and maintained on a regular basis and records kept and provided on request.	
	Acid Sulphate Soils <i>Applicable</i>	Mapped as Type (4) Works Below 2m deep. Only excavating 300-600mm or in wind deposited sands. In the unexpected event of ASS disturbance, excavation in the immediate area is to cease and Council's unexpected finds procedure will be followed. The Site supervisor will notify the Parks Coordinator and the Environmental Risk Team.	Negligible: No Acid Sulphate Soils present or disturbed.	- If Acid Sulphate Soils disturbance occurs during the proposed maintenance works, refer to the Unexpected Finds Field Guide Handbook. (See Appendix) - Posts of fencing to be replaced to reuse existing locations to minimise likelihood of unexpected finds	Negligible: No Acid Sulphate Soils present or disturbed.
	Contamination <i>Applicable</i>	There is potential for contamination of the site through the release of oils and fuels. Potential of contamination through imported materials. Not mapped within the Williamtown PFAS Management Area. No current EPA notices applied to the site or were identified in the vicinity of the site.	Minor: Contamination is known within the site but won't be disturbed: or contaminants are used but will not be released.	- All Plant and equipment to be serviced in accordance with manufacturer specifications and regimes. - Potential risks to be minimised by keeping plant in good working order, refuelling in controlled/ appropriately banded areas and having spill kits onsite with appropriate emergency spill response procedures in place. - Plant, equipment and materials used during the programmed maintenance will be maintained and stored in accordance with all relevant standards and procedures.	Minor: Contamination is known within the site but won't be disturbed: or contaminants are used but will not be released.

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				- All staff will be trained in spill response procedures and all spills will be cleaned up immediately. - Equipment will not be used if there are any signs of fuel, oil or hydraulic leaks. Leaks will be repaired immediately or the equipment will be removed from site and replaced. - If contamination occurs during the proposed maintenance works, refer to the Unexpected Finds Field Guide Handbook. - Erosion and sediment controls are to be checked and maintained on a regular basis and records kept and provided on request. - All imported materials are to be tested and classified prior to placement	
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
FLORA & FAUNA	Native Fauna (Animals) Applicable	The works should have a positive impact on native fauna through the improvement of habitat and control of pedestrian access. There is potential the following negative impacts could occur without controls: - There is potential that maintenance activities could temporarily disturb or injure native species from noise and additional movements of people and vehicles/machinery during works. - There is potential for temporary disturbance to beach dwelling fauna where beach areas are used for site access and movement of people and machinery. - There is potential for fauna to traverse the site during maintenance operations. - There is potential for fauna habitat disturbance or damage to occur onsite due to: movement of people, vegetation removal, machinery/equipment; chemical spill such as fuel/oil; inappropriate use of pesticide. - There is a potential that weeds may provide habitat for fauna and weed removal/spraying will cause destruction	Negligible: Native fauna and its habitat may be present on-site but not impacted.	- The works area must be inspected visually at the commencement of work each day for any fauna, nests or drays. - If fauna is passing through the site, cease works within 100 m of the fauna and allow fauna to move through the site without undue duress or harassment. - If the fauna is not passing through the site, the Project Manager must contact the relevant internal environmental officer. Follow the Unexpected Finds Field Guide. - If any injured fauna are present, the Unexpected Finds Field Guide process must be followed. - To minimise impact of habitat loss from weed removal- if nests/drays are found within weed areas, segmented systematic control of prolific vegetation must occur to allow for migration and mitigation of habitat destruction. The Project Manager must contact Council internal environmental officer for advice. - Where practicable, work vehicle access and parking is to be restricted to designated work areas and existing formed access tracks and pathways to prevent any damage to habitat. - If harm occurs to fauna or their habitat, works must cease and the incident immediately reported through to the Environmental Risk Manager. The Environmental Incident Procedure must be followed.	Positive: Native fauna will be protected or habitat enhanced.

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				- Materials, plant and equipment will not be placed in a manner that could result in damage to surrounding vegetation. - Pesticide application will be undertaken by suitably qualified personnel and in accordance with the NSW Weed Control Handbook to prevent impact to habitat. - Chemical/Pesticide to be managed as per Section "Hazardous Materials". - Vegetation to be inspected prior to pruning to ensure there are no tree hollows, nests that will be impacted. If fauna or hollows/nests are discovered, the Project Manager is to contact internal environmental specialist for further advice.	
	Native Flora (Vegetation including trees) <i>Applicable</i>	The works should have a positive impact on native flora through the removal of weeds, control of pedestrian access/erosion and additional native planting. There is potential the following negative impacts could occur without controls: - There is potential that workers may inaccurately identify native flora species and remove or damage them. - There is a potential that the movement of machinery, vehicles or people may trample/damage native vegetation. - There is a potential vegetation will be covered by sand where sand replenishment/movement is undertaken. - There is a potential that incorrect pesticide application and other chemicals from vehicles/machinery/human pollution may impact native vegetation. - There is potential that vegetation pruning or removal of non-native or dead trees cause habitat loss or requires a permit.	Negligible: Native flora is present on-site but not impacted.	- All workers to be experienced in Plant ID skills to ensure correct identification of native flora, invasive species and threatened species. - If threatened flora is unexpectedly identified onsite, the area is not to be disturbed and the Project Manager must notify the relevant internal staff with environmental technical expertise. See the Unexpected Finds Field Guide. - Materials, plant and equipment will not be placed in a manner that could result in damage to surrounding vegetation. - Where practicable work vehicle access and parking is to be restricted to designated work areas and existing formed access tracks, pathways and hard stand areas like car parks to prevent any damage to habitat. - If harm to flora occurs, works must cease and the incident immediately reported through to the Environmental Risk Manager. The Environmental Incident Procedure must be followed. - Vegetation to be inspected prior to pruning or removal to ensure there are no tree hollows, nests, fauna such as koalas sighted or scat on the ground below. If hollows/nests or evidence of fauna are discovered, the Project Manager is to contact Council's internal environmental specialist for further advice. - Pesticide application will be undertaken by suitably qualified personnel and in accordance with the NSW Weed Control Handbook to prevent impact to habitat.	Positive: Native flora will be restored or enhanced.

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				• Chemical/pesticide to be managed as per Section “Hazardous Materials”. • Vegetation pruning or removal must follow Council's Tree removal process. • Tree Protection Zones to be installed for trees which are not being removed.	
Aquatic Flora & Fauna <i>Applicable</i>	The waters adjacent to Robinson Reserve foreshore are part of the Great Lakes Marine Park. The area is zoned as a Habitat Protection Zone’. See Attachments for the zone. <u>Include Identification of Estuarine Macrophytes</u> While dune stabilisation works should have a positive impact on estuarine macrophytes through the reduction of erosion, the following unlikely impacts could occur: • Pollution/contamination from a chemical/pesticide spill into the waterway damaging aquatic flora. • Aquatic fauna or their nests on the beach could be disturbed or injured by noise and additional movements of people and vehicles/machinery during works. • Pollution/contamination from a chemical/pesticide spill into the waterway damaging aquatic fauna or their habitat.	<i>Minor: Aquatic flora and fauna are known within the locality but won't be impacted.</i>	• See Environmental Controls for Native Fauna and Native Fauna. • All staff are to be inducted on the location of aquatic flora (see appendices) and the potential for encountering aquatic fauna onsite. • Access to beach is to be limited to the required works only. No parking of vehicles is to occur on the beach. • Collection of seaweed/drift wood/removal of dead aquatic fauna may require a Marine Park Permit (to follow up during permit process).	<i>Minor: Aquatic flora and fauna are known within the locality but won't be impacted.</i>	
Threatened Species & Endangered Ecological Communities <i>Applicability</i>	See <i>Native Fauna</i> and <i>Native Flora</i> for potential impacts. Threatened species siting and EECs within, or near, the site; • Loggerhead turtle • White-Bellied Sea Eagle • Shy Albatross • Koala • Little Tern • Pied Oystercatcher • Leatherback Turtle • Southern Giant Petrel • NZ Fur Seal • Sooty Oystercatcher • No EEC's within works area	<i>Minor: Species, populations or communities are known within the locality but won't be impacted.</i>	• See Environmental Controls for Native Fauna and Native Fauna. • All staff are to be inducted of the locations of threatened flora species (see appendices) experienced in plant ID skills and notified of the potential for encountering threatened fauna onsite. • If harm to Threatened Species and EECs occurs, works must cease and the incident immediately reported through to the Environmental Risk Manager. The Environmental Incident Procedure must be followed. • A visual inspection is to be carried out for native fauna prior to commencement of works. Works not to commence if they are found on site.	<i>Minor: Species, populations or communities are known within the locality but won't be impacted.</i>	

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		<u>Note that Swamp Sclerophyll Forest is located outside of site.</u>			
	Sensitive Areas <i>Applicable</i>	Sensitive Areas include Wildlife Corridors, Biobanking sites, Property Vegetation Plans (PVP's), Landcare sites and Environmental Zoning. Co-ordination between PDS and any volunteers is required to ensure the best environmental and relationship outcomes. The site abuts the Port Stephens Marine Park buffer zone.	<i>Minor: Sensitive areas are known within the locality but won't be impacted.</i>	- Project staff to liaise with Council Officer Vegetation Management Supervisor to co-ordinate revegetation/weeding works alongside volunteer activities. - See Environmental Controls for Native Fauna and Native Fauna.	Minor: Sensitive areas are known within the locality but won't be impacted.
	Priority Weeds, Feral Animals and Pathogens (Biosecurity) <i>Applicable</i>	Several noxious weeds are identified in proximity to the site: - Opuntia + Cylindropuntia - Chinese Violet - Mother of Millions - Spiny Burr Grass - Alligator Weed - Galenia	<i>Moderate: Noxious weeds, feral animals and pathogens are known within the locality and could be aggravated by the activity.</i>	Invasive Weed Species Controls identified within the Invasive Species Referral assessed by Environmental Operations. (awaiting response from Michael M)	Negligible: Noxious weeds, feral animals and pathogens could be present within the locality but won't be impacted.
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
HERITAGE	Aboriginal <i>Applicable</i>	This project may have a positive impact to potential Aboriginal heritage through the stabilisation of the dune and controlling public access points. This will minimise erosion and the risk of aboriginal artefacts being exposed. Much of the site is highly disturbed through previous construction works to the existing beach access points and fencing and ongoing maintenance. There is however low potential for Aboriginal heritage harm as excavation activities are being undertaken. Controls are required to mitigate this risk.	<i>Minor: Aboriginal artefact, object or places are known within the locality but won't be impacted.</i>	- All staff are to be inducted of the AHIMS locations of Aboriginal sites (see APPENDIX 5) and made aware of the statutory obligations for heritage under the NSW National Parks and Wildlife Act 1974- it is an offense to harm Aboriginal objects by destroying, defacing, or damaging them, or by moving an Aboriginal object from the land. - If suspected Aboriginal objects are located, works must immediately cease, the item protected (no-go zone with tape) and the incident immediately reported through to the Environmental Risk Manager. The Unexpected Finds Field Guide must be followed.	Minor: Aboriginal artefact, object or places are known within the locality but won't be impacted.

