

Investigations for the New Richmond Bridge and traffic improvements

Minor works review of
environmental factors

January 2023



Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which the works are proposed.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation’s First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples’ cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Document review tracking

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MW REF approval and authorisation

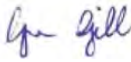
Approved by	Gene Gill, Project Manager
Signed	
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1. Introduction

The purpose of the Minor Works review of environmental factors (REF) is to describe the proposal, to document the likely impacts of the proposal on the environment, to detail mitigation measures to be implemented and to determine whether or not the proposal can proceed. For the purposes of this work Transport for NSW (Transport) is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The description of the proposed works and assessment of associated environmental impacts has been undertaken in the context of section 171 of the Environmental Planning and Assessment Regulation 2021, Guidelines for Division 5.1 Assessments (DPE, 2022), the *Biodiversity Conservation Act 2016* (NSW) (BC Act), the *Fisheries Management Act 1994* (NSW) (FM Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act).

In doing so, the REF helps to fulfil the requirements of section 5.5 of the EP&A Act including that Transport examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- The potential for the proposal to significantly impact a matter of national environmental significance, including nationally listed threatened biodiversity matters, or the environment of Commonwealth land. Where a significant impact is considered likely on nationally listed biodiversity matters, either the proposal must be reconsidered or a Project REF must be prepared.

2. The proposal

2.1 Description

2.1.1 Proposal location details

Table 2-1: Proposal location details

Location details	
Title	Geotechnical investigations for the New Richmond Bridge and traffic improvements
File number	
Road name and number	B59 (in part; Bells Line of Road and Kurrajong Road)
Closest crossroad(s)	Londonderry Road, Southee Road, Inalls Lane, Kurrajong Road, Old Kurrajong Road, Bells Line of Road and Terrace Road
Chainage of works	Not applicable
Local government area	Hawkesbury City Council
Transport for NSW region	Sydney and surrounds

2.1.2 Proposal location description

Transport proposes to carry out a topographic survey, utility survey and geotechnical investigations in the Richmond and North Richmond localities (the proposal) for the New Richmond Bridge and traffic improvements proposal. The investigation locations are at Richmond and North Richmond, within and adjacent to Londonderry Road, Southee Road, Inalls Lane, Kurrajong Road, Old Kurrajong Road, Bells Line of Road and Terrace Road. The utility survey area and geotechnical investigation locations are shown in Figure 2-1 and on the map series included in Appendix A.

The proposed works would include:

Topographic survey

The topographic survey would involve the use of traditional ground survey methods, including:

- Placement of survey marks along the length of the proposal area within disturbed and undisturbed areas to provide a survey control framework for survey activities. The survey marks would primarily be in the form of small wooden pegs that are placed in the ground. Star pickets and small 'Hilti'-style nails may be used in existing concrete structures (e.g. bridges or culverts) as survey marks. No pegs, pins, star pickets or paint would be placed in natural rock formations or identified Aboriginal sites.
- Installation of permanent survey control marks (if required) at intervals determined by the Surveying and Spatial Regulation 2012 and in accordance with the Surveyor General's Directions No. 1 Approved Permanent Marks (Surveyor General of NSW, 2016). Spacing is normally every 500 metres to one kilometre. These marks are more substantial and may be placed in both previously undisturbed and disturbed areas.
- Digging holes using hand tools to uncover and place sub surface survey marks. Holes would be a maximum of 500 millimetres diameter and 500 millimetres deep (1000 millimetres for star pickets).

Access to survey locations would be via the adjacent road network and then via private property (with agreement from the landowner). The clearing of new access tracks would not be required. Tree trimming in vegetated areas may be required using garden hand held clippers to gain access by foot to set up survey control marks.

Establishment of traffic control would occur in situations where survey staff are working near traffic. This would be in accordance with the Traffic control at work sites Technical Manual (Transport for NSW, 2022).

Utility survey

The utility survey would involve:

- Carrying out of survey by methods such as ground penetrating radar and frequency resonating survey. This would be an indirect survey that does not require the utility to be unearthed.
- Lifting stormwater drainage pit lids and snaking and tracing of pipes to determine the underground drainage network.

Access to utility scanning locations would be via road network and then via private property (with agreement from the landowner). This would involve driving a light vehicle and walking through survey area. New access tracks would not be required.

Establishment of traffic control would occur in situations where survey staff are working near traffic. This would be in accordance with the Traffic control at work sites Technical Manual (Transport for NSW, 2022).

Geotechnical investigation

The bore hole investigation would involve:

- 48 boreholes each with a diameter of about 150 millimetres to a depth of approximately 10 metres or until refusal on bedrock encountered. A solid flight auger would be used in overlying sediments and weak rock. Cored drilling with a coring diameter of about 50 millimetres would be conducted in competent bedrock to the outstanding requisite depth. The borehole would be grouted on completion except where a monitoring well is proposed. The disturbance area from the drilling component of the activity would be about 0.5 metres by 0.5 metres. Ground disturbance from manoeuvring the truck mounted drill rig would be up to three metres by five metres.
- 5 of the proposed 48 boreholes would be drilled within the Hawkesbury River, generally at the locations shown in Figure 2-1 (and shown in more detail on the map series included in Appendix A). These boreholes would be drilled using a drilling rig mounted on a barge. A truck transported barge is expected to be used and launched at the Windsor public boat ramp (see Figure 2-1), although a large barge that travels to site via the river could be used. Once in place at each drill location, the barge would be positioned through the use of anchors. Spuds (typically 300mm diameter steel tubes that are lowered from the barge into the sediment to hold the barge in position) may be used in conjunction with traditional anchors.

A recirculating system would be used for the boreholes, whereby drilling water and sediment (including any potential acid sulphate soils) within the drill tube would be contained, temporarily stored in holding tanks on the barge, then removed from site and appropriately disposed.

- Install piezometers and/or standpipes where appropriate to monitor groundwater levels and / or chemistry where specified.
- Excess biodegradable drilling mud used in the drilling process would be removed by a vacuum truck or portable vacuum system and legally disposed of off-site at an authorised waste disposal facility.
- Restoration of the site by reshaping the ground to pre-work conditions and sowing with suitable cover-crop.

The test pit investigation would involve:

- Dig 30 Test Pits with an excavator or backhoe. Test pits would be typically two metres long, by 0.6 metres wide, by about three metres deep. The total disturbance area including track marks from the excavator would be up to three metres by five metres
- Log, colour photograph, and test each pit to record in-situ conditions
- Carry out dynamic cone penetration (DCP) tests and collect soil samples for later laboratory analysis
- Restore site to condition suitable for safe pedestrian and vehicle access, including backfilling the test pit with material that is not taken offsite for sampling and compacting in layers. The backfilled pits would be left slightly mounded to allow for any settlement and where necessary sown with a suitable cover-crop.

Pavement cores would also be taken to determine the nature and thickness of the existing road wearing surfaces, whether sprayed seal or asphalt, and to determine the nature of the pavement immediately under the wearing surface course. The method for pavement cores would be as follows:

- Core the existing bound pavement (at up to 84 locations) using a light commercial vehicle with a mounted coring unit. Cores would be a typical diameter of 100 millimetres, and cored to a suitable termination depth (up to 0.5 metres) into

unbound materials to determine depth, condition and type of basecourse materials. Sediment and run-off containment measures will be put in place prior to commencement of works

- Perform DCP testing (refer to explanation below)
- On completion of each pavement core, the hole would be reinstated with cold mix asphalt placed in nominal 100 millimetre depth layers and compacted with an 'elephant's foot' tamping rod until a compacted and level surface is achieved. Reinstated pavement cores would be checked for settlement, scour and rutting towards the end of the field investigation program and further reinstatement would be arranged should level of surface not be maintained.

Access to most investigation locations for geotechnical investigations would be via the adjacent road network and then via private property (with agreement from the landowner). Investigation locations on the southern bank of the Hawkesbury River may be accessed via Old Kurrajong Road as shown on Figure 2-1, while in water investigations would be from a barge launched at the Windsor public boat ramp or which otherwise travels to site via the river. The clearing of new access tracks would not be required. Tree trimming in vegetated areas may be required using garden hand held clippers and groundcover vegetation would need to be traversed by vehicles. Track mats would be used to avoid ground disturbance in any waterlogged areas.

Establishment of traffic control would occur in situations where survey staff are working near traffic. This would be in accordance with Traffic control at work sites Technical Manual (Transport for NSW, 2022).

Plant and equipment

The investigations would require use of a small number of plant and equipment including:

- Small track mounted drill
- Rubber-tyred backhoe and excavator
- Rubber-tracked backhoe and excavator (five tonne)
- Vacuum truck (sucker truck)
- Utility / site vehicles
- Traffic control vehicles
- Testing and scanning equipment
- Hand tools
- Plant arm attachments (i.e. slasher, mower)
- Waste tanker
- Water cart
- Compactor
- Small truck
- Traffic control equipment.

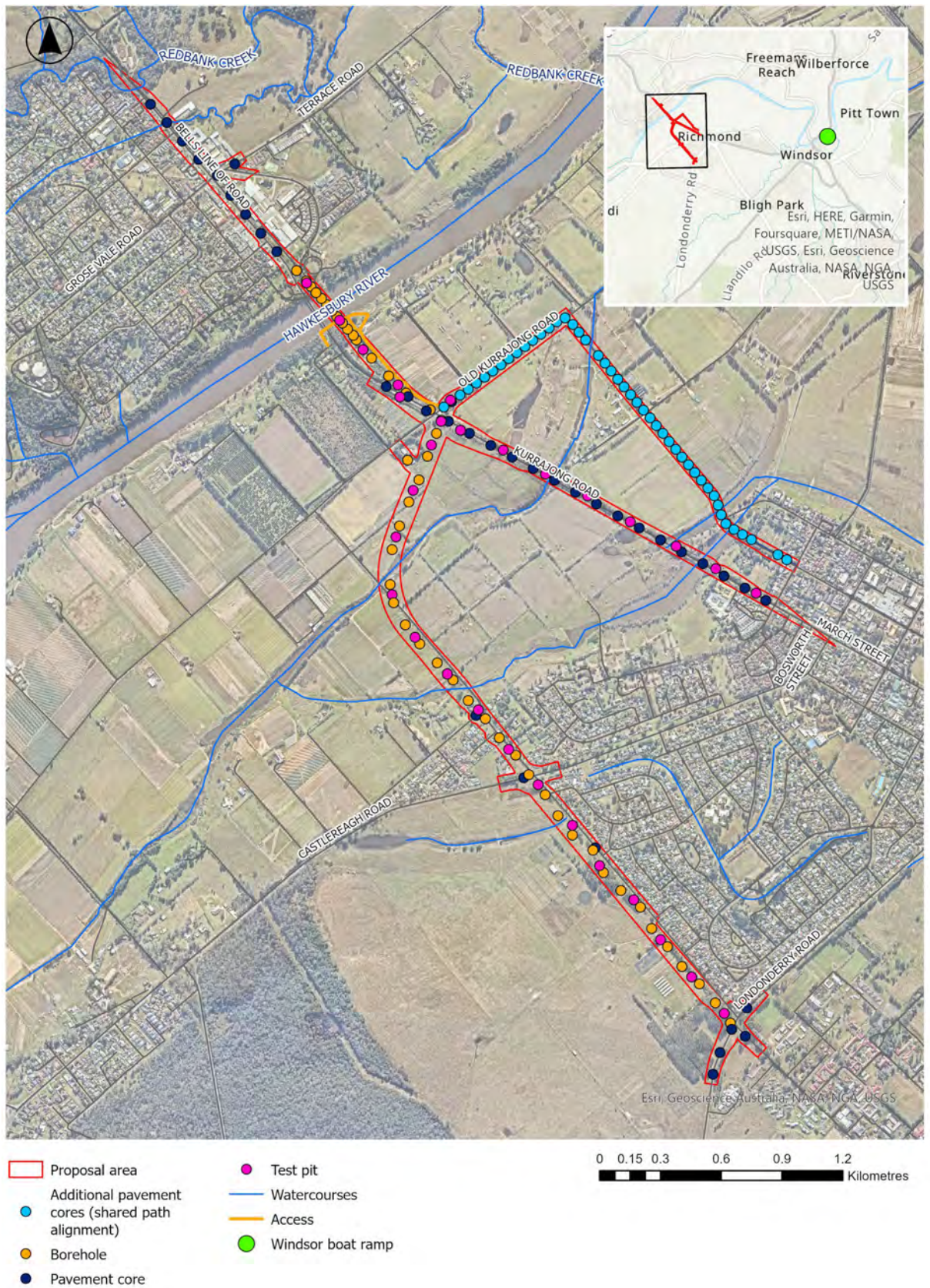


Figure 2-1: Investigation locations

2.1.3 Proposal objectives

The objectives of the proposal are to:

- Investigate existing site conditions at Londonderry Road, Southee Road, Inalls Lane, Kurrajong Road, Old Kurrajong Road, Bells Line of Road and Terrace Road by providing topographic, utility and geotechnical information to inform development of the New Richmond Bridge and traffic improvements proposal.
- Minimise environmental and social impacts, including impacts to waterbodies and adjacent heritage items
- Minimise disruptions to road users and the community.

2.1.4 Ancillary facilities

Table 2-2: Ancillary facilities

Ancillary facilities		
Will the proposal require the use or installation of a compound site?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the proposal require the use or installation of a stockpile site?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are any other ancillary facilities required (e.g., temporary plants, parking areas, access tracks)? New access tracks would not be required to reach investigation locations, although groundcover vegetation would need to be traversed by vehicles. Track mats would be used to avoid ground disturbance in any waterlogged areas. Areas requiring access have been included within the proposal area (see Figure 2-1).	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

2.1.5 Proposed date of commencement

The indicative date for the commencement of the investigations is February 2023.

2.1.6 Estimated length of construction period

Weather permitting, the period of investigation would be up to five months, with works occurring periodically during that time. Works at each investigation location would not exceed one day.

2.2 Need and options

2.2.1 Options considered

The options considered for the proposal included:

- Do nothing
- Carry out investigations.

The preferred option is to carry out the investigations in the manner described. This option would provide the information in relation to the existing conditions between Richmond and North Richmond and would meet the objectives of the proposal. To Do nothing would involve carrying substantial risks to cost and public safety in the construction and operation of the New Richmond Bridge and traffic improvements proposal.

2.2.2 Justification for the proposal

The proposal would assist in Transport project development processes. While the investigations would involve impacts to the surrounding environment, including sediment or water quality impacts, soil disturbance, visual and noise disturbance, the potential environmental impacts of the proposal have been identified as relatively minor and short term. On balance, the benefits derived from proceeding with the proposal are considered to outweigh the potential impacts.

2.3 Statutory and planning framework

2.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the state, including for roads and road infrastructure facilities. Section 2.109 of the SEPP (Transport and Infrastructure) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposal is appropriately characterised as development for the purposes of a road or road infrastructure facilities and is to be carried out by or on behalf of Transport, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under State Environmental Planning Policy (Resilience and Hazards) 2021, State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021, State Environmental Planning Policy (Precincts – Central River City) 2021, State Environmental Planning Policy (Precincts – Western Parkland City) 2021, State Environmental Planning Policy (Precincts – Regional) 2021 or State Environmental Planning Policy (Planning Systems) 2021.

2.3.2 Other relevant legislation and environmental planning instruments

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) gives effect to the objectives of the *Coastal Management Act 2016* from a land use planning perspective, by specifying how development proposals are to be assessed if they fall within the coastal zone.