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		Worimi LALC has been notified of the maintenance program and requires further information on activities prior to works occurring [REDACTED]		- If human remain are found, works must immediately cease, the item protected (no-go zone with tape) and the incident immediately reported to NSW Police then the Environmental Risk Manager. The Unexpected Finds Field Guide must be followed. - Engage with Worimi Cultural Officers to discuss scope of works prior to any works occurring. If additional environmental controls are raised by Worimi LALC to protect aboriginal heritage, they are to be documented and issued as part of project initiation documentation. - Culturally significant areas will be identified, fencing erected around the site and communicated with staff during induction where applicable.	
	Non-Indigenous <i>Applicable</i>	No known non-Indigenous heritage items on site.	<i>Negligible: Non-Indigenous heritage items are not known within the locality.</i>	If suspected non-indigenous objects are located, works must immediately cease, the item protected (no-go zone with tape) and the incident immediately reported through to the Environmental Risk Manager. The Unexpected Finds Field Guide must be followed.	Negligible: Non-Indigenous heritage items are not known within the locality.
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
SOCIAL	Amenity & Community Disturbance <i>Applicable</i>	There will be amenity and community disturbance impacts during construction. The works will improve overall amenity once completed.	<i>Minor: Amenity and/or the community will be disturbed during works but is managed in accordance with standard operating procedures.</i>	- Access to work sites and around work areas will be planned and managed to reduce disturbance - Any complaints would be addressed immediately in accordance with Council's relevant codes and policies. - See Environmental Controls for Public Access & Safety, Traffic, Dust, and Noise.	Minor: Amenity and/or the community will be disturbed during works but is managed in accordance with standard operating procedures.
	Public Access & Safety <i>Applicable</i>	Access to sites will be closed off for the duration of the works, in order to ensure the safety of workers and the public. The newly maintained foreshore area will enhance the safety and useability of the existing access to beach and dune area.	<i>Minor: Public access and safety will be disturbed during works but is managed in accordance with standard operating procedures.</i>	See Environmental Controls for Amenity & Community Disturbance	Minor: Public access and safety will be disturbed during works but is managed in accordance with standard operating procedures.

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	Traffic <i>Applicable</i>	The access to each site will be via existing access roads and tracks and there will be no requirement for new tracks to be constructed. Access to sites will be closed off for the duration of the works, in order to ensure the safety of workers and the public.	<i>Negligible: Minimal to no disruption.</i>	See Environmental Controls for Amenity & Community Disturbance	Negligible: Minimal to no disruption.
	Aesthetics (visual) <i>Applicable</i>	Whilst the aesthetics of the proposed site may be negatively impacted during maintenance, the final outcome of the project will enhance the aesthetics. Visual impacts will be temporary in nature confined to the works period.	<i>Minor: Minor impact during works with complaints unlikely.</i>	- The site will be kept in a clear, respectful condition during this phase. - All work equipment and materials would be contained within the designated boundaries of the work site or works compound. - The spreading of stockpiles, waste and vehicle parking would be minimised. - Any complaints will be included on a complaints register and responded to in a manner consistent with Council's complaints handling policies.	Positive: The activity will improve current aesthetics issues at the site.
	Land Use <i>Applicable</i>	The current land use of the parks and reserves areas will not change upon completion of the maintenance works. Activities are endorsed in the 2024 certified Coastal Management Program.	<i>Negligible: Improvements / maintenance of existing land use.</i>	- Any complaints will be included on a complaints register and responded to in a manner consistent with Council's complaints handling policies. - Work areas will be planned and managed to reduce disturbance. - Works will not impact or change current land use	Negligible: Improvements / maintenance of existing land use.
	Asset Maintenance <i>Applicable</i>	The proposed outcome of these works will reduce the maintenance requirement of the asset for the immediate future. The long term maintenance requirements will be similar to the existing maintenance project.	<i>Negligible: Asset maintenance will require existing Council resources.</i>	Port Stephens Council will ensure this asset is retained on Council's asset register and maintenance schedules.	Positive: The activity will improve existing asset maintenance issues.
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
WASTE	Waste <i>Applicable</i>	Waste is likely to be limited to removed plants, demolished dune fencing, beach debris, litter and minor amounts of spoil.	<i>Minor: Waste generated but is managed in accordance with a Licence or Waste Management Plan where required.</i>	- Ensure contaminated / unusable material and/or waste material is removed from the site and disposed of at an approved licenced landfill facility - Wastes will be classified in accordance with the NSW Environment Protection Authority (EPA) Waste Classification Guidelines – Part 1: classifying waste (2014) and addendum (2016), and disposed of lawfully at a licensed waste facility.	Minor: Waste generated but is managed in accordance with a Licence or Waste Management Plan where required.

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				• Waste generated by the proposed works will be recycled as a first preference and the remainder will be disposed of appropriately. e.g gravel removed from one section of road would be reused in another area, existing pavement material will be used in batters, trees removed will be mulched with mulch reused on site. • All vehicles and equipment to be cleaned at an approved facility • Ensure correct quantities and spray rates are used to avoid over spraying and waste • Secured storage of chemicals during transport • If soil disposal is required, follow the EPA (2014) waste disposal guidelines. • Mulched or cut trees are to be reused onsite as much as possible. • The work site will be left clean and free of debris and other rubbish at the end of works. • Wherever possible waste generated during site preparation and construction will be reused. Waste that cannot be avoided, reused or recycled will be managed in accordance with the principles of the NSW Waste Avoidance and Recovery Act 2011 and classified in accordance with the Waste Classification Guidelines and disposed of at appropriately licenced facilities. • Offcuts of piping and other materials used will be recycled where possible. • Secure all wastes to avoid pollutants escaping. • Portable self-contained toilets will be provided at the work site and will be regularly emptied and serviced by the contractor providing them. • If any dumped waste is encountered, ensure waste is removed in accordance with councils policies and procedures • In certain circumstances woodchip from native species may be used onsite as mulch to protect the site from weed invasion and to improve water retention / percolation. • For any excess spoil material where potentially contaminating activities have been identified on site	
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				(including Acid Sulphate Soils) this material will be tested and classified prior to leaving the site. For any excess spoil classified as contaminated, disposal of this material will be at an appropriately licensed landfill in accordance with the EPA (2014) Waste Classification Guidelines. • A sufficient number of suitable and labelled receptacles for hazardous waste would be provided for waste disposal on site. • Any complaints would be addressed immediately in accordance with Council's relevant codes and policies. • Waste would be disposed of to an appropriately licensed waste facility with supporting waste classification documentation • Contractors would be instructed to remove all of their garbage from the work sites. • All wastes would be securely stored to avoid/minimise the risk of pollutants escaping.	
	Stockpiles <i>Applicable</i>	Potential for minimal temporary stockpiling of material for not more than 24 hours due to deliveries of materials for maintenance works and will be confined to the project site area for beach access works. Stockpiling will be required for lower carpark works. Stockpiling to be on existing hard stand area and not to encroach on dunes.	<i>Minor: Temporary stockpiling required.</i>	• Port Stephens Council has a stockpile management process. It requires the drivers to record the location from where the material is from, where it is going and how much. This is passed on to the Team Leader who records the information and passes it onto the cost controller for recording. • Any excess spoil material that is classified Excavated Public Road Material (EPRM) will be used in accordance with the EPRM Exemption 2014 under the Protection of the Environment Operations (Waste) Regulation 2014. • For any excess spoil classified as contaminated, disposal of this material will be at an appropriately licensed landfill in accordance with the EPA (2014) Waste Classification Guidelines. • For any excess spoil material where potentially contaminating activities have been identified on site (including Acid Sulphate Soils) this material will be tested and classified prior to leaving the site. • See Environmental Controls for Erosion and Sediment Control and Waste.	Minor: Temporary stockpiling required.
	Aspect	Impact Description	Impact Without Control	Environmental Controls	Impact With Control

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HAZARDOUS MATERIALS	Hazardous & Dangerous Goods <i>Applicable</i>	Some chemicals (oils and fuels) will be brought to site only when required. Pesticides may be used for weed control.	<i>Minor: Hazardous and dangerous goods are present or used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.</i>	- All staff will be trained in spill response procedures and all spills will be cleaned up immediately. - Appropriate emergency spill response procedures will be put in place and a spill kit will be kept onsite. - Equipment will not be used if there are any signs of fuel, oil or hydraulic leaks. Leaks will be repaired immediately or the equipment will be removed from site and replaced. - If any hazardous materials are identified onsite, they will be removed and disposed of in accordance with the state and national regulations and guidelines and best practice for the removal of these materials. - Potential risks to be minimised by keeping plant in good working order, refuelling in controlled/ bundled areas (offsite) and having spill kits on site. - If unknown hazardous materials or dangerous goods are encountered, cease works immediately and contact your supervisor. - In the unlikely event of a pollution incident, the relevant authorities will be notified in accordance with Clause 148 of the NSW Protection of the Environment Operations Act 1997.	Minor: Hazardous and dangerous goods are present or used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.
	Asbestos <i>Applicable</i>	No asbestos is known to be present at the site.	<i>Negligible: No disturbance of asbestos or less than 10 square meters of non-friable asbestos to be removed.</i>	If suspected asbestos material is uncovered onsite, cease works within the vicinity, cordon off the area and follow the UNEXPECTED FINDS FIELD GUIDE.	Negligible: No disturbance of asbestos or less than 10 square meters of non-friable asbestos to be removed.
	Chemicals <i>Applicable</i>	Some chemicals (oils and fuels) will be brought to site only when required. Pesticides may be used for weed control.	<i>Minor: Chemicals used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.</i>	- Implementation of an Erosion and Sediment Control Plan to be documented in the CEMP. - All staff will be trained in spill response procedures and all spills will be cleaned up immediately. - If unknown chemical is encountered, cease works immediately and contact your supervisor. - If contaminated soils are uncovered during the works, all works within the vicinity would cease immediately and the Project Manager and Environmental Representative be notified.	Minor: Chemicals used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.

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				Small spills (1 to 5 litres) must be contained after the source of the spill is identified and WHS assessments have been addressed. If safe to do so, efforts must be made to try contain the spill with the use of appropriate materials to minimise any impacts to the surrounding coastal environment.	
Aspect		Impact Description	Impact Without Control	Environmental Controls	Impact With Control
NATURAL HAZARDS	Bushfire <i>Applicable</i>	Bushfire likelihood is very low. No large scale tree canopies throughout fore dune and beach areas. Moderate scale fragmented vegetation on dunes. Site not identified within or near Bushfire Prone Land.	<i>Negligible: Bushfire risk at the asset or location is Low to High.</i>	Emergency procedures should be taken into consideration as part of the Construction Environmental Management Plan (CEMP).	Negligible: Bushfire risk at the asset or location is Low to High.
	Flooding <i>Applicable</i>	Improvement/ maintenance of stormwater infrastructure will have a positive impact on the site. No other changes to existing conditions. The proposed works are unlikely to impact local flood events.	Minor: Location is mapped as Flood Prone Land but the activity/asset will not contribute to flooding or will not be more affected by flooding than existing conditions	- Emergency procedures should be taken into consideration as part of the Construction Environmental Management Plan (CEMP). - The location of this project is subject to minor flooding all controls will be implemented during construction to minimise any potential flooding issues.	Minor: Location is mapped as Flood Prone Land but the activity/asset will not contribute to flooding or will not be more affected by flooding than existing conditions
	Coastal Processes <i>Applicable</i>	The location is affected by coastal process including shifting sand, wind and erosion etc. These works are endorsed in the 2024 certified CMP to mitigate these processes.	Minor: Location is mapped in Coastal Protection Zone but the activity/asset will not contribute to or be affected by coastal process.	- All works will consider the effect of coastal processes at the site. - Works to accommodate the coastal foreshore dynamic environment by implementing the maintenance works endorsed within the certified CMP.	Minor: Location is mapped in Coastal Protection Zone but the activity/asset will not contribute to or be affected by coastal process.