The proposal area encroaches on areas of “coastal wetlands” regulated by the Resilience and Hazards SEPP at several locations as shown on Figure 2-2, but individual investigation locations are outside the mapped coastal wetlands. The proposal area also encroaches on areas of “coastal wetland proximity area” and some investigation locations are within these wetland proximity areas. However, as investigation locations are outside the mapped “coastal wetlands”, development consent under Part 2.2 of the SEPP is not required. Safeguards have been proposed to address the potential for indirect impacts on adjacent wetlands.

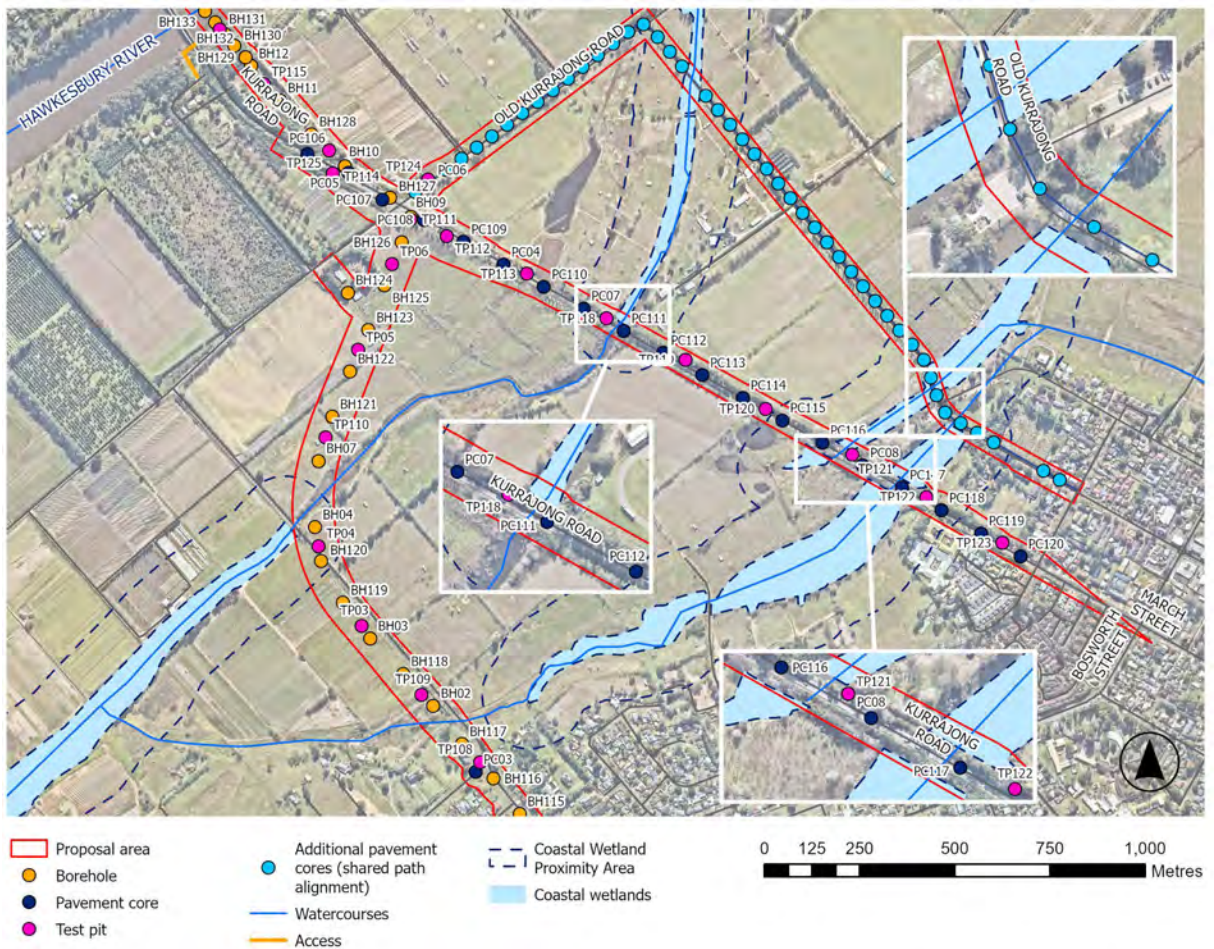


Figure 2-2: Coastal wetlands

Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is administered by the NSW Environment Protection Authority (EPA). It provides an integrated system of licenses to set out protection of the environment policies and to adopt more innovative approaches to reduce pollution in the environment, having regard to the need to maintain ecologically sustainable development (ESD). Measures to address potential pollution as a result of the proposal have been prescribed in this Minor Works REF and are included in Sections 3.1 and 3.2.

The POEO Act requires an Environmental Protection Licence (EPL) for scheduled development work and the carrying out of scheduled activities. The proposal does not involve undertaking a scheduled activity and therefore an EPL would not be required.

Fisheries Management Act 1994

The *Fisheries Management Act 1994* aims to conserve, develop and share the fishery resources of the State for the benefit of present and future generations.

Section 199 of the *Fisheries Management Act 1994* provides that:

(1) A public authority (other than a local government authority) must, before it carries out or authorises the carrying out of dredging or reclamation work:

(a) give the Minister written notice of the proposed work, and

(b) consider any matters concerning the proposed work that are raised by the Minister within 21 days after the giving of the notice (or such other period as is agreed between the Minister and the public authority).

Section 219 of the *Fisheries Management Act 1994* includes a prohibition on the blocking of fish passage. A permit is required from Department of Primary Industries (DPI) if a proposal would permanently or temporarily block fish passage.

Notice under Section 199 and a permit under section 219 is typically only required in relation to mapped Key Fish Habitat. The Hawkesbury River is identified as Key Fish Habitat and notice was sent to DPI on 14 December 2022. A response was received on 22 December 2022 (Appendix B) noting the following:

- Management of borehole spoil to be disposed of offsite, according to its waste classification
- Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate sediment control devices
- DPI Fisheries (1800 043 536) and the Environment Protection Authority (131 555) is to be notified immediately if any fish kills occur in the vicinity of the works. In such cases, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPI Fisheries and/or the Environment Protection authority for the works to proceed.

The management of borehole spoil would be consistent with the safeguards in section 3.1, 3.2 and 3.12, including disposal in accordance with waste classification. Stockpiling of borehole spoil from the Hawkesbury River on adjacent land is not proposed, with this material to be retained on the barge pending transport and disposal at an appropriately licenced facility. Any incidents would be managed in accordance with the Environmental Incident Procedure (Transport for NSW, 2021) (refer to Section 3.2) including reporting to relevant agencies such as DPI.

Heritage Act 1977

The *Heritage Act 1977* provides for the conservation of buildings, work, relics and places that are of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance to the State.

An excavation permit is required to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed. A permit is also required to disturb or excavate any land on which the person has discovered or exposed a relic. Section 139(4) of the *Heritage Act 1977* makes provision for the issuing of an exception in certain prescribed circumstances. There are several listed heritage items within the proposal area however non would be directly impacted by investigations (refer to Section 3.6 and the map series in Appendix A). An excavation permit would not be required for the proposal.

National Parks and Wildlife Act 1974

The proposal is not located or adjacent to land reserved under the *National Parks and Wildlife Act 1979*.

The harming or desecrating of Aboriginal objects or places is an offence under section 86 of the *National Parks and Wildlife Act 1979*. Under section 90, an Aboriginal heritage impact permit may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons.

The potential impacts and relevant safeguards are discussed further in Section 3.5. No permits under the *National Parks and Wildlife Act 1979* are required for the proposal.

Water Management Act 2000

The key regulation made under the *Water Management Act 2000* is the Water Management (General) Regulation 2018. The regulation specifies important procedural and technical matters related to the administration of the Act, and also specifies exemptions from licence and approval requirements under the Act.

Transport for NSW has exemptions from water access licence requirements (under Clause 21 and Part 1 of Schedule 4 of the Regulation), from water use approval requirements (under Clause 34 of the Regulation) and from controlled activity approval requirements (under Clause 41 of the Regulation).

The installation of piezometers (where proposed) would fall within the definition of an exempt monitoring bore under the Water Management (General) Regulation 2018 and would not require a water supply work approval due to the exemption provided by Clause 39(c) of the Regulation. If relying on this exemption, the following requirements need to be satisfied:

- (a) a report on the completion of the construction of the exempt monitoring bore needs to be provided to Water NSW not more than 60 days after the completion
- (b) any report that the Minimum Construction Requirements for Water Bores in Australia states is to be prepared, needs to be provided to Water NSW not more than 60 days after the event or activity occurs.

Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land. These are considered in Section 4.2.

A referral is not required for proposed road activities that may affect nationally-listed threatened species, endangered ecological communities and migratory species. This is because requirements for considering impacts to these biodiversity matters are the subject of a strategic assessment approval granted under the EPBC Act by the Australian Government in September 2015.

The assessment of the proposal’s impact, on matters of national environmental significance and the environment of Commonwealth land, found that there is unlikely to be a significant impact on relevant matters of national environmental significance or on Commonwealth land. Accordingly, the proposal has not been referred to the Australian Government Department of Climate Change, Energy, the Environment and Water under the EPBC Act.

2.4 Community and agency consultation

2.4.1 SEPP (Transport and Infrastructure) consultation

Part 2.2 of the SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. This is detailed in Table 2-3, Table 2-4 and Table 2-5.

Table 2-3: Consultation required with Council

Is consultation with Council required under sections 2.10 - 2.12 and 2.14 of the SEPP (Transport and Infrastructure)?		
Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow? The proposal would include small and short-term exclusion zones within the park on the northern bank of the Hawkesbury River and on local roads. A letter notifying Hawkesbury City Council of the proposal was sent on 14 December 2022. No response has been received.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance? Impacts to local roads would be limited to coring within existing pavements, which can be readily reinstated. While potential impacts are considered minor, a letter notifying Hawkesbury City Council of the proposal was sent on 14 December 2022. No response has been received. Restoration of local roads will occur in consultation with Council.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Proximate to the proposal area are both local heritage items and local heritage items that are also listed on the state heritage register but with extended curtilage in the LEP listing. There would be no direct impacts on local heritage and indirect impacts would be minor / inconsequential.		
Is the proposal within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land? Note: See interactive map at Coastal management - (nsw.gov.au) . Note the coastal vulnerability area has not yet been mapped. Note: a certified coastal zone management plan is taken to be a certified coastal management program.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent? Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au). While the investigations would occur on flood prone land, they would not have any impact on flooding patterns.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Table 2-4: Consultation with other public authorities

Is consultation with a public authority (other than Council) required under sections 2.13, 2.15 and 2.16 of the SEPP (Transport and Infrastructure)?		
Are the works located on flood liable land? (to any extent) (SEPP (Transport and Infrastructure) s2.13) If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance? Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au) . The NSW State Emergency Service (SES) was notified of the proposal by letter dated 14 December 2022 and a response was received on 10 January 2023 (Appendix B). The SES response notes that the investigations are within flood extents ranging from probable maximum flood (PMF) to 20% Annual Exceedance Probability (AEP) flood extents and provides the following advice: <ul style="list-style-type: none"> Consider the impact of flooding on the infrastructure. Pursue, if relevant, site design and stormwater management that minimises any risk to the community. Ensure workers and people using the site during and after the proposed works are aware of the flood risk, for example by using signage. The SES also asked that notification be provided where there are likely to be significant delays in the operation of the roads affected by the proposed works. The short-term and minor nature of the investigations means that impacts on flooding and stormwater management are unlikely. A safeguard has been proposed to ensure appropriate management of the flood risk during works. As works involving road occupancy would occur outside peak periods, substantial delays for road users is not likely.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are the works adjacent to a national park, nature reserve or other area reserved under the National Parks and Wildlife Act 1974, or on land acquired under that Act?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on land in Zone C1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Do the works include a fixed or floating structure in or over navigable waters? Boreholes within the Hawkesbury River would be carried out from a barge. Consultation with the maritime arm of Transport will occur as needed prior to the launching of the barge.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Table 2-5: Notification of council and occupiers of adjoining land

Do Council and occupiers of adjoining land need to be notified under section 2.110 of the SEPP (Transport and Infrastructure)?		
Does the proposal include a car park intended for the use by commuters using regular bus services?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal include a bus depot?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal include a permanent road maintenance depot or associated infrastructure, such as garages, sheds, tool houses, storage yards, training facilities and workers amenities?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

2.4.2 Other agency and community consultation

As the investigations would be short-term, would be of a routine nature and would have minimal impacts, broader pre-work consultation is not proposed.

Consultation with the Waterway Operations section of Transport has occurred. Advice was received that the subject section of the Hawkesbury River is an 8 knot speed restricted area and predominately used by passive craft. The following navigational requirements were advised:

- Install 4 x temporary 800 series Special Markers with signage (suggestion: Reduce Wash) and lights to be positioned at each corner of barges.
- Relocate markers as the barge moves across the river.
- Marine Notice to be issued prior to planned works (with proposed dates to be confirmed with Waterway Operations).

Notification of residences potentially affected by noise from the proposed investigations will occur a minimum of five working days prior to the start of works. The notification will detail work activities, dates and hours, impacts and mitigation measures. It will also include a contact number for enquiries and complaints. Noise and vibration impacts are considered in Section 3.3 of this REF.

3. Environmental assessment

This section provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposal. All aspects of the environmental potentially impacted upon by the proposal are considered. This includes consideration of the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021.

The matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) are also considered in Section 4. Site-specific safeguards are provided to ameliorate the identified potential impacts.

3.1 Soil

Table 3-1: Soil

Description of existing environmental and potential impacts		
<p>Are there any known occurrences of salinity or acid sulfate soils in the area?</p> <p>Department of Planning and Environment acid sulfate soil risk mapping indicates that the proposal area has a high probability of acid sulfate soil occurrence within waterways and their immediate surrounds.</p> <p>Mapping available on eSpade indicates the site has a moderate to high salinity hazard.</p> <p>Measures have been proposed to minimise the potential for salinity and acid sulfate impacts on land and watercourses within the proposal area. It is noted that the areas that would be disturbed are small, and the disturbance period would be short.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Does the proposal involve the disturbance of large areas (e.g., >2ha) for earthworks?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors?</p> <p>The proposal involves works on the river bank and river bed of the Hawkesbury River, which presents constraints for erosion and sedimentation controls. The works (boreholes, test pits and utility survey) are relatively minor in nature and would not have permanent erosion impacts on steep slopes or waterways. Erosion and sedimentation impacts would be minimised through the proposed safeguards.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Are there any sensitive receiving environments that are located in or nearby the likely proposal area or that would likely receive stormwater discharge from the proposal?</p> <p>Nearby sensitive receiving environments include the Hawkesbury River and coastal wetlands. The proposal would not alter stormwater volumes, velocities or flow paths.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is there any evidence within or nearby the likely footprint of potential contamination?</p> <p>Search of EPA Contaminated Land Register (11/11/2022) and list of sites notified to EPA (as at 11/11/2022) returned one record within the proposal footprint:</p> <ul style="list-style-type: none"> Caltex service station, 50 Bells Line of Road (cnr Terrace Road), North Richmond. <p>Pavement cores 10, 123 and 128 are close in proximity to the above site. The site is flagged as not requiring regulation under the <i>Contaminated Land Management Act 1997</i> (NSW), though safeguards are proposed to address potential risks relating to disturbance of contaminated land.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the likely proposal footprint in or nearby highly sloping landform?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to result in more than 2.5ha (area) of exposed soil?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

ES1	Erosion and sediment control measures are to be implemented and maintained to: <ul style="list-style-type: none"> • Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets • Reduce water velocity and capture sediment on site • Minimise the amount of material transported from site to surrounding pavement surfaces • Divert clean water around the site. (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)).
ES2	Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.
ES3	Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised.
ES4	If contaminated areas are encountered during investigations, appropriate control measures will be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area will cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions are identified in consultation with the Transport for NSW Environment Manager and/or EPA.
ES5	Work areas are to be stabilised progressively during the works.
ES6	Potential or actual acid sulfate soils are to be managed in accordance with Management of Acid Sulfate Materials (Roads and Traffic Authority, 2005).
ES7	Disturbance to vegetation and soil is to be avoided with particular care taken to avoid the formation of additional tracks.