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	Extreme Weather Events <i>Applicability</i>	The site could be affected by extreme weather events including storms and coastal erosion and sand movement. These maintenance works are in consequence of these extreme weather events, resulting in increased impacts and shifting nature of the local environment.	<i>Minor: The activity/asset could be affected by extreme weather events and requires specific treatment and management.</i>	- Emergency procedures should be taken into consideration as part of the Construction Environmental Management Plan (CEMP). - Works to accommodate for the local dynamic environment. - If an extreme weather event occurs and damage occurs the site will be reinstated and any damage rectified as soon as practically possible; where required in consultation with relevant authorities. - In the event of extreme weather events the site will be shut down and staff removed from the site eliminating any health and safety risk.	Negligible: The activity/asset could be affected by extreme weather events but is managed in accordance with plans and procedures.
	Aspect	Impact Description	Impact Without Control	Environmental Controls	Impact With Control
ENVIRONMENTAL SUSTAINABILITY	Natural Resources <i>Applicable</i>	Energy and water use will increase during works but will be temporary in nature. Due to the reduction in maintenance requirements as a result of the works it is expected that the project will have a net benefit on energy consumption.	<i>Positive: The activity will have a net reduction in the ongoing consumption of natural resources.</i>	- Potential energy use will be minimised by keeping all construction machinery in good working order. - Access to work sites and around work areas will be planned and managed to reduce disturbance. - Work machinery or vehicles would not be left idling or running when not in use. - Where feasible use recyclable materials. - Recycled materials will be resourced where possible and feasible to do so. Where possible materials will be recycled for reuse on site. - Where possible local construction materials, labour and equipment will be sourced to reduce transport requirements and limit the use of finite resources.	Positive: The activity will have a net reduction in the ongoing consumption of natural resources.
	Ecological Sustainability <i>Applicable</i>	The works aim to improve the resilience of the foreshore environment from coastal erosion and enhance the quality of dune vegetation to support local ecological populations. The works will not increase impact to ecological sustainability at the site as it is to assist in maintaining the natural foreshore.	<i>Minor: The activity will temporarily disrupt the ecological processes at the site.</i>	Every effort will be made to minimise the footprint of the proposed work when construction is underway. To do this the work site will be clearly defined.	Negligible: The activity will not disrupt the ecological processes at the site.
	Aspect	Impact Description	Impact Without Control	Environmental Controls	Impact With Control

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ONGOING EFFECT	Cumulative, Accumulative, Degrading Applicable	The works are endorsed in the certified CMP and aims to improve the current foreshore access way and assisting in the preservation of dunes with revegetation. The works aim to improve the resilience of the foreshore environment from coastal erosion, enhance the quality of dune vegetation to support local ecological populations and reduce ongoing maintenance requirements.	Positive: The activity will have a positive effect on the environment.	Nil	Positive: The activity will have a positive effect on the environment.
	Transformative, Long-Term Applicable	The works aim to improve the resilience of the foreshore environment from coastal erosion, enhance the quality of dune vegetation to support local ecological populations and reduce ongoing maintenance requirements.	Positive: The activity will have a positive long-term or transformative impact on the environment.	Nil	Positive: The activity will have a positive long-term or transformative impact on the environment.
OVERALL ENVIRONMENTAL IMPACT The highest outcome in the impact with control column is the overall impact of the activity					
☐ Positive ☐ Negligible ☒ Minor ☐ Moderate ☐ Potentially Significant <i>If all final impacts are <u>negligible or minor</u>, complete Section 6: Declaration and Section 7: Determination.</i> <i>If any final impact is moderate or potentially significant, reconsider Environmental Controls (refer to the Environmental Assessment Guide – Standard Environmental Control Chapter), reconsider design, or move to a Level 3 Environmental Assessment.</i>					



This Form is a report for the consideration and control of potential negative impacts on the environment to determine if the activity should be undertaken. It does not constitute permission to undertake works. Refer to EMS 3.0 Environmental Assessment Procedure for appropriate delegations and training requirements for the Assessing and Authorising Officer.

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SECTION 6: DECLARATION

See Appendix 1 for a checklist to ensure the document is fully complete before signing

As the Assessing Officer preparing the assessment, I certify to the best of my knowledge that:

- This assessment provides a true and accurate review of the activity in relation to its likely impacts on the environment. It contains neither false nor misleading information.
- The activity has been assessed to have a minor, negligible or positive overall environmental impact
- The environmental impacts of the activity are NOT likely to be significant and therefore an EIS is NOT required
- The activity will not be undertaken in a declared area of outstanding biodiversity value and is NOT likely to significantly impact threatened species, threatened ecological communities or their habitat. Therefore a SIS and/or BDAR is NOT required.
- I am delegated to undertake this assessment.
- I have assessed the activity in accordance with Council's EMS 3.0 Environmental Assessment Procedure and the Environmental Assessment: Level 2 Form

Name	Position/Title	Service Unit	Signature	Date
Dean Coulson	Landscape Architect	Assets		15.08.2025

SECTION 7: DETERMINATION

See Appendix 2 for a Determination checklist to ensure the document is compliant before signing

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As the Authorised Officer on behalf of Council as the determining authority, I certify that:

- I have reviewed and endorse the contents of this EA document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.
- The environmental impacts of the activity are NOT likely to be significant, therefore no EIS or SIS and/or BDAR is required, and the activity may proceed subject to the implementation of all mitigation measures set out in Section 5 of the EA document.
- I am delegated to authorise this assessment on behalf of Council as the determining authority
- The activity has been adequately assessed in accordance with Council's EMS 3.0 Environmental Assessment Procedure and the Environmental Assessment: Level 2 Form.

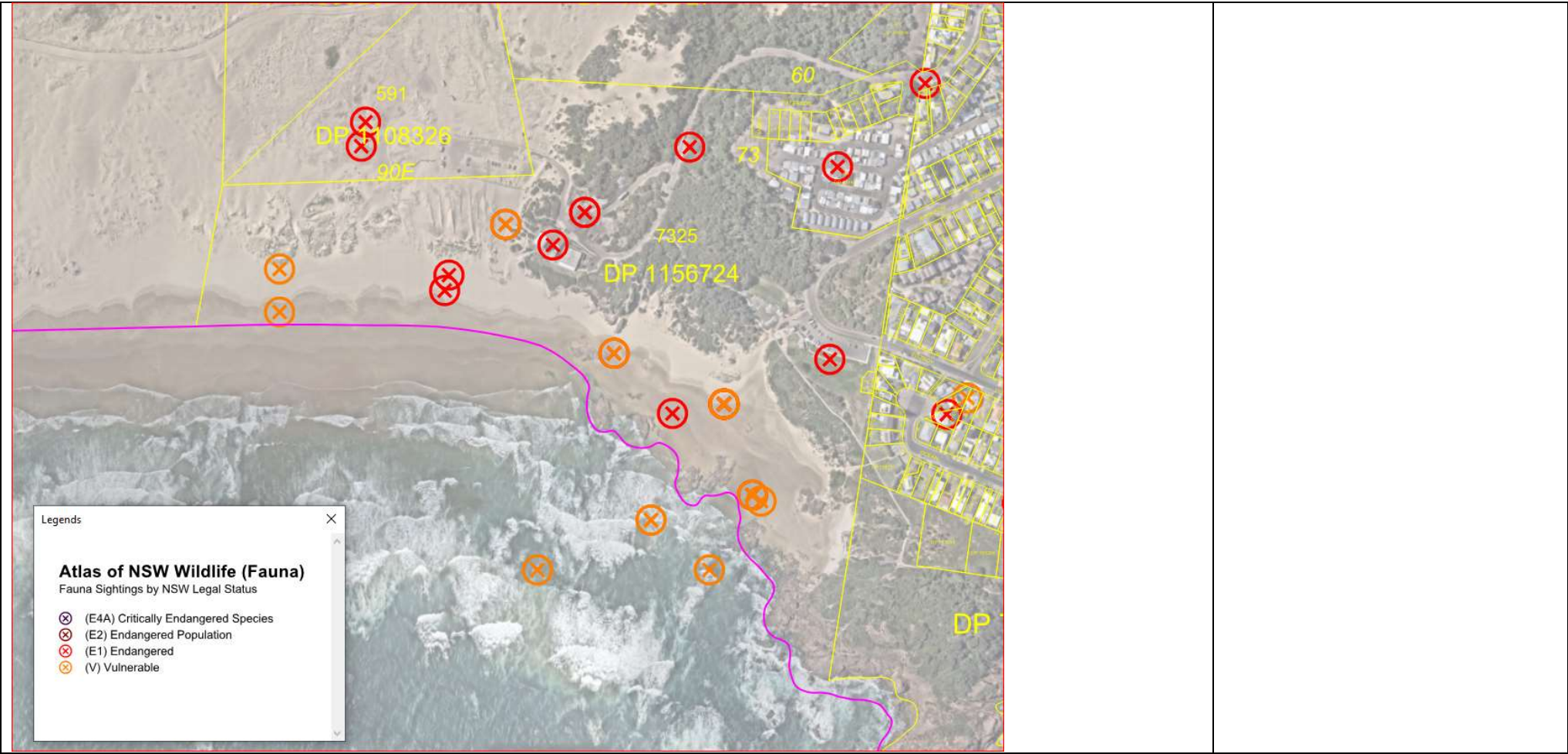
Name	Position/Title	Service Unit	Signature	Date
<u>John Maretich</u>	<u>Assets Section Manager</u>	<u>Assets</u>		19/08/2025

SECTION 8: APPENDICIES	
Item	CEMP Inclusion
Appendix 1 - Endangered Fauna Mapping – Atlas of NSW Wildlife	

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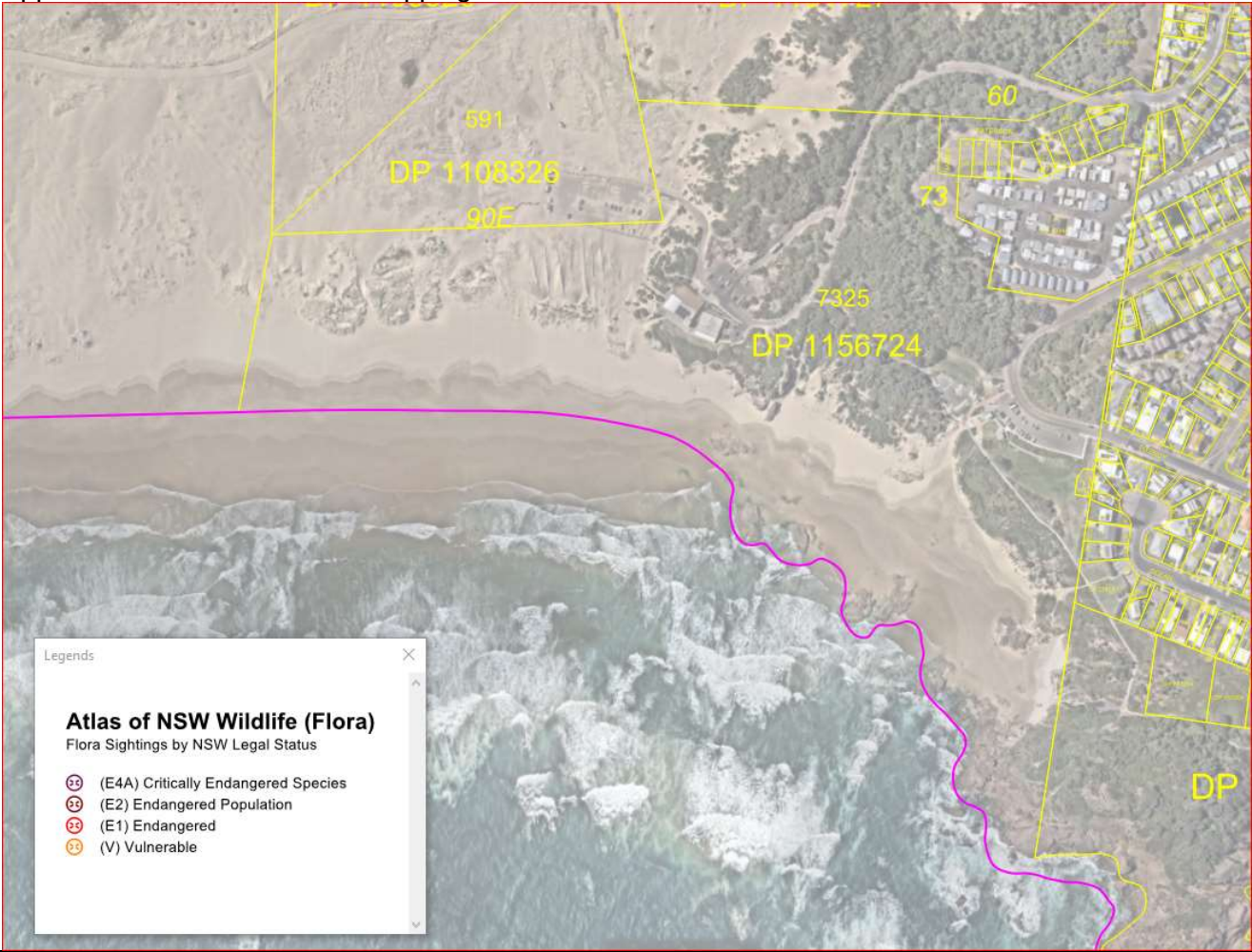