3.2 Waterways and water quality

Table 3-2: Waterways and water quality

Description of existing environmental and potential impacts		
Is the proposal located within, adjacent to or near a waterway? Multiple bodies of water are located, in part, within; or nearby; the proposal area: <ul style="list-style-type: none"> • Redbank Creek • Hawkesbury River • Pughs Lagoon • Unnamed wetlands 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the location known to flood or be prone to water logging? The proposal area is located within the floodplain of the Hawkesbury River, including below the 1 in 100 year average recurrence interval (ARI). Given the small footprint and short duration of works at each location, impacts associated with flooding and/or water logging are not expected. Safeguards have been proposed to address the potential for flooding while works are occurring.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the proposal located within or immediately adjacent to the area managed by WaterNSW covered by chapter 8 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP (Biodiversity and Conservation))? Note: See map here - Sydney drinking water catchment map .	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal be undertaken on a bridge or ferry? The locations for proposed bore holes 132-136 are adjacent to Richmond Bridge and would be undertaken from a barge. Any spoil generated during the over-water non-core drilling would be minimal and isolated within the drums on the barge, which in turn would be removed from the site regularly.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Is the proposal likely to require the extraction of water from a local water course	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Safeguards

Safeguards to be implemented are:

WQ1	There is to be no release of dirty water into drainage lines and/or waterways.
WQ2	Water quality control measures are to be used to prevent any materials (e.g. bentonite, grout, sediment etc) entering drain inlets or waterways.
WQ3	Refuelling of minor plant and equipment is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.
WQ4	If an incident (eg spill) occurs, the Environmental Incident Procedure (Transport for NSW, 2021) is to be followed and the Transport for NSW Contract Manager and Environment Manager notified immediately.
WQ5	An emergency spill kit will 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.
WQ6	Drilling water / fluid is to be contained within a recirculating system and disposed of to a waste tanker or cleaned up with a sucker truck. There is to be no release of drilling water / fluid to the environment.
WQ7	A floating containment boom with silt / turbidity curtains is to be deployed to control and contain any disturbed sediment.
WQ8	Any access to waterways using barges/boats is to be via an existing boat ramp.
WQ9	Visual monitoring of local water quality (i.e turbidity, hydrocarbon, spills/slicks) is to be undertaken on a regular basis to identify potential spills.
WQ10	A water-based construction zone is to be clearly delineated and marked (with four moveable yellow marker buoys) to prevent non-construction vessels from entering the construction zone.
WQ11	No stockpiling or materials on the seabed is to occur.
WQ12	Anchoring of construction vessels (including barges) is not permitted over sensitive marine vegetation.

3.3 Noise and vibration

Are there any residential properties or other noise sensitive areas near the location of the proposal that may be affected by the work (i.e., church, school, hospital)?

Table 3-3: Noise and vibration

Description of existing environmental and potential impacts		
<p>During construction?</p> <p>Nearby noise sensitive receivers include residential dwellings (at distances from 10 metres) and the following:</p> <ul style="list-style-type: none"> Richmond Anglican Church (384 Windsor Street, Richmond) The Church of Jesus Christ of Latter-day Saints (139 Castlereagh Road, Richmond) Calvary Chapel (3 Terrace Road, North Richmond). 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>During operation?</p> <p>The proposal will not have any impact on the existing current noise and vibration environment during operation.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal going to be undertaken only during standard working hours?</p> <p>Standard working hours</p> <ul style="list-style-type: none"> Monday-Friday: 7:00am to 6.00pm Saturday: 8.00am to 1.00pm Sunday and Public Holidays: no work <p>The proposed works would be undertaken during standard working hours where possible, however due to the volume of traffic passing through arterial roads in Richmond and Richmond North,</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

<p>pavement cores would need to take place outside of standard working hours (between 7pm and 6am from Sunday to Thursday) when traffic volumes are reduced. Noisy works associated with pavement coring would only occur for a small proportion of the night period.</p>																																
<p>Is any explosive blasting required for the proposal?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																														
<p>Would construction noise or vibration from the proposal affect sensitive receivers?</p> <p>Topographic and utility survey would generate minimal noise and have therefore not been considered further.</p> <p>Noise calculations have been conducted for geotechnical investigations in accordance with the Construction Noise and Vibration Guideline (Roads and Maritime Services, 2016) and associated estimator tool. Recognising the vehicle types, traffic volumes and speeds on the nearby road network, representative noise environment R1 from the estimator was used with the Distance Based Assessment (Noisiest Plant) worksheet. The truck mounted borer was adopted as a proxy for the loudest plant. Landscapes were divided as described further below:</p> <p>Undeveloped green fields, rural areas with isolated dwellings</p> <p>The following investigation locations are included as part of consideration for noise and vibration impacts for this setting:</p> <ul style="list-style-type: none"> BH – 02, 03, 04, 07, 09, 10, 11, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128 PC – 04, 05, 06, 07, 08, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116 TP – 03, 04, 05, 06, 109, 110, 111, 112, 113, 114, 115, 118, 119, 120, 121, 124, 125 Shared path pavement cores <p>Key assessment results for the noisiest plant to residential receivers are summarised below.</p> <table border="1"> <thead> <tr> <th>Noise impact (day – noisiest plant)</th> <th>Distance (m)</th> </tr> </thead> <tbody> <tr> <td>Affected distance (>NML)</td> <td>150</td> </tr> <tr> <td>Moderately intrusive (20-30 dBA > Background)</td> <td>60</td> </tr> <tr> <td>Highly intrusive (>30 dBA > Background)</td> <td>25</td> </tr> <tr> <td>Highly noise affected (> 75 dBA)</td> <td>15</td> </tr> </tbody> </table> <p>Noting that works outside of standard hours may be required, the estimator was also used to calculate the extent of noise impacts to residential receivers during night works, which are summarised below.</p> <table border="1"> <thead> <tr> <th>Noise impact (night – noisiest plant)</th> <th>Distance (m)</th> </tr> </thead> <tbody> <tr> <td>Affected distance (>NML)</td> <td>455</td> </tr> <tr> <td>Moderately intrusive (20-30 dBA > Background)</td> <td>150</td> </tr> <tr> <td>Highly intrusive (>30 dBA > Background)</td> <td>60</td> </tr> <tr> <td>Highly noise affected (> 75 dBA)</td> <td>15</td> </tr> </tbody> </table> <p>Developed settlements (urban and suburban)</p> <p>The following investigation locations are included as part of consideration for noise and vibration impacts for this setting:</p> <ul style="list-style-type: none"> BH – 01, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117 PC – 01, 02, 03, 09, 10, 101, 102, 103, 104, 105, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128 TP – 01, 02, 101, 103, 104, 105, 106, 107, 108, 122, 123 <p>Key assessment results for the noisiest plant to residential receivers are summarised below.</p> <table border="1"> <thead> <tr> <th>Noise impact (day – noisiest plant)</th> <th>Distance (m)</th> </tr> </thead> <tbody> <tr> <td>Affected distance (>NML)</td> <td>170</td> </tr> <tr> <td>Moderately intrusive (20-30 dBA > Background)</td> <td>70</td> </tr> <tr> <td>Highly intrusive (>30 dBA > Background)</td> <td>25</td> </tr> <tr> <td>Highly noise affected (> 75 dBA)</td> <td>15</td> </tr> </tbody> </table>	Noise impact (day – noisiest plant)	Distance (m)	Affected distance (>NML)	150	Moderately intrusive (20-30 dBA > Background)	60	Highly intrusive (>30 dBA > Background)	25	Highly noise affected (> 75 dBA)	15	Noise impact (night – noisiest plant)	Distance (m)	Affected distance (>NML)	455	Moderately intrusive (20-30 dBA > Background)	150	Highly intrusive (>30 dBA > Background)	60	Highly noise affected (> 75 dBA)	15	Noise impact (day – noisiest plant)	Distance (m)	Affected distance (>NML)	170	Moderately intrusive (20-30 dBA > Background)	70	Highly intrusive (>30 dBA > Background)	25	Highly noise affected (> 75 dBA)	15	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Noise impact (day – noisiest plant)	Distance (m)																															
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Noting that works outside of standard hours may be required, the estimator was also used to calculate the extent of noise impacts to residential receivers during night works, which are summarised below.

Noise impact (night – noisiest plant)	Distance (m)
Affected distance (>NML)	590
Moderately intrusive (20-30 dBA > Background)	170
Highly intrusive (>30 dBA > Background)	70
Highly noise affected (> 75 dBA)	15

Propagation across a valley/over water

The following investigation locations are included as part of consideration for noise and vibration impacts for this setting:

- BH – 12, 13, 14, 129, 130, 131, 132, 133, 134, 135, 136, 137
- TP – 116, 117

Key assessment results for the noisiest plant to residential receivers are summarised below.

Noise impact (day – noisiest plant)	Distance (m)
Affected distance (>NML)	210
Moderately intrusive (20-30 dBA > Background)	80
Highly intrusive (>30 dBA > Background)	30
Highly noise affected (> 75 dBA)	15

Noting that works outside of standard hours may be required, the estimator was also used to calculate the extent of noise impacts to residential receivers during night works, which are summarised below.

Noise impact (night – noisiest plant)	Distance (m)
Affected distance (>NML)	815
Moderately intrusive (20-30 dBA > Background)	210
Highly intrusive (>30 dBA > Background)	80
Highly noise affected (> 75 dBA)	15

Non-residential receivers

Results of the noise assessment for the three identified places of worship are:

- Richmond Anglican Church (384 Windsor Street, Richmond) (undeveloped greenfields) – within 30 metres of the nearest pavement core and likely to be affected by noise above the noise management level of 55 dBA.
- The Church of Jesus Christ of Latter-day Saints (139 Castlereagh Road, Richmond) (undeveloped greenfields). Within 65m of nearest pavement borehole (BH113) and within 50 metres of nearest pavement core (PC02). Likely to be affected by noise above the noise management level of 55 dBA.
- Calvary Chapel (3 Terrace Road, North Richmond) (urban an suburban). Within 45 metres of nearest pavement cores (PC123 and PC128). Likely to be affected by noise above the noise management level of 55 dBA.

Would operation of the proposal alter the noise environment for sensitive receivers? This might include, but not be limited to, altering the line or level of an existing carriageway, changing traffic flow, adding extra lanes, increasing traffic volume, increasing the number of heavy vehicles, removing obstacles that provide shielding including changing the angle of view of the traffic, changing the type of pavement, increasing traffic speeds by more than 10km/hour or installing audio-tactile line markings.

The proposal has no operational component.

Yes No

Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during operation?

Yes No

Safeguards

Safeguards to be implemented are:

NV1	The standard mitigation measures identified in Appendix B of the Construction Noise and Vibration Guideline (Transport for NSW, 2022) will be implemented.
NV2	Residences within 210 metres of any daytime investigation location and within 815 metres of any night time investigation location, will be notified a minimum of five working days prior to the start of works. The notification will include information about the proposed works, the hours of work and a Transport for NSW contact.
NV3	Out of hours construction noise in out of hours period 1 (6.00pm to 10.00pm) shall be limited to no more than three consecutive evenings per week except where there is a Duration Respite. For night work these periods of work should be separated by not less than one week and no more than 6 evenings per month.
NV4	Night time construction noise in out of hours period 2 (10.00 pm to 7.00 am) will be programmed to ensure the same receivers are not affected by consecutive nights of work. Where possible, high noise generating works shall be completed before 11pm.

3.4 Air quality

Table 3-4: Air quality

Description of existing environmental and potential impacts		
Is the proposal likely to result in large areas (>2ha) of exposed soils?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are there any dust-sensitive receivers located within the vicinity of the proposal during the construction period? Depending on the specific location of investigations within the proposal area, there would be some minor potential for dust generation resulting in a localised impact. This potential impact has been addressed by the proposed safeguards.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there likely to be an emission to air during construction? Minor exhaust emissions from equipment and vehicles would occur. It is anticipated that the investigations would not result in a material increase in air pollution due to the small number of vehicles to be used.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Safeguards

Safeguards to be implemented are:

AQ1	Works are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.
AQ2	Vehicles transporting waste or other materials that may produce odours or dust are to be covered during transportation.

3.5 Aboriginal heritage

Table 3-5: Aboriginal heritage

Description of existing environmental and potential impacts		
<p>Would the proposal involve disturbance in any area that has not been subject to previous ground disturbances?</p> <p>The proposal area has been subject to varying extents of ground disturbance. Lower levels of disturbance are likely at borehole locations near watercourses.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Has an online Aboriginal Heritage Information Management System (AHIMS) search been completed?</p> <p>An extensive AHIMS search was conducted on 19 December 2022. The AHIMS search did not identify any sites within the proposal area.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is there potential for the proposal to impact on any items of Aboriginal heritage?</p> <p>No known Aboriginal objects would be harmed by the proposed investigations. Safeguards have been proposed to ensure known sites are not affected and to address unexpected impacts.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal involve the removal of mature native trees?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal consistent with the requirements of the legacy <i>Roads and Maritime Procedure for Aboriginal cultural heritage consultation and investigation</i> (PACHCI)?</p> <p>Transport has previously commissioned an investigation into options for Stage 2 for Richmond Bridge Duplication and Traffic Improvements in accordance with PACHCI requirements. This included Aboriginal Archaeological Report by Kelleher Nightingale Consulting dated October 2021 which identified a number of areas of Aboriginal Heritage Sensitivity (refer to map series in Appendix A). The report covered most areas of the proposal area, excluding the proposed shared path investigations.</p> <p>The proposed investigations would be adjacent to but would not encroach Area 5 (Inalls Lane, west of Castlereagh Road), while investigation locations have been adjusted as needed to avoid encroachment of Area 4 (western bank of the Hawkesbury River).</p> <p>Advice from the Aboriginal Community and Heritage Partner (Greater Sydney) has also been provided in accordance with Stage 1 of the PACHCI for the shared path investigations not covered by the earlier Stage 2 Aboriginal Archaeological Report (refer to Appendix D). The advice does not require the shared path related investigations to proceed to Stage 2 of the PACHCI and notes:</p> <ul style="list-style-type: none"> • The proposal is unlikely to harm known Aboriginal objects or places. • The AHIMS search did not indicate moderate to high concentrations of Aboriginal objects or places in the study area. • The cultural heritage potential of the study area appears to be reduced due to past disturbance. • There is an absence of sandstone rock outcrops likely to contain Aboriginal art. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Safeguards

Safeguards to be implemented are:

AH1	If Aboriginal heritage items are uncovered during the works, all works must cease in the vicinity of the find and the Transport for NSW Aboriginal Community and Heritage Partner and the Environment Manager contacted immediately. The steps in the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services, 2015) must be followed.
AH2	Site inductions will cover the location of nearby Aboriginal sites and the requirement to avoid impacts. Inductions will be informed by a map showing the location of Aboriginal archaeological sites. The map must be included in the environmental management plan and be available on site during works.
AH3	Investigations will not encroach identified areas of Aboriginal Heritage Sensitivity.
AH4	All vehicles will use existing access tracks and parking areas where possible and will avoid known archaeological heritage sites.

3.6 Non-Aboriginal heritage

Table 3-6: Non-Aboriginal heritage

Description of existing environmental and potential impacts																																																																
<p>Have online heritage database searches been completed?</p> <ul style="list-style-type: none"> NSW State Heritage inventory (search 21 December 2022) Australian Heritage Database (search 21 December 2022) Local Environmental Plan(s) heritage items (search 21 December 2022) 			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>																																																												
<p>Are there any items of non-Aboriginal heritage or heritage conservation areas listed on relevant heritage databases/registers that are located within the vicinity of the proposal?</p> <p>The proposal boundary encroaches numerous heritage items, with additional heritage items adjacent to the proposal area. Though the proposal boundary extends into the curtilage of heritage items, no intrusive works would be undertaken on heritage sites.</p> <p>Nearby local heritage items and their relevant listing details are provided in the below table. These items are also shown on the map series in Appendix A.</p> <table border="1"> <thead> <tr> <th>ID</th> <th>Significance</th> <th>Listing name</th> </tr> </thead> <tbody> <tr> <td colspan="3">Richmond</td> </tr> <tr> <td>I14</td> <td>Local</td> <td>Grounds and landscaping surrounding 'Hobartville'</td> </tr> <tr> <td>I16</td> <td>Local</td> <td>Inew Cottage</td> </tr> <tr> <td>I17</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I18</td> <td>Local</td> <td>Avenue of trees east and west side of street</td> </tr> <tr> <td>I00035</td> <td>Local, State</td> <td>'Hobartville' (including outbuildings)</td> </tr> <tr> <td>I41</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I00044</td> <td>Local, State</td> <td>Mountain View</td> </tr> <tr> <td>I126</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I127</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I128</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I129</td> <td>Local, State</td> <td>Anglican church hall and cemetery, St Peter's Anglican Church Group</td> </tr> <tr> <td>I134</td> <td>Local, State</td> <td>St Peter's Anglican Church, St Peter's Anglican Church Group</td> </tr> <tr> <td>I00468</td> <td>Local, State</td> <td>Bowman House</td> </tr> <tr> <td colspan="3">North Richmond</td> </tr> <tr> <td>I406</td> <td>Local</td> <td>Former police station and residence</td> </tr> <tr> <td>I407</td> <td>Local</td> <td>Seventh Day Adventist Church</td> </tr> <tr> <td>I410</td> <td>Local</td> <td>House</td> </tr> <tr> <td>I493</td> <td>Local</td> <td>House</td> </tr> </tbody> </table>			ID	Significance	Listing name	Richmond			I14	Local	Grounds and landscaping surrounding 'Hobartville'	I16	Local	Inew Cottage	I17	Local	House	I18	Local	Avenue of trees east and west side of street	I00035	Local, State	'Hobartville' (including outbuildings)	I41	Local	House	I00044	Local, State	Mountain View	I126	Local	House	I127	Local	House	I128	Local	House	I129	Local, State	Anglican church hall and cemetery, St Peter's Anglican Church Group	I134	Local, State	St Peter's Anglican Church, St Peter's Anglican Church Group	I00468	Local, State	Bowman House	North Richmond			I406	Local	Former police station and residence	I407	Local	Seventh Day Adventist Church	I410	Local	House	I493	Local	House	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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I410	Local	House																																																														
I493	Local	House																																																														
<p>Is the proposal likely to impact trees that form part of a heritage listing or have other heritage value?</p> <p>The avenue of trees on Chapel Street in Richmond, which are listed as a heritage item on the Hawkesbury Local Environment Plan 2012, would not be impacted by the proposal. No trees are proposed to be impacted across the proposal area (whether part of a heritage listing or otherwise).</p>			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																																												

Is the proposal likely to occur in or near features that indicate potential archaeological remains? The proposal has been modified to avoid areas that may have higher non-Aboriginal archaeological potential (including within the curtilages of listed heritage items and adjacent to the Richmond Anglican Cemetery). The nearest pavement cores are offset from the Richmond Anglican Cemetery are offset by at least 30 metres and would in a heavily disturbed context (existing road pavements).	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Safeguards

Safeguards to be implemented are:

HH1	If unexpected archaeological remains are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services, 2015) must be followed. The Transport for NSW Environment Manager must be contacted immediately.
HH2	Site inductions will cover the location of nearby non-Aboriginal heritage items and the requirement to avoid impacts. Inductions will be informed by a map showing the location of heritage items. The map must be included in the environmental management plan and be available on site during works.

3.7 Biodiversity

Table 3-7: Biodiversity

Description of existing environmental and potential impacts		
Have relevant database searches been carried out?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<ul style="list-style-type: none"> BioNet threatened species records within the locality (10km radius) searched 19 December 2022 Regional vegetation mapping and BioNet Vegetation Classification database (including a search by the relevant CMA/s to identify potential TECs present) searched 30 November 2022 <ul style="list-style-type: none"> SVT Map within proposal area <ul style="list-style-type: none"> PCT ID: 3320; Name: Cumberland Shale Plains Woodland PCT ID: 4025; Name: Cumberland Red Gum Riverflat Forest PCT ID: 3975; Name: Southern Lower Floodplain Freshwater Wetland PCT ID: 3145; Name: Cumberland Bangalay x Blue Gum Riverflat Forest PCT ID: 0; Name: Non-native Vegetation SVT Map proximate <ul style="list-style-type: none"> PCT ID: 3321; Name: Cumberland Shale – Sandstone Ironbark Forest PCT ID: 3629; Name: Castlereagh Scribbly Gum Woodland NSW WeedWise (DPI) website searched 8 November 2022 Commonwealth EPBC Act Protected Matters Search Tool (PMST) 8 November 2022 NSW DPI Fisheries Spatial Data Portal searched 6 December 2022 <ul style="list-style-type: none"> Key fish habitat – Hawkesbury-Nepean Good – Freshwater fish community status Coastal Use area under SEPP (Resilience and Hazards) 2021 Coastal wetlands within proposal area 		
<p>Did the database searches identify any endangered ecological communities, threatened flora and/or threatened or protected fauna, or migratory species in or within the vicinity of the proposed works? Both Commonwealth and State listed matters must be considered.</p> <p>Some of the geotechnical investigation locations are within mapped native vegetation areas as follows:</p> <ul style="list-style-type: none"> PCT ID: 3629; Name: Castlereagh Scribbly Gum Woodland (associated with Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion (BC Act Vulnerable) and Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion (EPBC Act Endangered)) – PC102 PCT ID: 3320; Name: Cumberland Shale Plains Woodland (associated with Cumberland Plain Woodland in the Sydney Basin Bioregion (BC Act Critically Endangered) and Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (EPBC Act Critically Endangered)) – BH108, BH109, TP105, TP122 and one shared path PC. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

<ul style="list-style-type: none"> PCT ID: 4025; Name: Cumberland Red Gum Riverflat Forest (associated with River-Flat Eucalypt Forest on Coastal Floodplains (BC Act Endangered and EPBC Act Critically Endangered) – BH02, BH12, BH13, BH129, BH130, BH131, BH132, BH136, TP116. PCT ID: 3145; Name: Cumberland Bangalay x Blue Gum Riverflat Forest (associated with River-Flat Eucalypt Forest on Coastal Floodplains (BC Act Endangered and EPBC Act Critically Endangered) – BH135. <p>Impacts on the above plant community types are expected to be negligible as no vegetation clearing (except for minor trimming and traversing of groundcovers) is proposed. In some cases, the investigation location is mapped as vegetation but is cleared (such as the pavement core locations).</p> <p>Threatened flora and fauna previously recorded near proposal area (within ~150m) are considered in the table below while records in the broader area are shown on the map series in Appendix A.</p>						
Scientific and common name	Status *	Type of listing (BC Act or EPBC Act)	Distance from works	Potential impacts		
<i>Stictonetta naevosa</i> Freckled Duck	V	BC Act	Within proposal area	No impact on habitat		
<i>Lophoictinia isura</i> Square-tailed Kite	V	BC Act	70m	No impact on habitat		
<i>Falco subniger</i> Black Falcon	V	BC Act	100m	No impact on habitat		
<i>Calyptorhynchus lathamii</i> Glossy Black-Cockatoo	V V	BC Act EPBC Act	Within proposal area	No impact on habitat		
<i>Lathumus discolor</i> Swift Parrot	E CE	BC Act EPBC Act	40m	No impact on habitat		
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow	V	BC Act	Within proposal area	No impact on habitat		
<i>Saccolaimus flaviventris</i> Yellow-bellied Sheath-tail-bat	V	BC Act	105m	No impact on habitat		
<p><i>*V= vulnerable, E = endangered, CE = critically endangered, VEC = vulnerable ecological community EEC = endangered ecological community, CEEC = critically endangered ecological community M = Migratory (C = Listed on China Australia Migratory Bird Agreement, J = Listed on Japan Australia Migratory Bird Agreement, K = Listed on Republic of Korea Australia Migratory Bird Agreement)</i></p>						
<p>Does the proposal involve pruning, trimming or removal of any tree/s? Trimming of trees and traversing of groundcovers will be needed to allow access to some investigation locations within the proposal area (mainly along the southern bank of the Hawkesbury River). No trees would be removed.</p>					Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to impact nationally listed threatened species, ecological communities or migratory species? While Bionet and PMST results identified several nationally listed threatened and migratory species, habitat for these species would not be affected. Nationally listed threatened ecological communities are considered above, with impacts expected to be negligible.</p>					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any other vegetation? No vegetation clearing (except for minor trimming) is proposed. There may also be minor impacts on native / non-native groundcovers where these are traversed by vehicles.</p>					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any tree hollows?</p>					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

<p>Are there any known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' under chapter 2 of SEPP (Resilience and Hazards) in or within the vicinity of the proposed work?</p> <p>The proposal area traverses areas mapped as 'coastal wetland' under SEPP (Resilience and Hazards), however these areas would not be disturbed as part of the proposal. No areas of outstanding biodiversity value would be affected.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Would the proposal provide any additional barriers to the movement of wildlife?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal disturb any natural waterways or aquatic habitat?</p> <p>The Fisheries NSW Spatial Data Portal identifies the Hawkesbury River as Key Fish Habitat. No fish species listed as threatened on the FM Act are considered likely to occur at this location or along any of the other drainage lines the proposed investigations are near.</p> <p>The proposal involves some works within the Hawkesbury River and some likely disturbance of the river bed. Measures have been proposed to minimise impacts associated with this disturbance (refer to Section 5.2).</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Would the proposal impact (directly or indirectly) any potential microbat roosting or breeding habitat such as on bridges and culverts?</p> <p>No works directly affecting bridges, culverts or caves are proposed.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

BD1	No trees are to be removed.
BD2	<p>Trimming and pruning of native vegetation would be kept to the minimum required. The following decision process would be followed in relation to any trimming of native vegetation for survey:</p> <ul style="list-style-type: none"> • Avoid - adjustments to the height of the survey prism would be pursued with a view to minimising trimming. Possible alternative locations would be investigated. • Move - vegetation would be gently moved to the side by hand with the aim of clearing the line of sight without trimming. Moving of branches would not be undertaken to the extent where there is a risk of damage to the branch. • Trimming - where the above measures are insufficient, trimming would be undertaken only to those branches less than 20 millimetres in diameter and would not exceed five per cent of the canopy of any one tree.
BD3	The limit of work at investigation locations within mapped areas of native vegetation is to be clearly identified.
BD4	No trimming of trees will occur for pavement cores or for BH108, BH109, TP105, TP122 BH02, BH12, BH13, BH129, BH130, BH131, BH132, BH136, TP116 or BH135.
BD5	If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the Unexpected Threatened Species Find Procedure in Guide 1 - Pre-clearing process of the Biodiversity Guidelines (Roads and Traffic Authority, 2011).
BD6	Biosecurity measures such as the washing down of vehicle tyres and brushing down of clothes and shoes before leaving each site will be employed to prevent the spread of weeds.
BD7	Weeds are to be managed according to requirements under the Biosecurity Act 2015 (see NSW Weedwise) and the Biodiversity Guidelines 2011– Guide 6 (Weed Management).
BD8	Where the root zone of mature trees can be readily avoided by moving to an adjacent area clear of the canopy, that location should be adopted to avoid unnecessary root damage and compromising of tree health.
BD9	No works are to occur within areas mapped as coastal wetlands by the State Environmental Planning Policy (Resilience and Hazards) 2021.
BD10	Aquatic habitat will be protected in accordance with Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines (RTA, 2011)
BD11	Standard precautions and measures from Section 3.3.2 NSW DPI (Fisheries) Policy and Guidelines for fish habitat conservation and management (NSW Department of Primary Industries, 2013) will be implemented.

BD12	A site induction is to review all of the biodiversity safeguards and will emphasise the need to avoid disturbing/removing bushrock, dead/hollow logs.
BD13	Should additional access tracks in vegetated areas be required, advice from a qualified ecologist would be sought to confirm the conservation status of the affected vegetation, identify any potential impacts and nominate any necessary additional safeguards.

3.8 Trees

Description of existing environmental and potential impacts		
Does the proposal involve pruning, trimming or removal of any tree/s? Refer to Section 3.7. Pruning of trees may be required. No removal of trees is proposed.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Do the trees form part of a streetscape, an avenue or roadside planting? The heritage values of the listed avenue of trees along Chapel Street would not be impacted by the proposal.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Have the trees been planted by a community group, Landcare group or by council or is the tree a memorial or part of a memorial group e.g., has a plaque? The heritage values of the listed avenue of trees along Chapel Street would not be impacted by the proposal.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Do the trees form part of a heritage listing or have other heritage value? The heritage values of the listed avenue of trees along Chapel Street would not be impacted by the proposal.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Refer to safeguards proposed in section 3.7.

3.9 Traffic and transport

Table 3-8: Traffic and transport

Description of existing environmental and potential impacts		
Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during construction? There is potential for minor disruption to traffic on Bells Line of Road, Kurrajong Road, Inalls Lane and connecting local roads. This can be adequately managed with traffic control and by carrying out works outside of peak periods. Pedestrians are not likely to be affected.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to affect any other transport nodes or transport infrastructure (e.g., bus stops, bus routes) in the surrounding area? Or result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

TT1	During works, traffic would be managed in accordance with Traffic control at work sites Technical Manual (Transport for NSW, 2022)
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TT2	Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.
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3.10 Socio-economic

Table 3-9: Socio-economic

Description of existing environmental and potential impacts		
Is the proposal likely to impact on local business?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to require any property acquisition? Where works are proposed on land not owned by Transport, access would be by negotiation with the landowner.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to alter any access for properties (either temporarily or permanently)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to alter any on-street parking arrangements (either temporarily or permanently)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to change pedestrian movements or pedestrian access (either temporarily or permanently)? Pedestrian movements will be maintained at all times.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact on any items or places of social value to the community (either temporarily or permanently)? Impacts on local heritage have been identified as negligible. Refer to Section 3.6.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact trees planted by a community group, Landcare group or by council or a tree that is a memorial or part of a memorial group e.g., has a plaque? The avenue of trees along Chapel Street would not be impacted by the proposal.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact trees that form part of a streetscape, an avenue or roadside planting? The avenue of trees along Chapel Street would not be impacted by the proposal.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

SE1	Any complaints received during the undertaking of the works are to be recorded and addressed within a reasonable time.
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3.11 Landscape character and visual amenity

Table 3-10: Landscape character and visual amenity

Description of existing environmental and potential impacts		
Is the proposed work over or near an important physical or cultural element or landscape? (For example, heritage items and areas, distinctive or historic built form, National Parks, conservation areas, scenic highways etc.)? Some of the proposed investigations would occur adjacent to listed heritage items (refer to Section 3.6). Visual impacts would be minor and short-term (presence of plant/equipment and minor ground disturbance).	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Would the proposal obstruct or intrude upon the character or views of a valued landscape or urban area? For example, locally significant topography, a rural landscape or a park, a river, lake or the ocean or a historic or distinctive townscape or landmark?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal require the removal of mature trees or stands of vegetation, either native or introduced?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal result in large areas of shotcrete visible from the road or adjacent properties?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve new noise walls or visible changes to existing noise walls?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve substantial changes to the appearance of a bridge (including piers, girders, abutments and parapets) that are visible from the road or residential areas?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If involving lighting, would the proposal create unwanted light spillage on residential properties at night (in construction or operation)? During night works, lighting would be required. Site lighting would be positioned to minimise light spill impacts on adjacent properties.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Would any new structures or features to be constructed, result in over shadowing to adjoining properties or areas?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

LV1	Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.
LV2	Site lighting would be positioned to minimise light spill impacts on adjacent properties.