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Appendix 2 - Protected Flora Mapping – atlas of NSW Wildlife

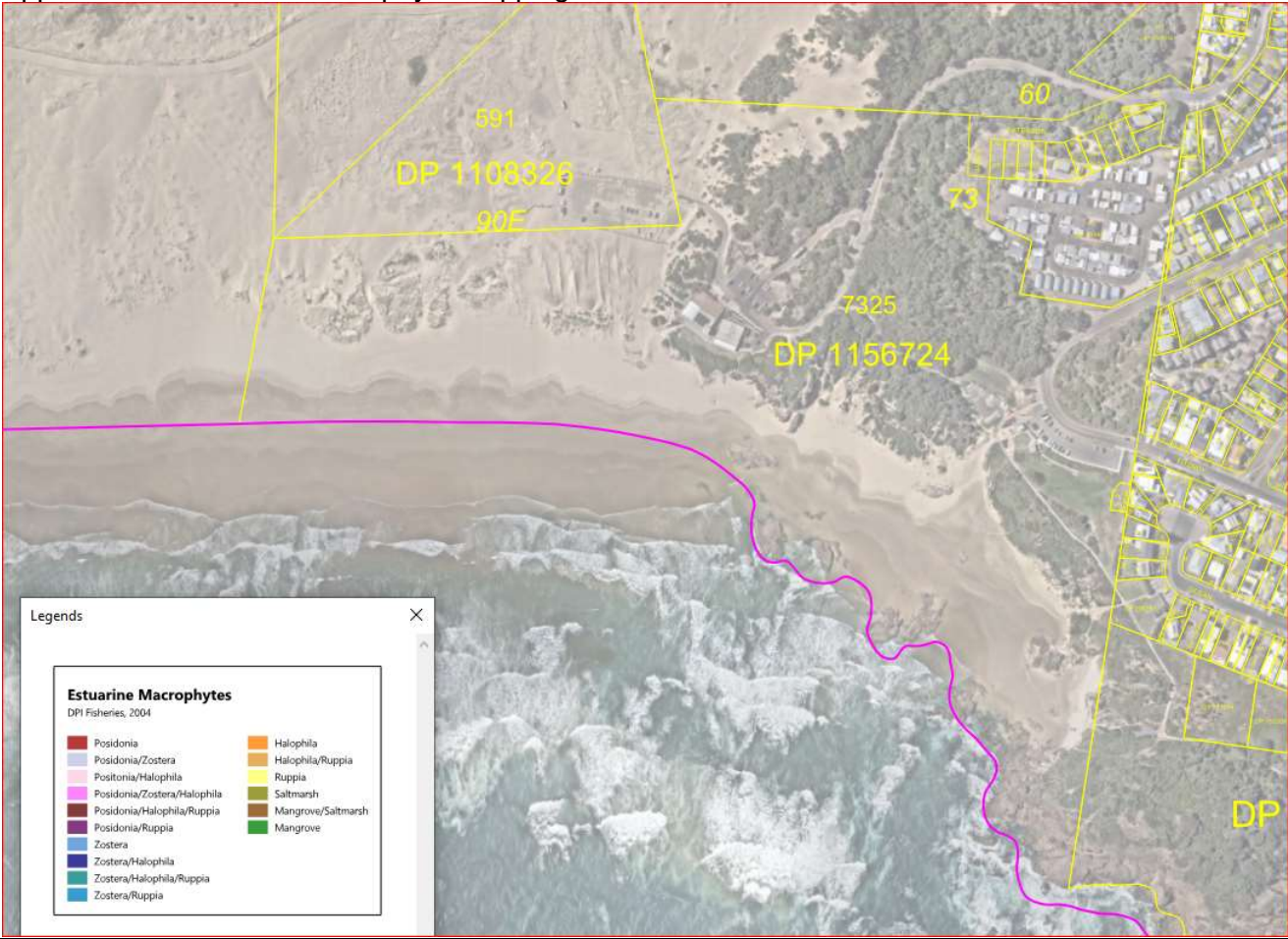


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Appendix 3 - Estuarine Macrophyte Mapping

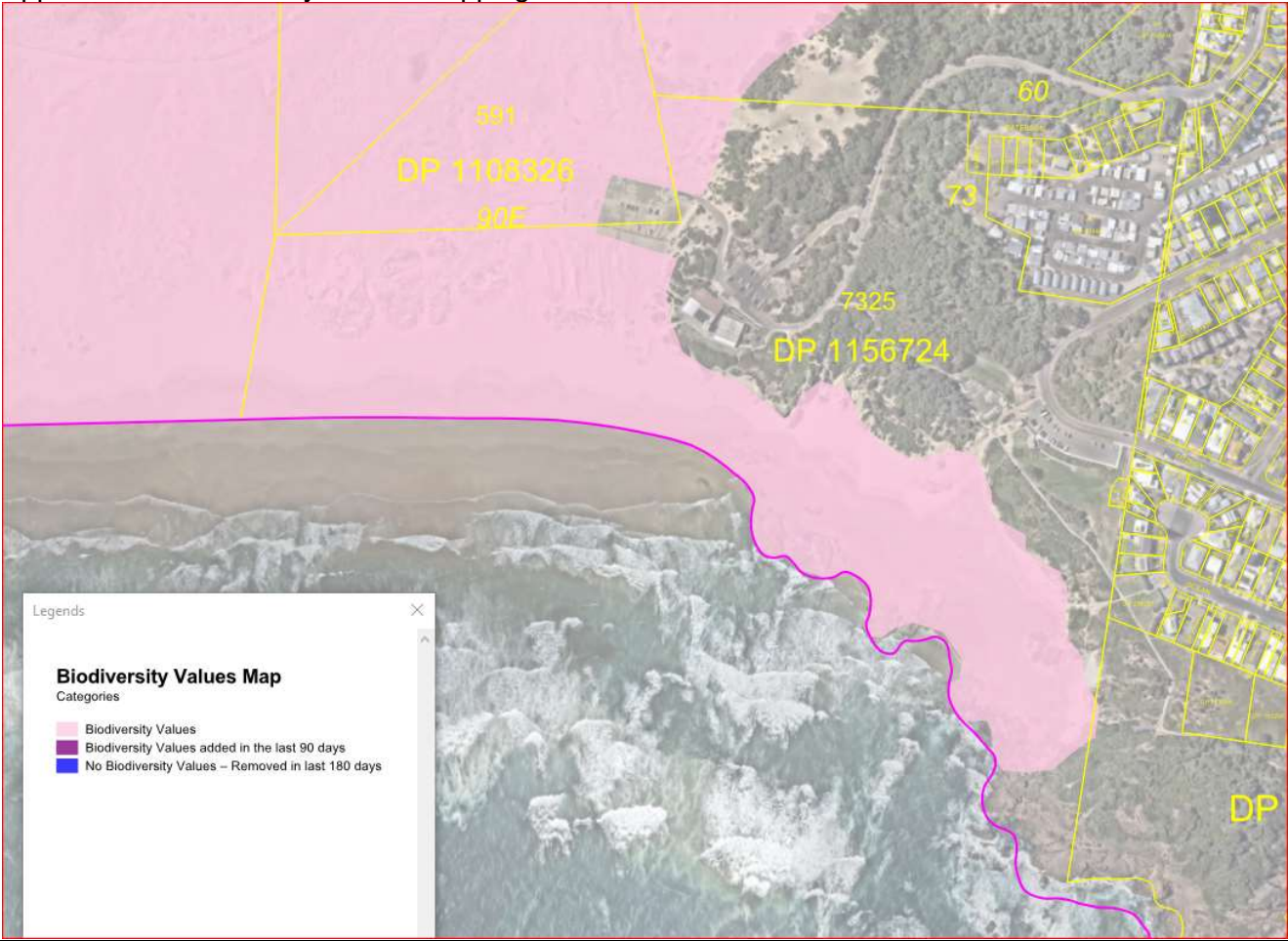


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Appendix 4 - Biodiversity Values Mapping