A safeguard to address potential indirect (visual) impacts on heritage has also been included above in Section 3.6.

3.12 Waste

Table 3-11: Waste

Description of existing environmental and potential impacts		
Is the proposal likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to require a licence from EPA?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Is the proposal likely to require the removal of asbestos?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Safeguards

Safeguards to be implemented are:

WAS1	<p>Resource management hierarchy principles are to be followed (in accordance with the Waste Avoidance and Resource Recovery Act 2001):</p> <ul style="list-style-type: none"> • Avoid unnecessary resource consumption as a priority. • Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery). • Disposal is undertaken as a last resort.
WAS2	<p>Waste material is to be reused in accordance with any waste exemptions or disposed of legally in accordance with its waste classification.</p>

4. Consideration of State and Commonwealth environmental factors

4.1 Environmental Planning and Assessment Regulation 2021 factors

The following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have been considered to assess the likely impacts of the proposal on the natural and built environment. This consideration is required to comply with sections 5.5 and 5.7 of the EP&A Act.

Table 4-1: Consideration of section 171 of the EP&A Regulation factors

Environmental factor	Impact
a) Any environmental impact on a community? The proposed works would have minor and short-term impacts on the community attributable to construction noise, visual amenity and minor traffic delays (at some sites). Safeguards have been proposed to address identified potential impacts.	Negative (short-term)
b) Any transformation of a locality? The proposal would not transform the locality, as it consists of minor temporary investigative works, with no significant operation impacts. Changes to the existing environment would be minimal.	Nil.
c) Any environmental impact on the ecosystems of a locality? The proposal would have limited impact on ecosystems. Refer to Section 3.7.	Negative (short-term)
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? The proposal would result in a minor and temporary reduction in aesthetic value of the locality for road users and nearby residents. Safeguards have been proposed to address identified potential impacts.	Negative (short-term)
e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations? While located adjacent to some heritage items, the proposal would not encroach the curtilage of or otherwise affect the heritage significance of these items.	Minor Negative (short-term)
f) Any impact on habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)? The proposal would not affect resources important for protected animals (including threatened species) potentially occurring in the broader locality. Refer to Section 3.7.	Nil
g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air? The proposal would not endanger any species of animal, plant or other form of life, whether living on land, in water or in the air given the limited scope, extent and duration. Refer Section 3.7.	Nil.
h) Any long-term effects on the environment? There are no anticipated negative long-term effects on the environment.	Nil
i) Any degradation of the quality of the environment? Any impacts on environmental quality (eg water, noise, visual, socio-economic, transport) would be short-term. Mitigation measures have been proposed to address potential impacts.	Negative (short-term)
j) Any risk to the safety of the environment?	Nil

Environmental factor	Impact
During the investigations, the proposal would involve minimal risk to the safety of the environment due to the limited scope of works and the implementation of appropriate work health and safety measures.	
k) Any reduction in the range of beneficial uses of the environment? The proposal would not reduce the range of beneficial uses of the environment.	Nil
l) Any pollution of the environment? Pollution of the environment is not expected to result from the proposal with the implementation of appropriate safeguards.	Nil
m) Any environmental problems associated with the disposal of waste? Any waste generated (and is unsuitable for backfilling) would be removed from site and disposed of legally. No environmental problems are anticipated for the disposal of waste.	Nil
n) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply? The proposal would not increase demand for resources, which are, or are likely to become, in short supply.	Nil
o) Any cumulative environmental effect with other existing or likely future activities? The minor nature of the proposal and potential impacts mean that cumulative effects are unlikely.	Nil
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions? The proposal would not influence coastal processes and/or coastal hazards.	Nil
q) Any impact on applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1? The relevant regional strategic plan is the Greater Sydney Region Plan: A Metropolis of Three Cities (Greater Sydney Commission, 2018). The relevant district plan is the Western City District Plan (Greater Sydney Commission, 2018). The relevant local strategic planning statement is Hawkesbury Local Strategic Planning Statement 2040. The proposal is short-term and has identified minor environmental impacts. It would result in no land use changes. In this context, the proposal would not affect the aims and objectives of the strategic plans identified above.	Nil
r) Any impact on other relevant environmental factors? In considering the potential impacts of this proposal all relevant environmental factors have been considered, refer to Chapter 3 of this assessment.	Nil

4.2 Matters of National Environmental Significance

Table 4-2: Matters of national environmental significance

Environmental factor	Impact
a) Any impact on a World Heritage property? There are no world heritage properties proximate to the proposal site. Direct or indirect impacts are not expected.	Nil.
b) Any impact on a National Heritage place? There are no national heritage places proximate to the proposal site. Direct or indirect impacts are not expected.	Nil.

c)	Any impact on a wetland of international importance (often called 'Ramsar' wetlands)? There are no wetlands of international importance proximate to the proposal site. Direct or indirect impacts are not expected.	Nil.
d)	Any impact on nationally threatened species, ecological communities or migratory species? The nature, scale and location of the proposal are such that impacts on nationally listed species and communities or their habitats are not expected.	Nil.
e)	Any impact on a Commonwealth marine area? There would be no environmental impact on a Commonwealth Marine area.	Nil.
f)	Does the proposal involve a nuclear action (including uranium mining)?	Nil.
	Additionally, any impact (direct or indirect) on the environment of Commonwealth land? Commonwealth land would not be affected by the proposal.	Nil

5. Summary of safeguards and environmental management measures

This section provides a summary of the site-specific environmental safeguards and management measures identified in described in chapters 3 and 4 of this REF. These safeguards will be implemented to reduce potential environmental impacts throughout construction and operation. A framework for managing the potential impacts is provided with reference to environmental management plans and relevant Transport QA specifications. Any potential licence and/or approval requirements required prior to construction are also listed.

Table 5-1: Summary of site-specific safeguards for proposed work

Factor	ID	Impact
Soil	ES1	Erosion and sediment control measures are to be implemented and maintained to: <ul style="list-style-type: none"> Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets Reduce water velocity and capture sediment on site Minimise the amount of material transported from site to surrounding pavement surfaces Divert clean water around the site. (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)).
	ES2	Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.
	ES3	Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised.
	ES4	If contaminated areas are encountered during investigations, appropriate control measures will be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area will cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions are identified in consultation with the Transport for NSW Environment Manager and/or EPA.
	ES5	Work areas are to be stabilised progressively during the works.
	ES6	Potential or actual acid sulfate soils are to be managed in accordance with Management of Acid Sulfate Materials (Roads and Traffic Authority, 2005).
	ES7	Disturbance to vegetation and soil is to be avoided with particular care taken to avoid the formation of additional tracks.
Waterways and water quality	WQ1	There is to be no release of dirty water into drainage lines and/or waterways.
	WQ2	Water quality control measures are to be used to prevent any materials (e.g. bentonite, grout, sediment etc) entering drain inlets or waterways.
	WQ3	Refuelling of minor plant and equipment is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.
	WQ4	If an incident (eg spill) occurs, the Environmental Incident Procedure (Transport for NSW, 2021) is to be followed and the Transport for NSW Contract Manager and Environment Manager notified immediately.
	WQ5	An emergency spill kit will 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.

	WQ6	Drilling water / fluid is to be contained within a recirculating system and disposed of to a waste tanker or cleaned up with a sucker truck. There is to be no release of drilling water / fluid to the environment.
	WQ7	A floating containment boom with silt / turbidity curtains is to be deployed to control and contain any disturbed sediment.
	WQ8	Any access to waterways using barges/boats is to be via an existing boat ramp.
	WQ9	Visual monitoring of local water quality (i.e turbidity, hydrocarbon, spills/slicks) is to be undertaken on a regular basis to identify potential spills.
	WQ10	A water-based construction zone is to be clearly delineated and marked (with four moveable yellow marker buoys) to prevent non-construction vessels from entering the construction zone.
	WQ11	No stockpiling or materials on the seabed is to occur.
	WQ12	Anchoring of construction vessels (including barges) is not permitted over sensitive marine vegetation.
Noise and vibration	NV1	The standard mitigation measures identified in Appendix B of the Construction Noise and Vibration Guideline (Transport for NSW, 2022) will be implemented.
	NV2	Residences within 210 metres of any daytime investigation location and within 815 metres of any night time investigation location, will be notified a minimum of five working days prior to the start of works. The notification will include information about the proposed works, the hours of work and a Transport for NSW contact.
	NV3	Out of hours construction noise in out of hours period 1 (6.00pm to 10.00pm) shall be limited to no more than three consecutive evenings per week except where there is a Duration Respite. For night work these periods of work should be separated by not less than one week and no more than 6 evenings per month.
	NV4	Night time construction noise in out of hours period 2 (10.00 pm to 7.00 am) will be programmed to ensure the same receivers are not affected by consecutive nights of work. Where possible, high noise generating works shall be completed before 11pm.
Aboriginal heritage	AH1	If Aboriginal heritage items are uncovered during the works, all works must cease in the vicinity of the find and the Transport for NSW Aboriginal Community and Heritage Partner and the Environment Manager contacted immediately. The steps in the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services, 2015) must be followed.
	AH2	Site inductions will cover the location of nearby Aboriginal sites and the requirement to avoid impacts. Inductions will be informed by a map showing the location of Aboriginal archaeological sites. The map must be included in the environmental management plan and be available on site during works.
	AH3	Investigations will not encroach identified areas of Aboriginal Heritage Sensitivity.
	AH4	All vehicles will use existing access tracks and parking areas where possible and will avoid known archaeological heritage sites.
Non-Aboriginal heritage	HH1	If unexpected archaeological remains are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the Standard Management Procedure: Unexpected Heritage Items (Roads and Maritime Services, 2015) must be followed. The Transport for NSW Environment Manager must be contacted immediately.
	HH2	Site inductions will cover the location of nearby non-Aboriginal heritage items and the requirement to avoid impacts. Inductions will be informed by a map showing the location of

		heritage items. The map must be included in the environmental management plan and be available on site during works.
Biodiversity	BD1	No trees are to be removed.
	BD2	Trimming and pruning of native vegetation would be kept to the minimum required. The following decision process would be followed in relation to any trimming of native vegetation for survey: <ul style="list-style-type: none"> • Avoid - adjustments to the height of the survey prism would be pursued with a view to minimising trimming. Possible alternative locations would be investigated. • Move - vegetation would be gently moved to the side by hand with the aim of clearing the line of sight without trimming. Moving of branches would not be undertaken to the extent where there is a risk of damage to the branch. • Trimming - where the above measures are insufficient, trimming would be undertaken only to those branches less than 20 millimetres in diameter and would not exceed five per cent of the canopy of any one tree.
	BD3	The limit of work at investigation locations within mapped areas of native vegetation is to be clearly identified.
	BD4	No trimming of trees will occur for pavement cores or for BH108, BH109, TP105, TP122 BH02, BH12, BH13, BH129, BH130, BH131, BH132, BH136, TP116 or BH135.
	BD5	If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the Unexpected Threatened Species Find Procedure in Guide 1 - Pre-clearing process of the Biodiversity Guidelines (Roads and Traffic Authority, 2011).
	BD6	Biosecurity measures such as the washing down of vehicle tyres and brushing down of clothes and shoes before leaving each site will be employed to prevent the spread of weeds.
	BD7	Weeds are to be managed according to requirements under the Biosecurity Act 2015 (see NSW Weedwise) and the Biodiversity Guidelines 2011– Guide 6 (Weed Management).
	BD8	Where the root zone of mature trees can be readily avoided by moving to an adjacent area clear of the canopy, that location should be adopted to avoid unnecessary root damage and compromising of tree health.
	BD9	No works are to occur within areas mapped as coastal wetlands by the State Environmental Planning Policy (Resilience and Hazards) 2021.
	BD10	Aquatic habitat will be protected in accordance with Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines (RTA, 2011)
	BD11	Standard precautions and measures from Section 3.3.2 NSW DPI (Fisheries) Policy and Guidelines for fish habitat conservation and management (NSW Department of Primary Industries, 2013) will be implemented.
	BD12	A site induction is to review all of the biodiversity safeguards and will emphasise the need to avoid disturbing/ removing bushrock, dead/hollow logs.
	BD13	Should additional access tracks in vegetated areas be required, advice from a qualified ecologist would be sought to confirm the conservation status of the affected vegetation, identify any potential impacts and nominate any necessary additional safeguards.
Trees	N/A	Refer to biodiversity safeguards
Traffic and transport	TT1	During works, traffic would be managed in accordance with Traffic control at work sites Technical Manual (Transport for NSW, 2022)
	TT2	Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.

Socio-economic	SE1	Any complaints received during the undertaking of the works are to be recorded and addressed within a reasonable time.
Landscape character and visual amenity	LV1	Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.
	LV2	Site lighting would be positioned to minimise light spill impacts on adjacent properties.
Waste	WAS1	Resource management hierarchy principles are to be followed (in accordance with the Waste Avoidance and Resource Recovery Act 2001): <ul style="list-style-type: none"> • Avoid unnecessary resource consumption as a priority. • Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery). • Disposal is undertaken as a last resort.
	WAS2	Waste material is to be reused in accordance with any waste exemptions or disposed of legally in accordance with its waste classification.

5.1 Licensing and approvals

Table 5-2: Summary of licensing and approvals required

Instrument	Requirement	Timing
<i>Fisheries Management Act 1994</i> (s199)	Notification to the Minister for Primary Industries (DPI as delegate) prior to any dredging or reclamation works.	A minimum of 28 days prior to the start of work. Refer to Section 2.4.2
<i>Roads Act 1993</i> (s138)	Road occupancy licence	Prior to road occupancy.

5.2 Other requirements

Table 5-3: Other requirements

Requirement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Environmental management plan sent to SMES for review.		

6. Certification, review and decision

6.1 Certification

This minor works REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses, to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal.

Prepared by:

Signature 

Name: Steven Dando

Position: Environmental Consultant

Company name: Hills Environmental / BD Infrastructure

Date: 18 January 2022

Minor Works REF reviewed by:

Signature 

Name: Stuart Hill

Position: Principal - Environment

Company name: Hills Environmental / BD Infrastructure

Date: 18 January 2022

6.2 Environment staff review

The Minor Works REF has been reviewed and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposal this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the Minor Works REF and associated information. This assessment is considered to be in accordance with the factors required to be considered under section 171 of the Environmental Planning and Assessment Regulation 2021.

The proposal described in the Minor Works REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguard and management measures proposed, this assessment has considered that these impacts are unlikely to be significant and therefore an approval for the proposal does not need to be sought under Division 5.2 of the EP&A Act.

The assessment has considered the potential impacts of the activity on areas of outstanding value and on threatened species, ecological communities or their habitats for both terrestrial and aquatic species as defined by the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994*.

The proposal described in the Minor Works REF will not affect areas of outstanding value. The activity described in the Minor Works REF will not significantly affect threatened species ecological communities or their habitats. Therefore, a species impact statement is not required.

The assessment has also addressed the potential impacts on the activity on matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore, there is no need for a referral to be made to the Australian Government Department of Climate Change, Energy, the Environment and Water for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Minor Works REF is considered to meet all relevant requirements.