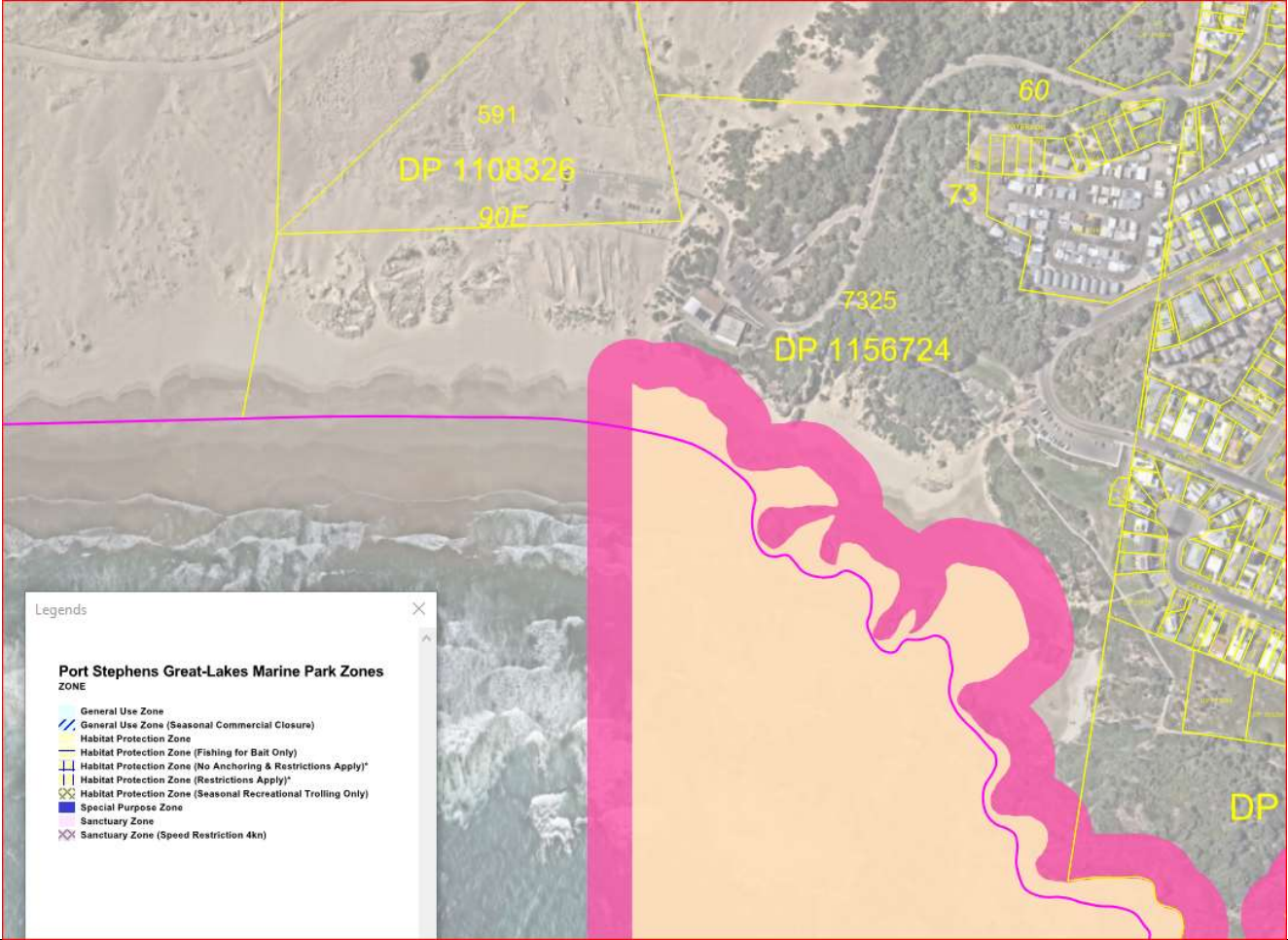


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Appendix 5 - Great Lakes Marine Park and Buffer Zone

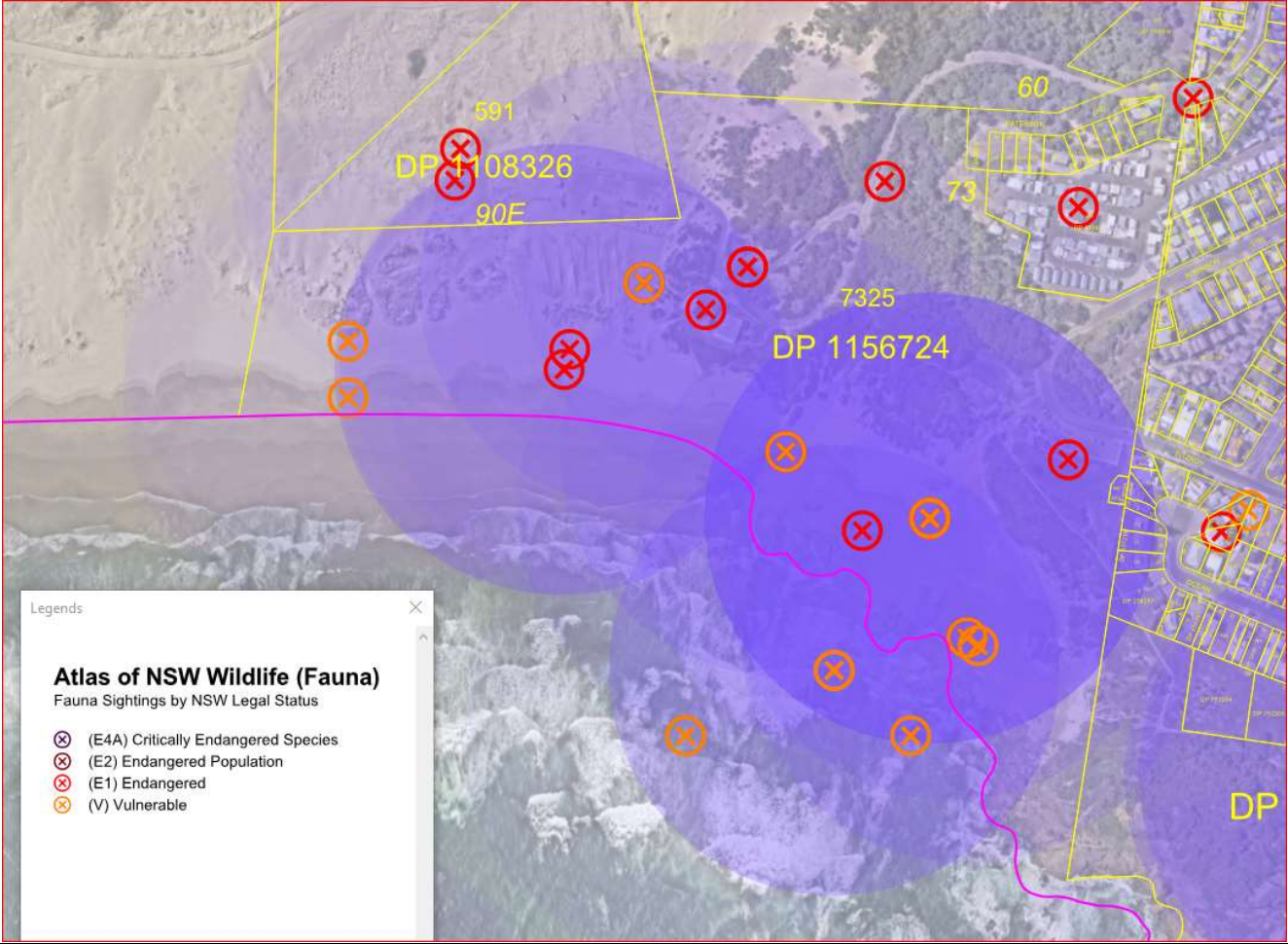


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Appendix 6 - 200m Buffer Zones around Fauna on site

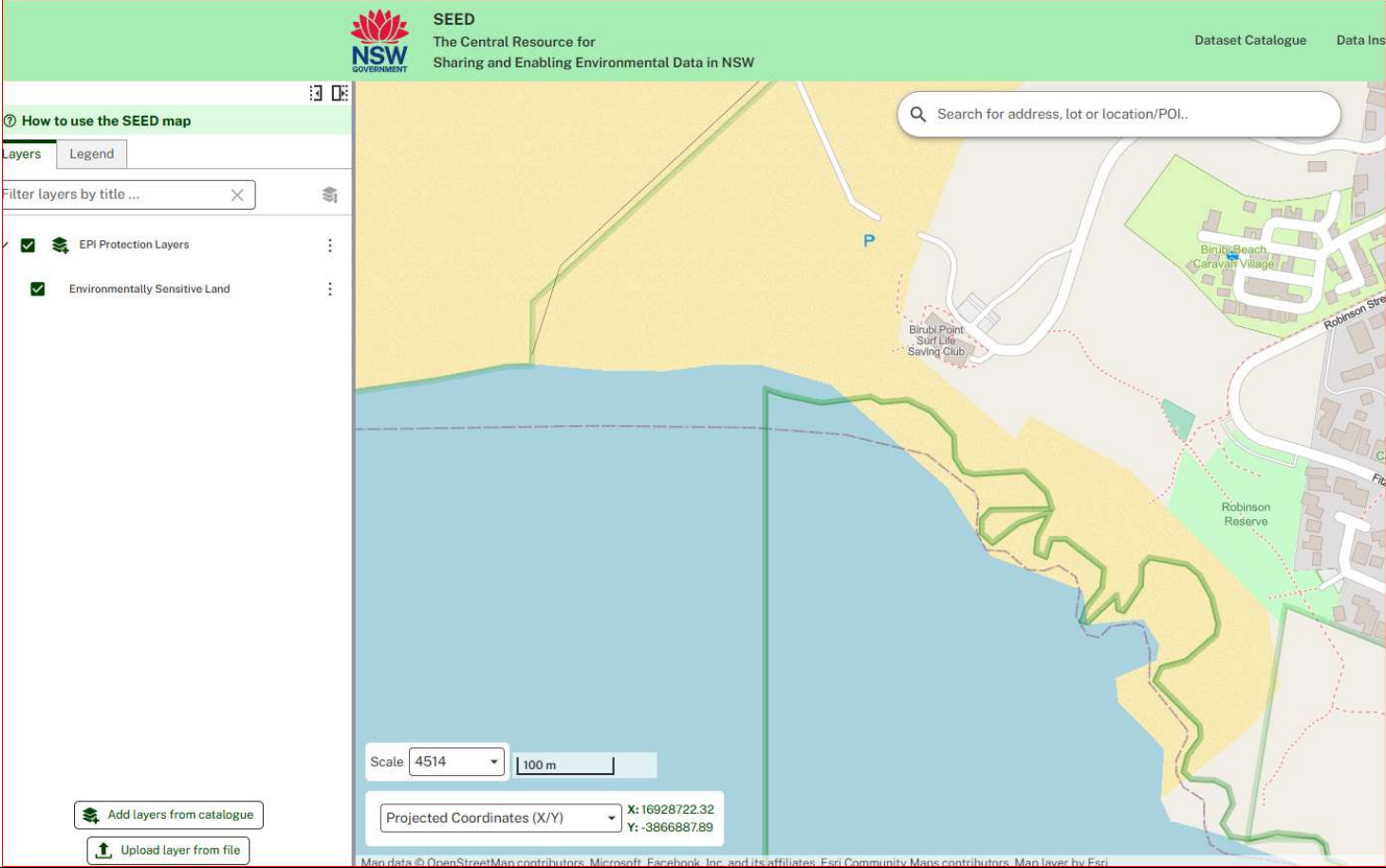


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Appendix 7 - Environmentally Sensitive Land Mapping – NSW Gov



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Appendix 8 - Port Stephens Council EMS 3.0 Environmental Fact Sheets	
Appendix 9 – Port Stephens Council Unexpected Finds Field Guide	
Appendix 10 – NSW Government – Examples of aboriginal Objects Handout	

Appendix 1: Declaration Checklist - Assessing Officer Before signing the declaration in section 6 as the person undertaking the assessment, please check the following-		
Section	Items to check	Completed?
Section 1	Does the description of the works contain sufficient detail? (photos, details of scope, depth of excavation etc)	☒
	Consideration of alternatives completed?	☒
	Are all location details completed? (land zoning, land owner, site map)	☒
	Are all boxes in section 2 ticked Yes or No?	☒

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Section 2	Are the two boxes in Pathway 1: Local Development (Part 4) ticked No? <i>(If Yes, you have selected that a DA is needed. This form cannot be used if a DA is required).</i>	☒
	Is the correct clause/s listed for the approval pathway in Pathway 3 ?	☒
Section 3	Are all responses 'No'? <i>(If not, a higher level of assessment is likely required).</i>	☒
	Does each response have a justification in the form of a sentence or paragraph? Are searches and checks referenced (e.g. AHIMS search ID number)?	☒
Section 4	Is there a Yes or No response for each of the approvals/permits in the applicability column (right hand column)?	☒
Section 5	Is applicable or non-applicable selected in the applicability drop down for each aspect?	☒
	Are all selected 'impacts after controls' assessed as minor, negligible or positive? <i>(If not, a higher level of assessment is required)</i>	☒
All items in this list must be completed before the declaration in Section 6 is signed by the assessing officer		

Appendix 2: Determination Checklist- Authorising Officer		
Before signing the Determination in section 7 as the delegated person on behalf of Council, please check the following		
	-	
Section	Items to check	True?
Section 3	Are none of the environmental impact triggers in Section 3 triggered by the activity?	☒
	Is every impact after controls in the far right column of section 5 <u>minor or below</u> ?	☒

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Section 5	(If moderate, potentially significant or significant, a higher level of assessment is needed or more effective controls are required).	
	Is the overall environmental impact at the end of Section 5 <u>minor or below</u> ? (If above Minor, a higher level of assessment is needed or more effective controls are required).	☒
	That the activity has been assessed in accordance with the EMS3.0 Procedure	☒
If all these items are true, the assessment has found that the activity will not significantly impact the environment. An Environmental Impact Statement (EIS), a Species Impact Statement (SIS) and/or a Biodiversity Development Assessment Report (BDAR) is therefore not required.		