6.3 Environment staff recommendation

It is recommended that the proposal to carry out a utility survey and geotechnical investigations in the Richmond and North Richmond localities for the New Richmond Bridge and traffic improvements, as described in this Minor Works REF, proceed subject to the implementation of all safeguards identified in the Minor Works REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.


The Minor Works REF has examined and taken into account to the fullest extent possible all matters likely to affect the environment by reason of the activity and established that the activity is not likely to significantly affect the environment or threatened species, ecological communities or their habitats.

The Minor Works REF has concluded that there will be no significant impacts on matters of national environmental significance or any impacts on the environment of Commonwealth land.

The Minor Works REF determination will remain current for five years until January 2028 at which time it shall lapse if works have not been physically commenced. The pre-construction checklist must be completed prior to the commencement of any works.

Recommended by:

Signature



Name:

Amanda Berger

Position:

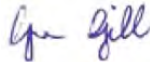
A/Senior Manager Environment and Sustainability

Date:

20/01/2023

Noted by:

Signature



Name:

Gene Gill

Position:

Project Manager


Date:

23/01/2023

6.4 Determination

In accordance with the above recommendation, I certify that I have reviewed and endorsed the contents of this Minor Works REF, 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 Section 170 of the EP&A Regulation, and the information is neither false nor misleading.

I determine that Transport for NSW may proceed with the activity:

Signature . 

Name: Tim Webster
Position: A/Director Program Management
Date: 23/01/23

6.5 EP&A Regulation publication requirement

Table 6-1: EP&A Regulation publication requirement

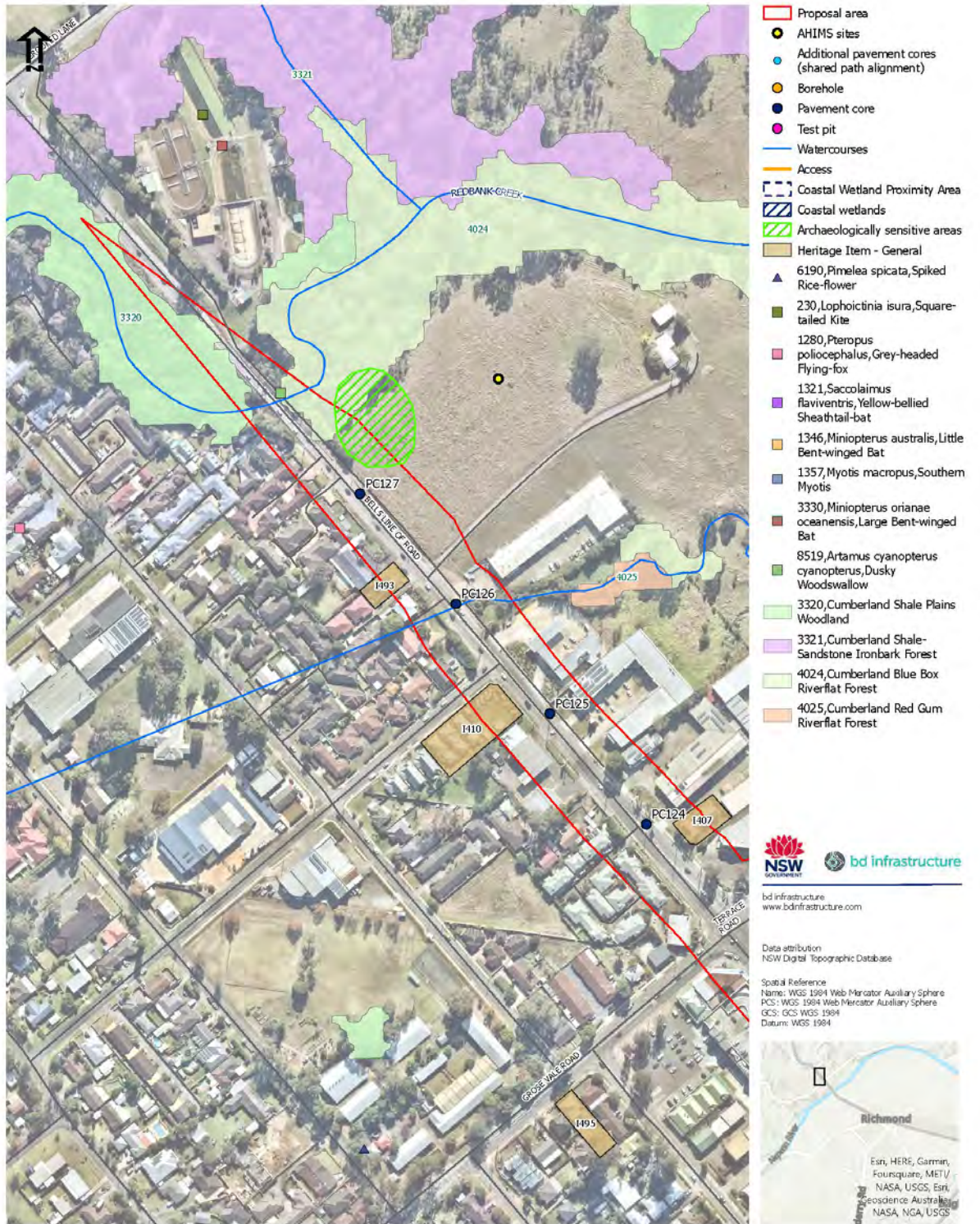
Requirement		
Does this Minor Works REF need to be published under section 171(4) of the EP&A Regulation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

7. Definitions

Table 7-1: Definitions

Term	Definition
BC Act	<i>Biodiversity Conservation Act 2016</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
FM Act	<i>Fisheries Management Act 1994 (NSW)</i>
GIS	Geographical Information System
LEP	Local Environmental Plan
REF	Review of Environmental Factors
SEED	Sharing and Enabling Environmental Data (online NSW data resource)
SEPP	State Environmental Planning Policy

Appendix A: Investigation locations



New Richmond Bridge investigations Page 1 of 12



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- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Pavement core
- Test pit
- Watercourses
- Access
- Coastal Wetland Proximity Area
- Coastal wetlands
- Archaeologically sensitive areas
- Heritage Item - General
- 309, Lathamus discolor, Swift Parrot
- 3320, Cumberland Shale Plains Woodland
- 4024, Cumberland Blue Box Riverflat Forest
- 4025, Cumberland Red Gum Riverflat Forest

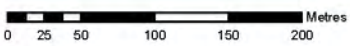
bd infrastructure
www.bdinfrastructure.com

Data attribution
NSW Digital Topographic Database

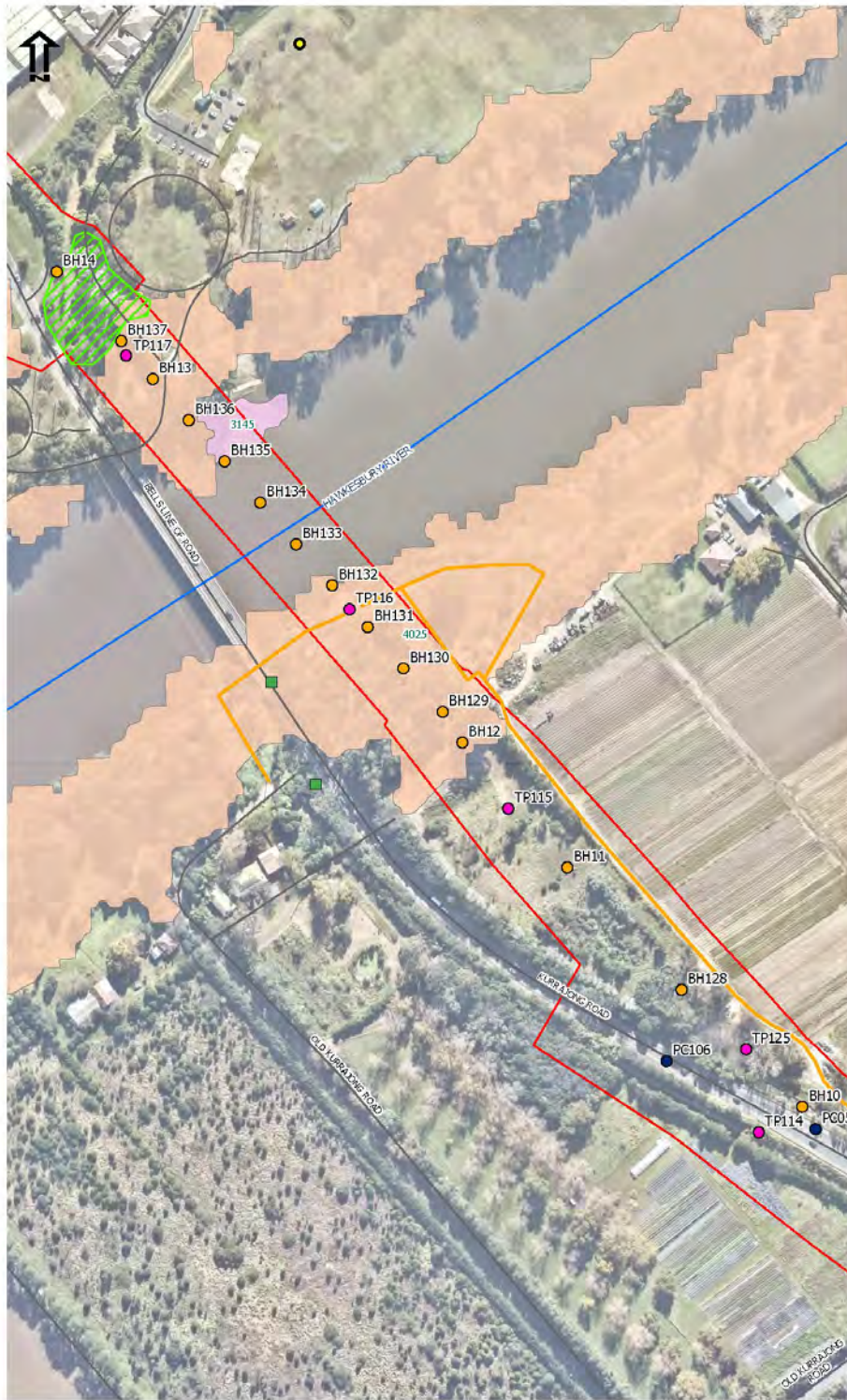
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Datum: WGS 1984



New Richmond Bridge investigations Page 2 of 12



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Prepared by: Stuart Hill
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- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Pavement core
- Test pit
- Watercourses
- Access
- Coastal Wetland Proximity Area
- Coastal wetlands
- Archaeologically sensitive areas
- 309, Lathamus discolor, Swift Parrot
- 3145, Cumberland Bangalay x Blue Gum Riverflat Forest
- 4025, Cumberland Red Gum Riverflat Forest



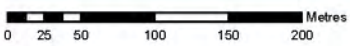
bd infrastructure
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Data attribution
NSW Digital Topographic Database

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Datum: WGS 1984



New Richmond Bridge investigations Page 3 of 12



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Prepared by: Stuart Hill
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- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Pavement core
- Test pit
- Watercourses
- Access
- Coastal Wetland Proximity Area
- Coastal wetlands
- Archaeologically sensitive areas
- 4025, Cumberland Red Gum Riverflat Forest



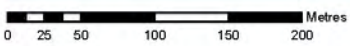
bd infrastructure
www.bdinfrastucture.com

Data attribution
NSW Digital Topographic Database

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GCS: GCS WGS 1984
Datum: WGS 1984



New Richmond Bridge investigations Page 4 of 12



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Prepared by: Stuart Hill
Prepared for: Transport for NSW



- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Pavement core
- Test pit
- Watercourses
- Access
- Coastal Wetland Proximity Area
- Coastal wetlands
- Archaeologically sensitive areas
- Heritage Item - General

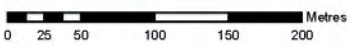
bd infrastructure
www.bdinfrastructure.com

Data attribution
 NSW Digital Topographic Database

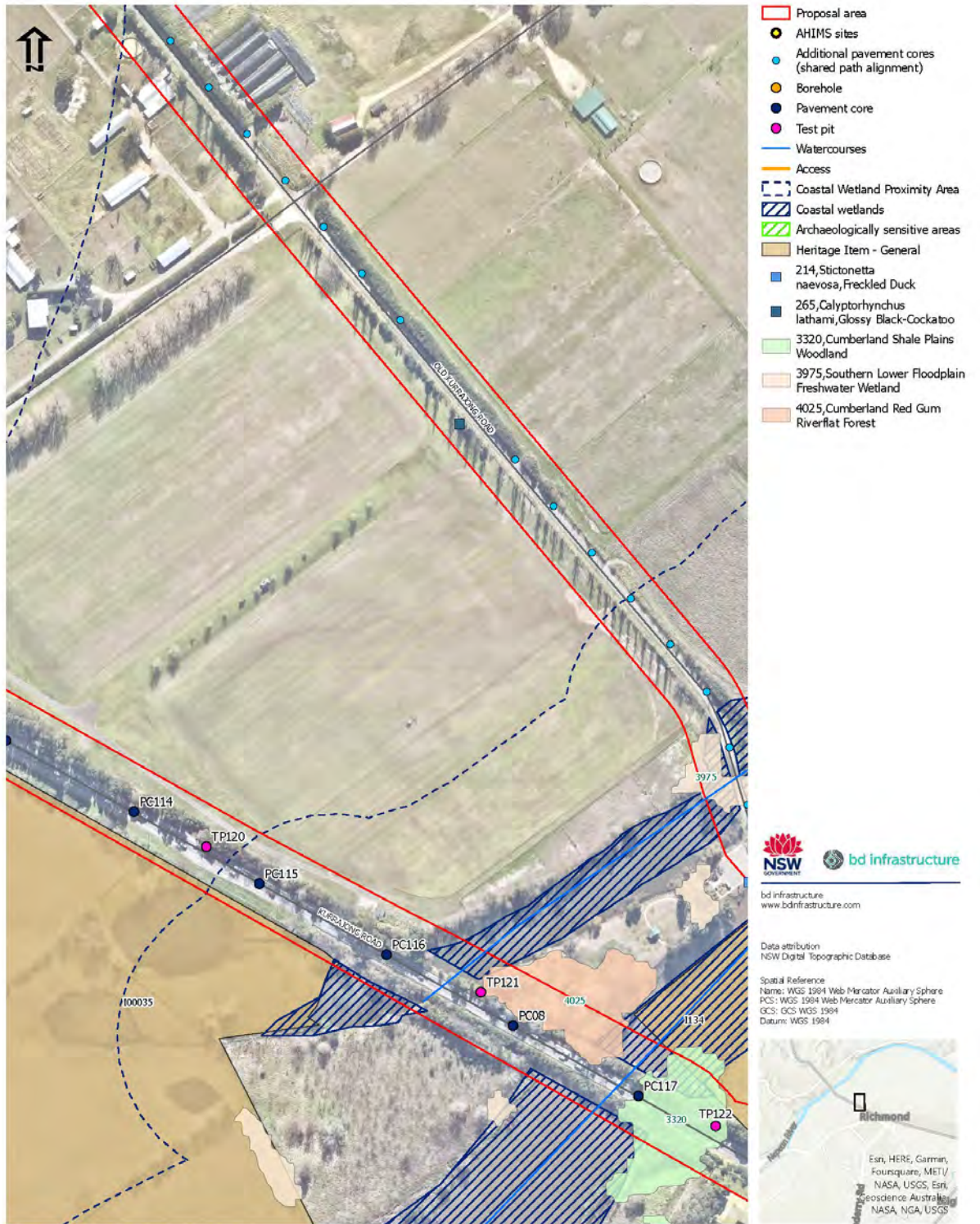
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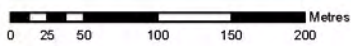
New Richmond Bridge investigations Page 5 of 12