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PORT STEPHENS
C O U N C I L

UNEXPECTED FINDS FIELD GUIDE



Unexpected Finds Guide Revision Table

Version	Date	Author	Details
1.0	September 2024	Environmental Risk Officer	First Release - New document

References

Department of Climate Change, Energy, the Environment and Water. 2024. <https://www.environment.nsw.gov.au/topics/land-and-soil/soil-degradation/acid-sulfate-soils>

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Transport for NSW. 2022. https://www.transport.nsw.gov.au/system/files/media/documents/2023/unexpected-heritage-items-procedure_0.pdf AND <https://www.transport.nsw.gov.au/system/files/media/documents/2023/env-fact-sheet-coal-tar-asphalt.pdf>

UNSW Sydney. 2023. <https://www.unsw.edu.au/newsroom/news/2023/03/trying-to-solve-the--forever-problem--of-pfas-pollution>

WaterNSW. 2024. <https://www.waternsw.com.au/customer-services/water-licensing/dewatering>

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Disclaimer: This guide is relevant to standards and pathways at the time of review. Always confirm with Councils Environmental Risk Team on correct procedure if unsure. Photo references are attached to the images.

BEST MANAGEMENT PRACTICES FOR UNEXPECTED FINDS

Planning work:

- Whilst all efforts are made when assessing the impacts of a project in the Environmental Assessment, unexpected finds during works may occur.
- Ensure all staff on site are aware of potential risks identified in the Environmental Assessment or CEMP during daily toolbox talks. This may involve consideration of historical site use and recent weather patterns.
- Familiarise yourself with identifiable characteristics of unexpected finds.

Controls: Install and complete all controls identified in planning documentation.

ACID SULFATE SOILS

When disturbed, acid sulfate soils (ASS) reacts with oxygen to form an acid which releases metals into the environment. These toxins can kill plants and aquatic life, corrode concrete, iron and steel, and irritate skin and eyes.

Identification

- Undisturbed ASS are always wet / entirely saturated.
- Steely blue-grey colour ranging from pale to dark shades, sometimes greenish.
- Strong smell of sulfur (rotten eggs) coming from the soil.
- Exposed soils can be quite dry and blocky, colours becoming dark to pale browns with yellow and orange mottling



<https://lnu.se/en/research/research-projects/project--geochemical-mineralogical-and-microbiological-characterization-of-acid-sulfate-soils/>

PROCEDURE

1. Cease works and notify Site Team Leader.
2. Team Leader notifies Project Manager and Environmental Risk Manager. For less than 1 tonne of ASS, it may be kept on site and mixed with lime to neutralise before reusing. See EMS Factsheet on Acid Sulfate Soils for details.
3. For over 1 tonne of ASS, Project Manager to engage a Geotechnical Engineer with experience in dealing with acid sulphate soils.
4. Consultant undertakes assessment in accordance with the NSW Acid Sulfate Soils Manual (1998) and National Acid Sulfate Soil Guidelines (June, 2018) which includes:
 - National acid sulfate soils sampling and identification methods manual (June, 2018).
 - Guidance for dewatering of acid sulfate soils in shallow groundwater environments (June, 2018).
 - Guidelines for the dredging of acid sulfate soil sediments and associated dredge spoil management (June, 2018).
 - Overview and management of monosulfidic black ooze accumulations in waterways and wetlands (June, 2018).
5. **Excavations within vicinity of the find do not recommence until the extent of the acid sulphate soil has been assessed as advised by the consultant.**
6. Any necessary controls implemented as advised by the consultant.
7. Where material is removed, classify and dispose of the material in accordance with the NSW Waste Classification Guidelines (2014) under advice of the environmental consultant (likely general solid waste once treated).

ASBESTOS

Identification

- Naturally occurring asbestos can be blue, brown, green or white, however when mixed with building materials or painted can appear any colour.
- It may be friable (can be reduced to powder by hand) or non-friable (mixed with cement or other bonding material and cannot be crumbled).

PROCEDURE

1. Cease works immediately and cordon off the area. Do not attempt to move the asbestos.
2. Notify Site Team Leader.
3. Team Leader notifies Project Manager, Environmental Risk Manager and WHS Manager.
4. Further activities to be undertaken in accordance with the Safe Work Method Statement for Asbestos Identification (SWMS Asbestos) and Removal in Public Amenities and Public Space and Code of Practice for the Safe Removal of Asbestos (SafeWork NSW 2022). Generally:
 - Site supervisor to log incident. If asbestos is broken and not wrapped, engage a hygienist to assess the find and assist in deciding the next course of action.
 - Up to 10m² of non-friable asbestos can be removed from site without a licence by staff that have completed the Asbestos Awareness Training, however, **it is up to supervisor to determine if it is reasonable for staff to remove** (SafeWork NSW 2022). Remove and wash down any contaminated materials wearing correct PPE and in line with SWMS Asbestos.
 - If over 10m² or friable, a licensed asbestos removalist will need to be engaged.
 - No works shall be conducted in the area until it has been confirmed clear of asbestos *or* a suitably competent person has been engaged to remediate the area.



<https://www.asbestos.nsw.gov.au/asbestos-in-australia>

BURIED STRUCTURES OR DRUMS

Unidentified buried structures or drums can pose a significant potential hazard to works. They could be storage tanks for hazardous substances, septic tanks, wells, pipelines, basements, ex-military structures and unmapped infrastructural assets.

PROCEDURE

1. Cease works immediately and do not further disturb any structures or drums. **Evacuate staff from site if there is risk of instability or collapse.**
2. Notify Site Team Leader.
3. Team Leader notifies Project Manager and Enterprise Risk Team.
4.
 - a) If unidentified storage tank or drum, a qualified HAZMAT contractor must be engaged to assess potential risks.
 - b) If unexpected structure, a structural engineer or geotechnical engineer should be engaged. Should the structure be suspected heritage, see procedure for non-Indigenous heritage finds.
5. Once the buried aspect has been determined, take necessary steps to stabilise or safely remove. For example, storage tanks that have filled with water but previously contained hazardous material must ensure water is properly treated as per groundwater unexpected find procedure.



<https://www.safework.nsw.gov.au/safety-alerts/safety-alerts/potential-risk-when-removing-underground-storage-tanks>

COAL TAR

Coal tar was commonly used as a binder for bitumen up until about 1989, and occasionally may be accidentally used in recycled asphalt mixes. It can be found as a subsurface layer of modern bitumen asphalt. Coal tar is a classified hazardous substance with risk to human and environmental health. The substance exudes a distinct odour when heated and can be verified through laboratory testing.

PROCEDURE

1. Cease works immediately and prevent further disturbance of the site.
2. Notify Site Team Leader. Any areas of exposed skin should be washed with soap and water. Sunscreen or protective barriers should be applied to any exposed skin. Full PPE should be worn by any staff continuing works in the area (overalls, gloves, respirator, and eye protection).
3. Team Leader notifies Project Manager and Enterprise Risk Team.
4. Follow SWMS for Excavation Works with Coal Tar Affected Material such as keeping area damp, and excavating into bunded area.
5. Material must be disposed of at licensed waste facility. **Coal tar cannot be reused or stockpiled at any Council stockpile sites**



CONTAMINATED LAND

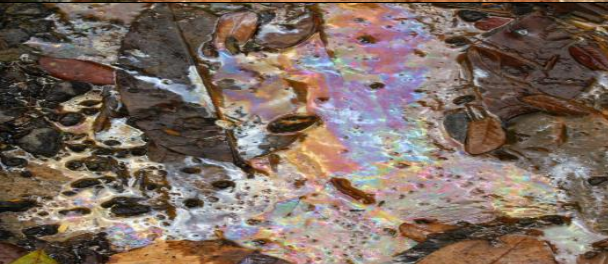
Land may be contaminated with a variety of pollutants that pose various risks to planned activities. Land is at higher risk of contamination if it has been historically used for industry, agriculture or chemical storage (service station, dry cleaner). The below procedure generally applies to all forms of contaminated land, and the following page outlines potential finds of contamination.

PROCEDURE

1. Notify Site Team Leader.
2. Team Leader notifies the Project Manager and Environmental Risk Manager.
3. Project Manager to engage a Certified Environmental Practitioner (Site Contamination) by the Environment Institute of Australia and New Zealand or a certified Professional Soil Scientist Contaminated Site Assessment and Management by Soil Science Australia.
4. Consultant undertakes assessment in accordance with the Consultants reporting on contaminated land: Contaminated Land Guidelines (April, 2020).
5. **Excavations within vicinity of the find do not recommence until the extent of the contamination has been assessed as advised by the consultant.**
6. Any necessary controls implemented as advised by the environmental consultant.
7. Where material is removed, classify and dispose of the material in accordance with the NSW Waste Classification Guidelines (2014) under advice of the environmental consultant.

The below table outline some common potential finds of contaminated land.



Potential find	Characteristics	Risk/ danger	Visual
Ash or slag deposits	Light weight, grey/pale sand and gravel sized particles.	Can contain heavy metals and create alkaline leachate. Buried concrete or structures could be present.	 https://www.atlcombustion.com/ash-deposition/
Buried dry waste materials	Wood, plastic, metal fragments, building waste.	Asbestos or heavy metals.	 https://www.greencap.com.au/news/2022-01-managing-risks-asbestos-soils
Petroleum hydrocarbons	Oily odour, dark staining, iridescent sheen on water.	Petro-chemicals, lead, and/or vapours.	 https://www.hunterio.com.au/wp-content/uploads/2022/05/Communicating-Information-through-Property-Notations.pdf
PFAS	Foaming in water where there is low flow/agitation.	Forever chemicals that are hazardous to human health.	 https://www.unsw.edu.au/newsroom/news/2023/03/trying-to-solve-the-forever-problem-of-pfas-pollution



GROUNDWATER

Unexpected groundwater can impact the stability of works and in some cases lead to landslips or water pollution. Groundwater should be addressed as soon as it is detected to ensure impacts to works and groundwater quality are minimal.



PROCEDURE

1. Notify Site Team Leader. **Take all necessary measures to prevent water leaving the site including reinforcing erosion and sediment controls. Spill kits may be used, sediment socks on pipes and gravel bags or coir logs to filter water until dewatering plan is provided.** Refer to Erosion and Sediment Control Field Guide (PSC) or Blue Book for further control measures.
2. Team Leader notifies Project Manager and seek advice from Environmental Risk Manager.
3. For large volumes of groundwater, Project Manager to engage a suitably qualified and experienced person with experience in the preparation of such plans to develop a dewatering plan in accordance with the Water Management Act (2000) and other relevant legislation.
4. Subject to the conditions of the dewatering plan, the appropriate approvals and licences should be in place prior to dewatering activities being undertaken on site, such as;
 - Water supply work approval
 - Water access licence (WAL)
 - Water use approval
- In an emergency event, limited dewatering may occur** without licensing if there are significant risks to health, safety, environment or infrastructure (under the Water Management Amendment (Emergency Works Exemption) Regulation 2018). Only necessary measures to address significant risk may be undertaken. Any further activities will not be covered under the exemption, and information must be provided to the department before or as soon as reasonable after commencing emergency works. Contact the Environmental Risk Officer.
5. A dewatering plan which must be reviewed and approved by Council's relevant project officers and environmental risk prior to commencing dewatering.
6. Excavations within the vicinity of the find that could contribute to dirty water leaving the site will not recommence until the dewatering has been implemented in accordance with approved dewatering plan.