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Prepared by: Stuart Hill
Prepared for: Transport for NSW



- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Pavement core
- Test pit
- Watercourses
- Access
- Coastal Wetland Proximity Area
- Coastal wetlands
- Archaeologically sensitive areas
- Heritage Item - General
- 197, *Botaurus poiciloptilus*, Australasian Bittern
- 214, *Stictonetta naevosa*, Freckled Duck
- 238, *Falco subniger*, Black Falcon
- 3320, Cumberland Shale Plains Woodland
- 3975, Southern Lower Floodplain Freshwater Wetland
- 4025, Cumberland Red Gum Riverflat Forest

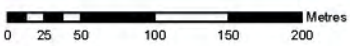
bd infrastructure
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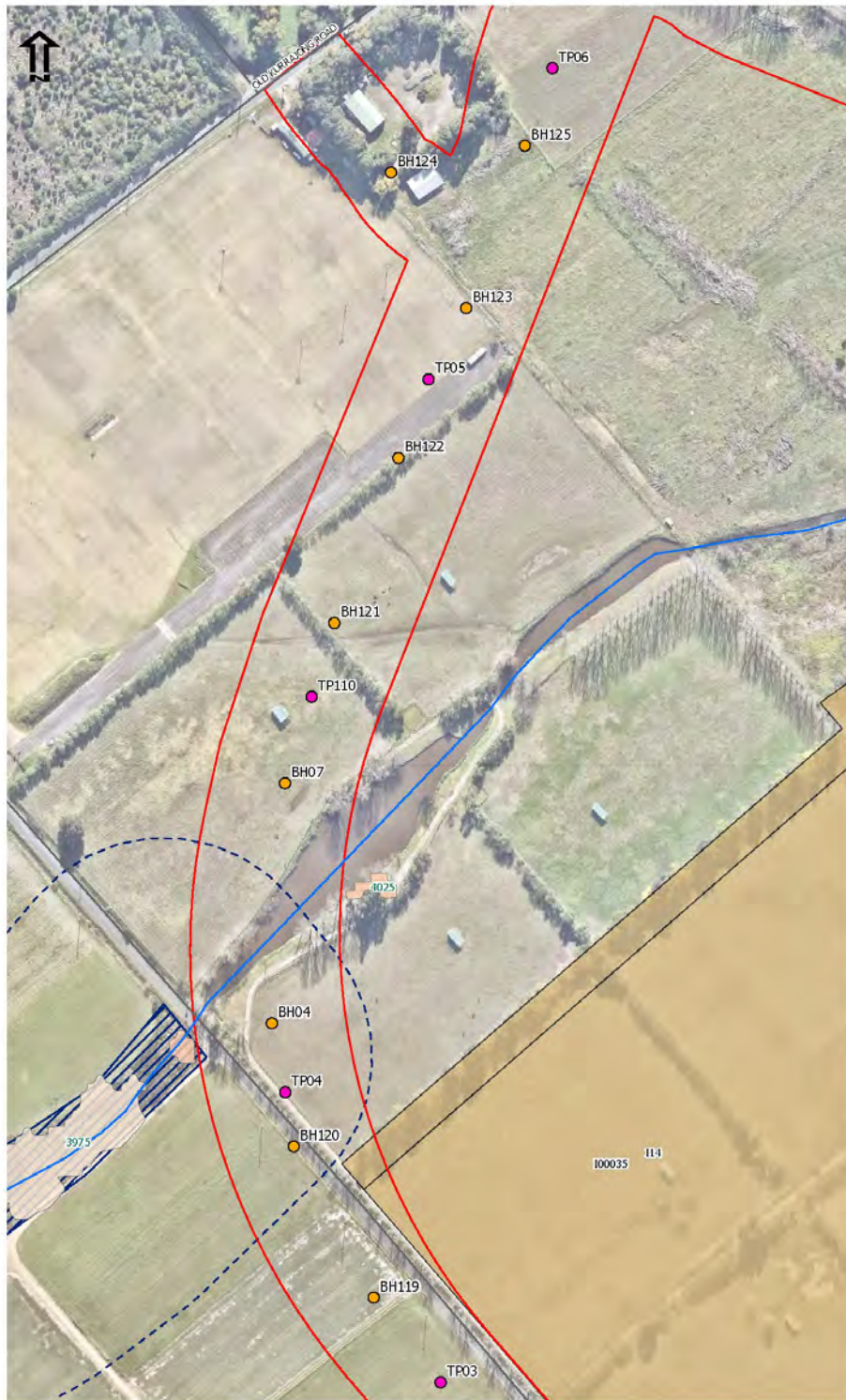
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New Richmond Bridge investigations Page 7 of 12



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 Prepared by: Stuart Hill
 Prepared for: Transport for NSW



- Proposal area
- AHIMS sites
- Additional pavement cores (shared path alignment)
- Borehole
- Test pit
- Watercourses
- Access
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- Coastal wetlands
- Archaeologically sensitive areas
- Heritage Item - General
- 3975, Southern Lower Floodplain Freshwater Wetland
- 4025, Cumberland Red Gum Riverflat Forest

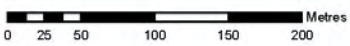


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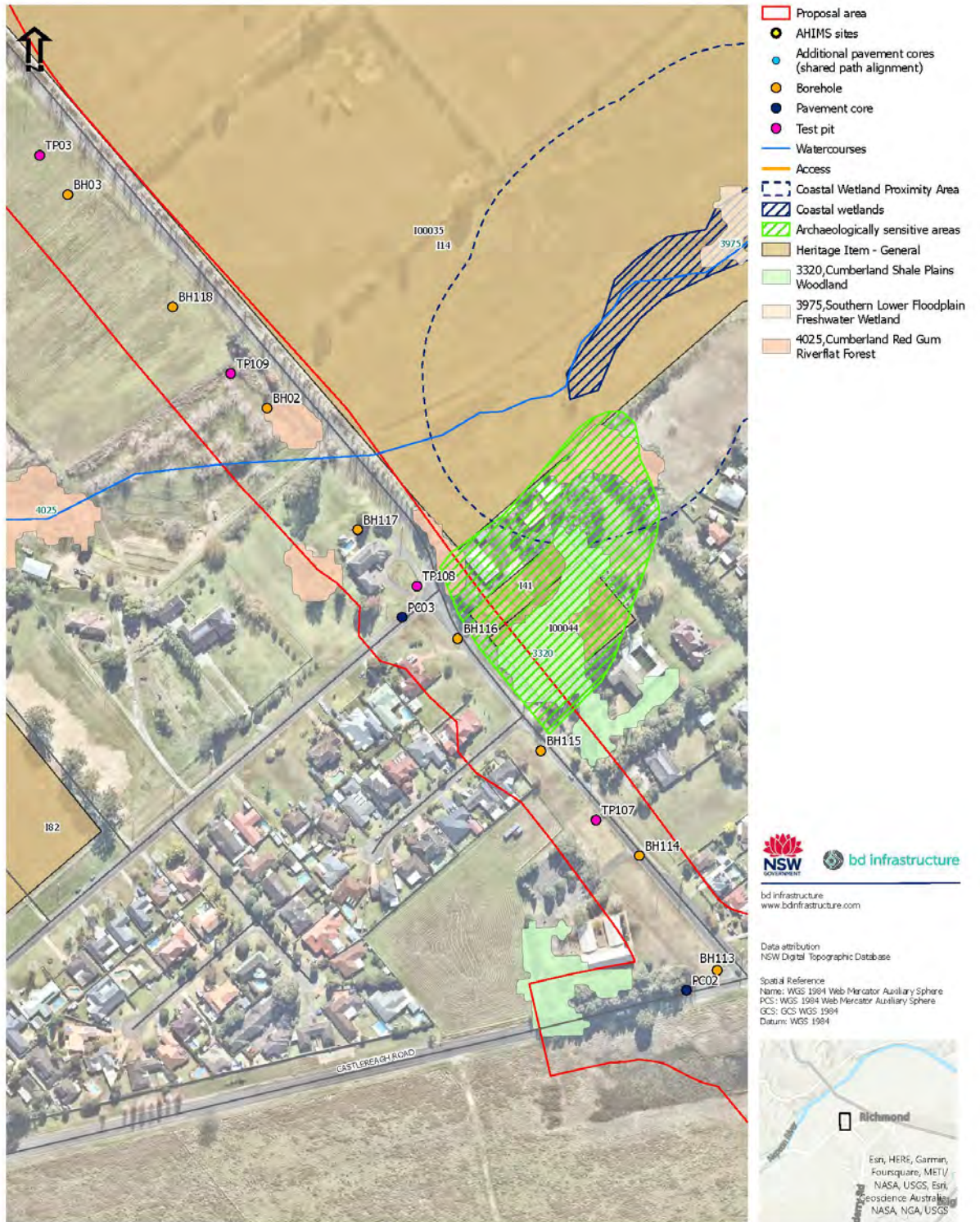
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GCS: GCS WGS 1984
Datum: WGS 1984



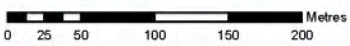
New Richmond Bridge investigations Page 8 of 12



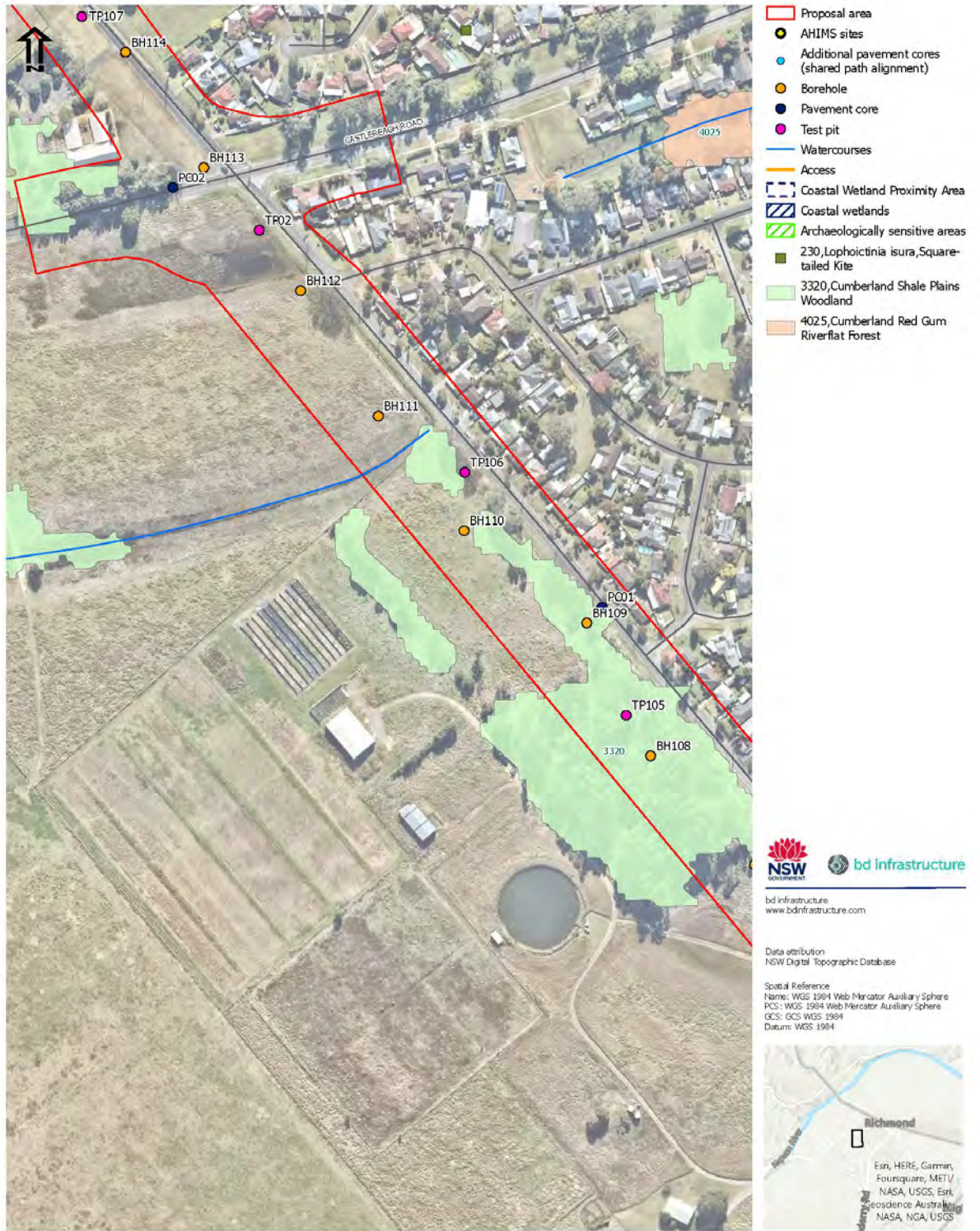
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Prepared for: Transport for NSW