HERITAGE (ABORIGINAL)

PROCEDURE

1. Cease works, protect the item (no-go zone with tape) and Notify Site Team Leader.
2. Team Leader notifies Project Manager and Environmental Risk Manager. The **potential find should be logged as an environmental incident** including photographs in situ, location and brief description made by staff onsite.
3. Project Manager to engage a suitably qualified and experienced archaeologist to ensure the site is adequately assessed and managed. If the item is positively identified, the archaeologist will formally record in the Aboriginal Heritage Information Management System (AHIMS). Notification to Heritage NSW/DECCW by the Environmental Risk Team may be required if harm has occurred. The Project Manager will notify the applicable Local Aboriginal Land Council (Worimi or Karuah).
4. An archaeological/ heritage management plan will need to be prepared with consideration of heritage approvals and mitigation measures. This should be provided to the Project Manager outlining all relevant issues and constraints. If continuation of the activity will directly or indirectly harm an Aboriginal object or declared Aboriginal Place, an Aboriginal Heritage Impact Permit (AHIP) will be required before works recommence.
5. Any necessary controls must be implemented as advised by the consulting archaeologist and/ or in accordance with the AHIP where required. CEMP will need to be updated to reflect changes.

Potential find	Characteristics	Visual	Potential find	Characteristics	Visual (images from DECCW 2010 unless specified)
Art (rock or engraving)	Stencils of hands, paintings of animals or shapes made from charcoal, clay or ochre. Carvings of images into rock.	 https://www.aboriginalheritage.org/sites/identification/	Scarred trees	Living or dead trees with modified outer-bark. High cultural significance.	



Potential find	Characteristics	Visual (images from DECCW 2010 unless specified)	Potential find	Characteristics	Visual (images from DECCW 2010 unless specified)
Axe grinding grooves	Marks in stone used to sharpen tools, often found near waterways to avoid tools overheating during the grinding process.		Shell middens	Accumulations of shells or bones indicating place of meeting or burial.	
Occupation sites	Scatter sites containing materials such as charcoal, bone, shell and ochre. Fire pits or hearth sites of circular, burnt clay or rock.		Stone arrangements	Shapes and patterns of rocks that have been purposefully moved into place. May indicate ceremonial site.	
Relics / stone tools	Spear points, surface scatters, grinding stones, ground-edge axes and other purposed materials.		Quarry sites	Collections of stone around outcrops or natural accumulations, and are often associated with nearby important sites and trade routes.	

HERITAGE (NON-ABORIGINAL)

Archaeological relics or items may be of local or state significance relating to past domestic, industrial or agricultural activities in NSW.

Identification

- Military equipment
- Pottery / bottles
- Remnants of clothing
- Building materials
- Historic pavements/roads
- Tramlines
- Structures
- Cisterns

PROCEDURE

1. Cease works and notify Site Team Leader. Create a 'no-go zone' around the find.
2. Team Leader notifies Project Manager and Environmental Risk Manager. The **potential find should be logged as an environmental incident** including photographs in situ, location and brief description made by staff onsite.
3. Project Manager to engage a suitably qualified and experienced archaeologist to ensure the site is adequately assessed and managed. If the item is positively identified, the consultant will provide an assessment of site, constraints and control measures to accompany formal notification to Heritage NSW in accordance with Section 146 of the NSW Heritage Act 1977 (as amended) in the 'Heritage Management System' (<https://www.hms.heritage.nsw.gov.au/>).
4. If the activity will directly or indirectly impact an identified heritage item a section 60 works approval or excavation permit may be required. An application must be lodged in the Heritage Management System and can take forty days for determination.
5. Any necessary controls must be implemented as advised by the consulting archaeologist and/ or in accordance with the section 60 works approval or excavation permit where required. This should also be updated in the CEMP.



<https://www.sydneymetro.info/sites/default/files/2023-07/Procedure%20-%20Unexpected%20Heritage%20Finds%20v5.0.pdf>



<https://www.abc.net.au/news/2024-06-19/suspected-human-remains-found-coffs-harbour-beach/103995086>

HUMAN REMAINS / BONES

Human remains can be a confronting and surprising find. It is important correct procedure is followed to reduce strain on staff, community and culture.

Remains must be assessed by qualified professionals to determine if they are human and time since death. If it is less than 100 years old, the find belongs to the State Coroner and if greater than 100 years old will either be protected by National Park and Wildlife Service or Heritage NSW.

PROCEDURE

1. Cease works immediately and notify Site Team Leader. Create a 'no-go zone' around the find. **All bones must be treated as potential human remains, protected and investigated urgently.** Project Manager to engage a suitably qualified forensic or physical anthropologist to assess the finds in consultation with NSW Police. Unless determined to be non-human remains, police should be contacted via phone immediately and may take over site management until age of remains determined.
2. Team Leader notifies Project Manager and Environmental Risk Manager. The find should be logged as an environmental incident.
3. If finds are determined to be non-human but of archaeological significance, the item should be formally recorded before works resume.
4. If finds are determined to be greater than 100 years old and of non-Aboriginal heritage, contact Heritage NSW currently locally situated at Hunter National Parks and Wildlife Service (Anna Bay or Newcastle) for advice.
5. If finds are determined to be greater than 100 years old and of Aboriginal heritage, contact relevant Local Aboriginal Land Council (Worimi or Karuah) and Hunter National Parks and Wildlife Service (Anna Bay or Newcastle)
6. The heritage consultant can provide an assessment of site, constraints and control measures to accompany formal notification to the relevant authority in accordance with Section 146 of the NSW Heritage Act 1977 (as amended) or Section 90 National Parks and Wildlife Act 1974. Refer to Heritage Unexpected Finds for procedure (previous page).
7. Any necessary controls must be implemented as advised by the consulting archaeologist and/ or in accordance with the section 60 works approval or excavation permit where required. This should also be updated in the CEMP.

INVASIVE SPECIES (WEEDS)

The LGA has a number of unwanted invasive weed species that threaten the integrity of community, bushland, sport fields, recreational areas, roadsides and agriculture. It is essential Council is not spreading weeds across sites. Workers should familiarise themselves with common priority weeds in the area to assist with identification, and send photos to Invasive Species staff if uncertain.

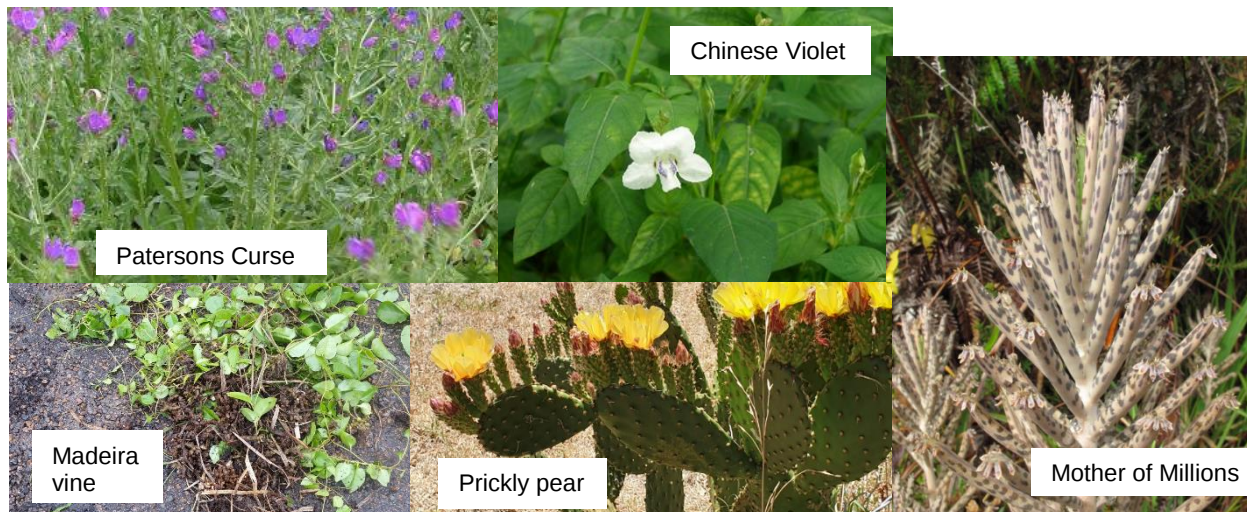
Common Priority Weeds

- African Olive
- Alligator Weed
- Asparagus weeds
- Chinese Violet*
- Crofton Weed
- Coral Creeper*
- Giant Parramatta Grass
- Glory Lily*
- Green Cestrum
- Groundsel Bush*
- Hygrophila* (aquatic)
- Long Leaf Willow Primrose (semi-aquatic)
- Ludwigia Peruviana (semi-aquatic)
- Madeira Vine
- Mother of Millions
- Prickly Pear (Opuntia species)
- Pampas Grass
- Patersons Curse
- Rattle Pod*
- Salvinia (aquatic)
- Sea Spurge*
- Spiny Burr Grass
- St Johns Wort
- Sticky Nightshade*
- Water Hyacinth (aquatic)
- Water lettuce* (aquatic)

PROCEDURE

1. Notify Site Team Leader and take all reasonable steps to avoid disturbing area. Machinery and PPE should be thoroughly checked for any organic materials before leaving site.
2. Team Leader notifies Project Manager.
3. Project Manager notifies Environmental Operations Team Leader.
4. Further activities to be undertaken in accordance with the advice provided by the Environmental Operational Team Leader and/ or Invasive Species staff (4988 0464) to ensure compliance with the NSW Biosecurity Act 2015.

* *Eradication order*



THREATENED FLORA

There are currently 26 threatened plant species in the LGA from orchids to shrubs to trees. While staff are not expected to easily identify these species, it is important to be open to the direction of environmental professionals and take all precautions to avoid disturbing vulnerable plant species.



Diuris praecox

PROCEDURE

1. If there are any concerns or potential for a threatened species to be unexpectedly identified on site, avoid disturbing the area and notify Site Team Leader.
2. Team Leader notifies Project Manager and the Project Manager notifies the relevant internal staff with environmental technical expertise.
3. The area where the threatened flora species may occur must be roped off with stake and string or fluoro ties or other suitable exclusion fencing alternative.
4. Project Manager to engage a suitably qualified and experienced ecological consultant to undertake targeted survey if required or Council's ecologist to positively identify the find.
5. PM to provide Environmental Risk Officer and relevant internal environmental officer targeted survey findings.
6. Relevant environmental staff to provide technical advice based on avoid, mitigate and offset approach and develop an Environmental Assessment Amendment and include or revise any Tests of Significance or Assessments of Significance as required under NSW Biodiversity Conservation Act 2016 and Commonwealth Environment Protection Biodiversity Conservation Act 1999. Advice to be provided to avoid significant impact.

Significant impact unlikely

1. PM to arrange sign off of Environmental Assessment Amendment.
2. Works to proceed based on advice provided by Project Support Environment Officer in Environmental Assessment Amendment.

Significant impact likely.

1. Project Manager to engage ecological consultant to prepare a species impact statement (or BDAR if electing to participate in the biodiversity offsets scheme) to accompany the Environmental Assessment. Liaise with NSW Biodiversity Conservation Division for further advice.
2. Mitigation measures from species impact statement to be implemented.

WILDLIFE

Port Stephens hosts a variety of threatened frogs, reptiles, birds, mammals and insects that require species protection to ensure continuation of the species. Animals that may be encountered are;

- Wallum froglet
- Mahoney's toadlet
- Sea turtles
- Wompoo Fruit Dove
- Seabirds/ migratory birds
- Owls
- Regent Honeyeater
- Koala
- Gliders
- Micro bats
- Flying foxes
- Seals
- Parrots
- Giant dragonfly



<https://australian.museum/learn/animals/birds/beach-stone-curlew/>

PROCEDURE

1. If fauna are passing through the site, cease works within 100 m of the fauna and allow fauna to move through the site without undue duress or harassment.
2. If the fauna is not passing through the site, Team Leader notifies Project Manager and the Project Manager notifies the relevant internal environmental officer.
3. If any injured fauna are present, they must be cared for. If safe to do so, contain in a dark, quiet place until it can be taken to an appropriate veterinary clinic. Contact native wildlife rescuer to capture and transport the fauna to medical care (WINC 1300 946 295).

Native non-threatened species

5. Agitate tree or nearby vegetation to encourage fauna to vacate (if fauna poses no threat to human safety).
6. If not vacating, Project Manager to engage suitably qualified and licenced fauna spotter/ catcher or contact a native wildlife carer to relocate fauna (consider if juvenile wildlife have parents nearby i.e. magpies juveniles may sometimes be left alone but not abandoned).
7. Relocate fauna captured and not requiring treatment into the same habitat near the point of rescue at dusk or leave inside any removed hollows outside the works area.

Threatened species

5. Issue an immediate cease of works to allow fauna to vacate. Contact Natural Systems or an ecological consultant for positive identification of species.
6. If not vacated, contact Environmental Risk Team for further advice. A license or approval is required to interfere with threatened species.
7. Implement actions in accordance with advice.

8. Record all findings and email to Environmental Risk Officer and other relevant environmental project officers involved in the project before resuming works.

Appendix 1: Examples of Aboriginal objects

Stone artefacts are a common type of Aboriginal object, and include stone tools, spear points, surface scatters, grinding stones, ground-edge axes and other implements that were used for a variety of purposes, such as in the preparation of food or to make nets, baskets and other tools. Stone artefacts often have sharp edges, or are of a stone type that is different from the natural rock in the area.

Another type of stone artefact is a ground-edge axe, which can come in different shapes, but are usually round or oval. They are sometimes rounded and narrow at one end, and slightly broader and straighter at the cutting edge.

Because stone artefacts do not rot or rust they are often the primary physical evidence of Aboriginal occupation in a particular area. They can also provide important information about past Aboriginal people's settlement patterns, lifestyle and other connections, such as trade.

The presence of stone artefacts in an area may indicate that either a place was previously used by Aboriginal people, or that the area continues to be a place of significance, which may include sensitive sites, such as men's or women's areas which may require a buffer zone to maintain. In some cases it will be appropriate to consider removing stone artefacts from where they are found (salvage), following advice from DECCW and Aboriginal groups.

Stone artefacts are often small, so they can be difficult to protect. Erosion and weathering caused by activities such as ditch digging and ploughing can disturb stone artefacts. They can also be broken when trampled by animals, or when run over by vehicles.



Stone artefacts. Mark Flanders/DECCW

Surface artefact scatters are the material remains of Aboriginal people's activities. Scatter sites usually contain stone artefacts, but other material such as charcoal, animal bone, shell and ochre may also be present. The size of scatters may vary from one square metre to larger areas, and may contain from a few to thousands of artefacts.

Stone artefacts can be found almost anywhere Aboriginal people camped or lived, particularly around occupation sites, in sand dunes, rock shelters, caves, on ridges and near watercourses. Ground-axe edges may also be found near axe-grinding grooves or quarries.

Oven or hearth sites are the remains of a domestic open fireplace. Domestic open fireplaces have been used in populated places throughout Australia to provide warmth and lighting. They are also used for cooking food and sometimes to signal from one group to another.

These hearths are roughly circular piles of burnt clay or heat fractured rock with associated charcoal fragments, burnt bone, shell and stone artefacts.



Hearth site. Stephen Meredith

Rock art includes paintings and drawings that generally occur in rock overhangs, caves and shelters. Stencils of hands, paintings or drawings of animal or people and animal tracks are common and have often been created using ochre, white pipeclay or charcoal.

Engravings commonly occur on open, flat surfaces of rock such as on sandstone outcrops, although some are found on vertical rock faces and in rock shelters. Examples of engravings include outlines of people or animals, but may also include patterns, tracks and lines.

Rock art is of high cultural significance to Aboriginal people, and many sites are still regarded as sacred or of ceremonial significance. Rock art sites are important links to the past for Aboriginal people today. They can also provide important information about the daily life and culture of Aboriginal people before European contact, and many sites are hundreds or thousands of years old.

Rock art sites can be easily damaged as they can be prone to erosion and vandalism. Touching rock art or disturbing a shelter floor in the immediate vicinity of the rock art can cause damage, as can movement on or over surfaces with rock art. Sites may also suffer from vegetation growth or removal. Effective management of rock art sites can include drainage, fencing, graffiti removal, and visitor control.



Mutawintji hand stencils. Pat Laughton/DECCW

Shell middens are commonly made up of the remains of edible shellfish, and could be the result of a single meal or many meals at the same location over many years. A midden may also contain fish and animal bones, stone tools, or charcoal. They can vary in size and depth. Middens are sometimes associated with burials.

Middens can be found on headlands, sandy beaches and dunes, around estuaries, swamps and tidal stretches of creeks and rivers, and along the banks of inland rivers, creeks and lands. Middens may also be found in the open or in rock shelters.

Middens can indicate that a place was, and may continue to be, a key meeting place of significance. Middens can also provide information about the environment that existed when Aboriginal people collected the shellfish, such as changes in species, and tools or raw materials that were used. Middens which contain burials are particularly significant.

Middens are amongst the most fragile cultural sites. They can be exposed by wind or degraded by human and animal activity. Effective management of midden sites may include stabilising the surface, such as by encouraging vegetation cover, or by restricting access to the site by erecting fencing.



Shell midden. Warren Mayers/DECCW

Axe grinding grooves are oval shaped indentations generally on flat and soft rock surfaces, such as sandstone outcrops. Aboriginal people made the grooves when shaping and sharpening stone axes by grinding them against the rock. Grooves can vary in size, shape and number. Sites with 20 to 60 grooves are not uncommon and some sites have more than 200.

Axe grinding grooves are important because they provide information about Aboriginal stone tool technology. They are often found along the edges of creeks, lakes or swamps as water was needed to keep the stone clean and cool. In areas where suitable outcrops of rock were not available, transportable pieces of stone were used for sharpening or grinding tools. Axe-grinding grooves provide important information about how stone tools were made.

As sandstone is relatively soft, it is prone to weathering, erosion and trampling by animals. Human activities such as mining, road infrastructure, damming, clearing, ploughing and construction can also destroy these sites. Management options can include stock and erosion control.



Axe grinding stones. Hilton Naden/DECCW

Aboriginal culturally modified (scarred and carved) trees are trees that show the scars caused by the removal of bark or wood for the making of, for example, canoes, vessels, boomerangs, shelters and medicines. The shape and size of the scar may indicate the purpose for which the bark or wood was removed from the tree. In some regions of NSW, trees were carved with intricate patterns and designs for ceremonial purposes, or to mark country boundaries or burials.

Carved trees associated with burial sites are usually in groups of two or more trees. Carved trees associated with ceremonial grounds may have also been used for educational purposes. Scarred and carved trees occur in various locations across NSW.

Scarred and carved trees are significant to the descendants of the Aboriginal people living today. They are becoming rarer in NSW as the trees decay, are burnt or are destroyed.

It is important to note that the defence to a prosecution contained in Clause 80B of the NPW Regulation relating to certain low impact activities does not apply in relation to any harm to an Aboriginal culturally modified tree. Ensuring that Aboriginal culturally modified trees are not harmed will likely include ensuring that effective buffer zones are used, as their significance is often part of the broader landscape.



Carrington scarred tree. Warren Mayers/DECCW

Quarry sites are sites where Aboriginal people manufactured stone tools or collected ochre for painting and decoration. Quarry sites may be found in areas of rock outcrops and can be identified by the presence of artefacts such as flaked stone. Quarry sites vary in size. They may be one or two flaked boulders or a single pit, but can also incorporate many large outcrops over large areas.

As stone was an important resource for Aboriginal people, quarries are often associated with other nearby Aboriginal sites and cultural material. In NSW a variety of stone types was quarried for particular purposes. Quarries also provide information about trade routes and other activities.

Human activities such as mining, road building, damming, clearing and construction can disturb or destroy Aboriginal quarries. Natural processes such as weathering and erosion can also cause the gradual breakdown of stone outcrops.

Aboriginal quarries can be protected by management actions such as by controlling stock and managing erosion.



Daruka axe quarry, Tamworth. Bruce Cohen/DECCW

Stone arrangements are found at places where Aboriginal people have positioned stones deliberately to form shapes or patterns, and can include large circular or linear arrangements, piles of stones, rock markers or more elaborate groupings that can depict animals or other designs. Aboriginal people also use stone arrangements for other purposes, such as for fish traps.

Stone arrangements have significant cultural heritage value because they are usually related to ceremonies, such as meetings or marriages. **Bora rings**, which are one or more raised earth rings, were used for male initiations. They are generally rare due to their vulnerability to disturbance. The stones are long lasting, but their arrangements can be damaged or destroyed. If stones are disturbed, the pattern and its significance may be lost. Ploughing, brush cutting, logging and large grazing animals can also cause disturbance.

Management options around Aboriginal stone arrangements can include stock, weed and erosion control.



Stone arrangement. M Sharp/DECCW

Burials include one of a variety of customs that Aboriginal people had for honouring the dead and laying them to rest; they were among the first people in the world to use cremation. However, Aboriginal burials may be found in a variety of landscapes throughout NSW, although most frequently they are found in middens, sand dunes, lunettes, bordering dunes and other sandy or soft sedimentary soils. Activities such as sand mining, stock grazing, ripping rabbit warrens, ploughing, trail bike riding and four-wheel car driving can devastate burial sites. Aboriginal ancestral remains are very sensitive and significant to Aboriginal people.

Landscape features and natural sacred sites are regarded as highly sacred sites to Aboriginal people. Such features include mountains, waterholes, caves, and rock formations. In addition, the flora and fauna that inhabit these landscapes also carry Aboriginal cultural significance. In some cases, an inspection of the immediate area will show no physical evidence of prior occupation or usage by Aboriginal people.

Further information about Aboriginal sites in NSW

Aboriginal scarred trees in New South Wales, a field manual (DEC and Andrew Long 2005), www.environment.nsw.gov.au/conservation/AboriginalScarredTrees.htm.

Lost but not forgotten: a guide to methods of identifying Aboriginal unmarked graves (NPWS 2003, www.environment.nsw.gov.au/nswcultureheritage/LostButNotForgotten.htm

Cultural landscapes and park management: a literature snapshot. A report for the cultural landscapes: connecting history, heritage and reserve management research project (Department of Environment and Climate Change 2008), www.environment.nsw.gov.au/resources/cultureheritage/07137cultlandresearch.pdf

Aboriginal culturally significant landscapes in the Hunter-Central Rivers Region, Hunter-Central Rivers CMA guide 2009, www.hcr.cma.nsw.gov.au/uploads/res/Publications/acsl.pdf

Site Identification, Victorian Mini Poster Series, Department of Planning and Community Development 2008, www.aboriginalaffairs.vic.gov.au/web7/aavmain.nsf/headingpagesdisplay/publications+forms+and+resourcesaav+mini-poster+series