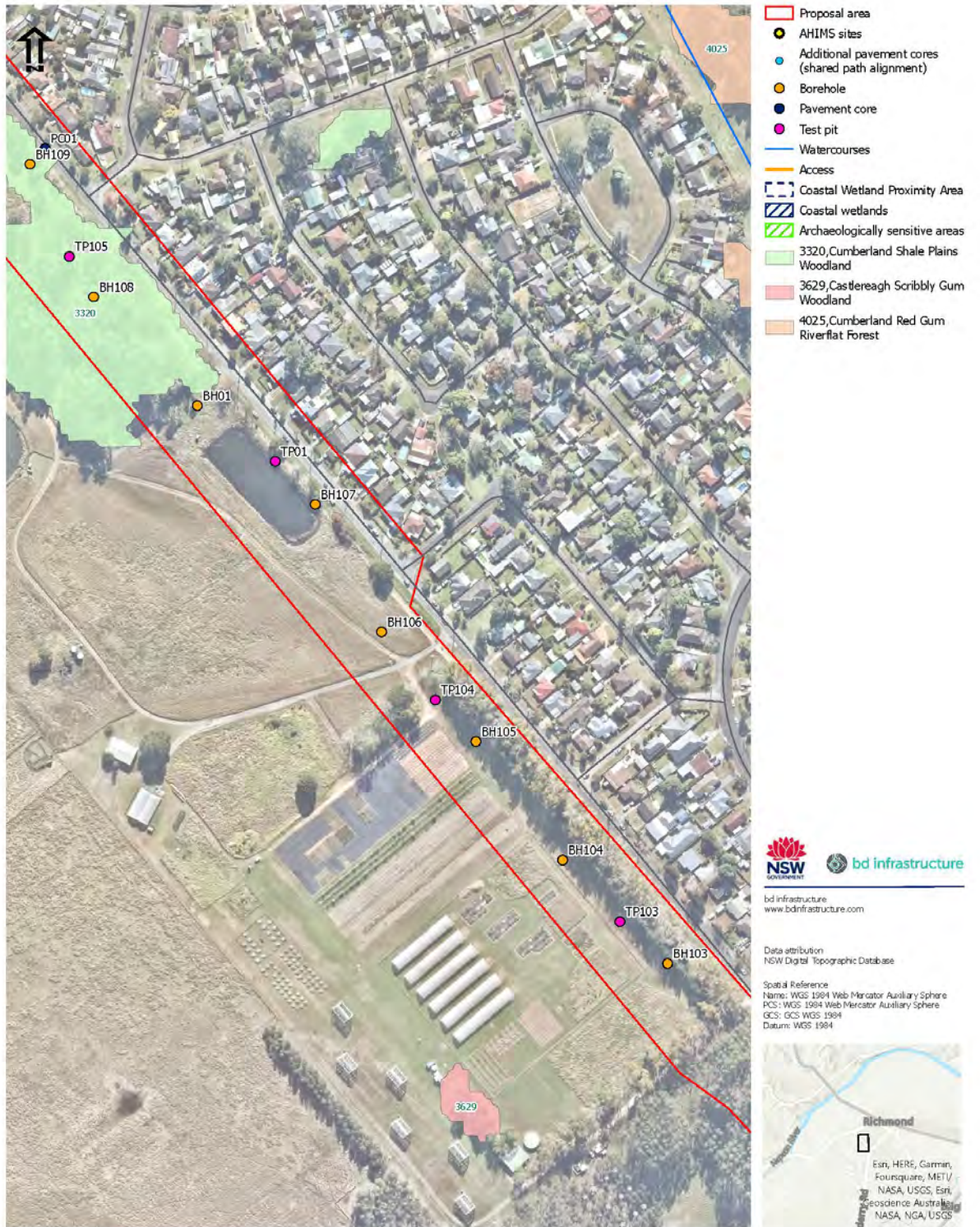


New Richmond Bridge investigations Page 9 of 12



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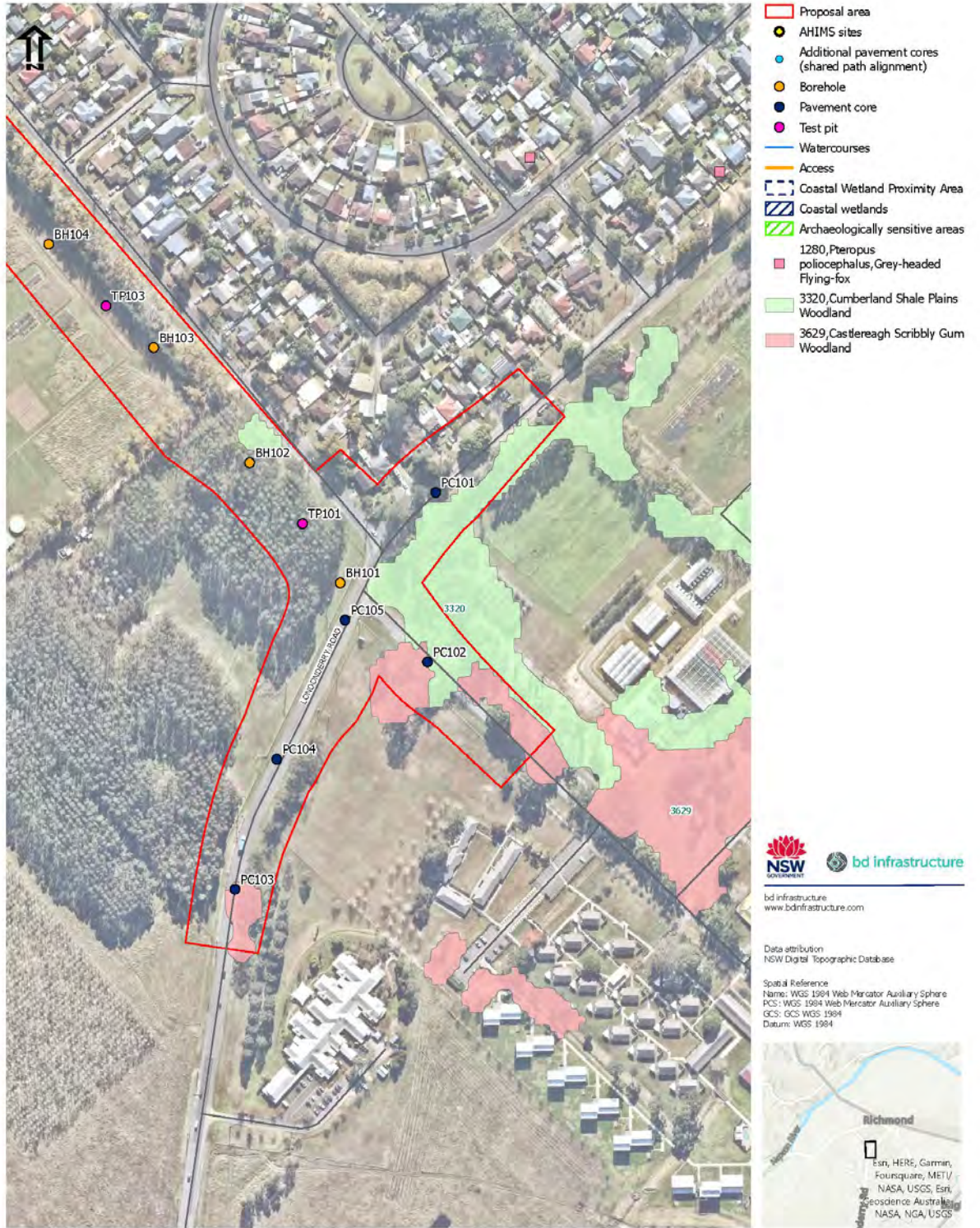




New Richmond Bridge investigations Page 11 of 12



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New Richmond Bridge investigations Page 12 of 12

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 Current Time: 16/01/2023 9:12 AM
 Prepared by: Stuart Hill
 Prepared for: Transport for NSW

Appendix B: Correspondence



Our Ref: C22/791

20 December 2022

Gene Gill
Project Manager
Transport for NSW

Email: Gene.Gill@transport.nsw.gov.au

Dear Gene,

s.199 consultation for geotechnical investigations in the Richmond and North Richmond localities for the New Richmond Bridge and traffic improvements proposal

Thank you for your referral of 14 December 2022 seeking comment on the proposal from DPI Fisheries, a division of NSW Department of Primary Industries on the proposed works stated above. This notification complies with s.199(1)(a) of the *Fisheries Management Act 1994* (FM Act) concerning the proposed dredging and reclamation activities.

DPI Fisheries is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, DPI Fisheries ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (FM Act) (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*. DPI Fisheries is also responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture, marine parks and aquatic reserves within NSW.

DPI Fisheries has reviewed the proposal in light of those provisions and has no objections to the proposed works, provided that:

1. Management of borehole spoil to be disposed of offsite, according to its waste classification;
2. Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate sediment control devices; and
3. DPI Fisheries (1800 043 536) and the Environment Protection Authority (131 555) is to be notified immediately if any fish kills occur in the vicinity of the works. In such cases, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPI Fisheries and/or the Environment Protection authority for the works to proceed.

If you require any further information, please contact Sarah Conacher at sarah.conacher@dpi.nsw.gov.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Marcus Riches'.

Marcus Riches
Program Leader Coastal Systems

C22/791

DPI Fisheries
Mail to: M.Coughran, 1243 Bruxner Hwy, Wollongbar NSW 2477
Email: ahp.central@dpi.nsw.gov.au
ABN 20770707468

Page 1 of 1



14 December 2022

NSW State Emergency Service

Via email: rra@ses.nsw.gov.au

Consultation regarding proposed geotechnical investigations

Transport for NSW is proposing to carry out geotechnical investigations in the Richmond and North Richmond localities for the New Richmond Bridge and traffic improvements proposal (the proposal).

The proposal is needed to reduce congestion between Richmond and North Richmond and to accommodate future growth.

Under section 2.13 of State Environmental Planning Policy (Transport and Infrastructure) 2021, Transport for NSW is required to undertake consultation with the State Emergency Service for development with impacts on flood liable land under relevant provisions including Division 17 (Roads and traffic).

A description of the proposed investigations is provided in Attachment A to this letter. A plan of the proposed investigations area is provided in Attachment B to this letter.

It would be appreciated if you could provide any comments on this proposal by 9 January 2023.

Transport for NSW would be pleased to provide further information if required. In this regard I may be contacted on 0448 463 078 or by email Gene.Gill@transport.nsw.gov.au.

Yours faithfully

A handwritten signature in black ink that reads 'Gene Gill'.

Gene Gill
Project Manager

ATTACHMENT A

The proposal includes topographic survey, utility investigations and geotechnical investigations as described below. The investigation locations are at Richmond and North Richmond, within and adjacent to Londonderry Road, Southee Road, Inalls Lane, Kurrajong Road, Old Kurrajong Road, Bells Line of Road and Terrace Road.

Topographic survey

The proposed topographic survey would involve:

- Use of traditional ground survey methods.
- Access to survey locations via the adjacent road network. Clearing of new access tracks is not required.
- Tree trimming in vegetated areas using garden hand held clippers to gain access by foot to set up survey control marks.
- Placement of survey marks along the length of the proposed bus link within disturbed and undisturbed areas to provide a survey control framework for survey activities. The survey marks would primarily be in the form of small wooden pegs that are placed in the ground. Star pickets and small 'Hilti'-style nails may be used in existing concrete structures (e.g. bridges or culverts) as survey marks. No pegs, pins, star pickets or paint would be placed in natural rock formations or identified Aboriginal sites.
- Installation of permanent survey control marks (if required) at intervals determined by the Surveying and Spatial Regulation 2012 and in accordance with the Surveyor General's Directions No. 1 Approved Permanent Marks (Surveyor General of NSW, 2016). Spacing is normally every 500 metres to one kilometre. These marks are more substantial and may be placed in both previously undisturbed and disturbed areas.
- Digging holes using hand tools to uncover and place sub surface survey marks. Holes would be a maximum of 500 millimetres diameter and 500 millimetres deep (1000 millimetres for star pickets).
- Establishment of traffic control in situations where survey staff are working near traffic. This would be in accordance with the Traffic control at work sites Technical Manual (Transport for NSW, 2022).

Utility survey

The proposed utility survey would involve:

- Access to utility scanning locations via road network. This would involve driving a light vehicle and walking through survey area. New access tracks are not required.
- Carrying out of Class B survey by methods such as ground penetrating radar and frequency resonating survey. This would be an indirect survey that does not require the utility to be unearthed.
- Lifting stormwater drainage pit lids and snaking and tracing of pipes to determine the underground drainage network.
- Establishment of traffic control in situations where survey staff are working near traffic. This would be in accordance with the Traffic control at work sites Technical Manual (Transport for NSW, 2022).

Geotechnical investigation

Access and site establishment for proposed geotechnical investigations would involve:

- Access to the investigation area via the adjacent road network. This would transport to site and use of a truck or track mounted drill rig (for boreholes), a five-tonne tracked excavator or backhoe, and support vehicles. New access tracks are not required.
- Establishment of traffic control in situations where survey staff are working near traffic. This would be in accordance with Traffic control at work sites Technical Manual (Transport for NSW, 2022).

The method for boreholes would be as follows:

- Boreholes within the investigation area each with a diameter of about 150 millimetres to a depth of approximately 10 metres or until refusal on bedrock encountered. A solid flight auger would be used in overlaying sediments and weak rock. Cored drilling with a coring diameter of about 50 millimetres would be conducted in competent bedrock to the outstanding requisite depth. The borehole would be grouted on completion except where a monitoring well is proposed. The disturbance area from the drilling component of the activity would be about 0.5 metres by 0.5 metres. Ground disturbance from manoeuvring the truck mounted drill rig would be up to three metres by five metres.
- Boreholes within the bed and on the banks of the Hawkesbury River to the east of the existing bridge (as shown on the map at Attachment B). These boreholes would be carried out from a barge and the small volumes of spoil generated would be isolated within drums, removed regularly and disposed of in accordance with its waste classification. There would be minimal interface between the barge and the bed of the river.
- Install piezometers and/or standpipes where appropriate to monitor groundwater levels and / or chemistry.
- Excess biodegradable drilling mud used in the drilling process would be removed by a vacuum truck or portable vacuum system and legally disposed of off-site at an authorised waste disposal facility.
- Restoration of the site by reshaping the ground to pre-work conditions and sowing with suitable cover-crop.

The method for test pits would be as follows:

- Dig test pits with an excavator or backhoe within the investigation area. Test pits would be typically two metres long, by 0.6 metres wide, by about three metres deep. The total disturbance area including track marks from the excavator would be up to three metres by five metres
- Log, colour photograph, and test each pit to record in-situ conditions
- Carry out dynamic cone penetration (DCP) tests (refer below) and collect soil samples for later laboratory analysis
- Restore site to condition suitable for safe pedestrian and vehicle access, including backfilling the test pit with material that is not taken offsite for sampling and compacting in layers. The backfilled pits would be left slightly mounded to allow for any settlement and where necessary sown with a suitable cover-crop.



Our Ref: ID 1824

09 January 2023

Gene Gill
Transport for NSW
Level 7, 27 Argyle Street
Parramatta NSW 2150

email: Gene.Gill@transport.nsw.gov.au
cc: shelly.stingmore@one.ses.nsw.gov.au

Dear Gene,

Notification under section 2.13 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 in relation to the proposed geotechnical investigations for the New Richmond Bridge and traffic improvements proposal

Thank you for the notification under section 2.13 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* in relation to the proposed geotechnical investigations for the New Richmond Bridge and traffic improvements proposal, in Richmond and North Richmond. It is understood that the proposed works include topographic survey, utility investigations and geotechnical investigations in the Richmond and North Richmond localities, involving:

- Use of traditional ground survey methods
- Access to survey locations, utility scanning locations, and the investigation area via the adjacent road network
- Tree trimming in vegetated areas
- Placement of survey marks along the length of the proposed bus link
- Installation of permanent survey marks if required
- Digging holes using hand tools
- Traffic control in situations where survey staff are working near traffic
- Using ground penetrating radar and frequency resonating survey
- Lifting stormwater drainage pit lids, and snaking and tracing of pipes
- Digging boreholes to 10m depth
- Digging test pits typically to 3m depth.

The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunamis in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.



STATE HEADQUARTERS

93 - 99 Burilli Street, Wollongong 2500
PO Box 6126, Wollongong NSW 2500
P (02) 4251 6111
F (02) 4251 6180
www.ses.nsw.gov.au
ABN: 88 712 649 015



The NSW SES has reviewed the proposed upgrade and the flood risk information (e.g. Hawkesbury-Nepean Valley Regional Flood Study 2019, Hawkesbury-Nepean Flood Studies 2013, Hawkesbury Floodplain Risk Management Study & Plan 2012, Hawkesbury Nepean Floodplain Management Strategy Implementation 2004 etc.) available to the NSW SES, and note that the proposed works are located within flood extents ranging from probable maximum flood (PMF) to 20% Annual Exceedance Probability (AEP) flood extents.

Based on this review, the NSW SES provides the following advice:

- consider the impact of flooding on the infrastructure.
- pursue, if relevant, site design and stormwater management that minimises any risk to the community.
- ensure workers and people using the site during and after the proposed works are aware of the flood risk, for example by using signage.

In addition, if the proposed works cause disruption to the operation of local roads, this may impact the ability for emergency vehicles to use these routes. The NSW SES requests that notification be provided where there are likely to be significant delays in the operation of the roads affected by the proposed works.

Please feel free to contact Claire Flashman via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'Elspeth O'Shannessy', is positioned above the typed name.

Elspeth O'Shannessy
Planning Coordinator, Emergency Risk Management
NSW State Emergency Service

Appendix C: Database searches

Search Results

3 results found.

Belmont Park (former) Grose Vale Rd	Grose Wold, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Hawkesbury River Road Bridge Kurrajong Rd	North Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Tomb of Archibald Bell Grose Vale Rd	North Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

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Search Results

1 result found.

Farmhouse 21 (Lot) Edwards Rd	Richmond Lowlands, (Indicative Place) NSW, Australia	Register of the National Estate (Non-statutory archive)
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Search Results

188 results found.

Asakwood Richmond Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Ashmore House 34 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Bellmore House, Stone Wall & Outbuilding 16 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Belmont Lodge 1397 Richmond Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Belmont Park (former) Grose Vale Rd	Grose Wold, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Benson House and Outbuilding 61 Francis St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Black Horse Hotel excluding modern additions 340 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Bowman House and Outbuilding 368-370 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Brick Cottage 2 Henry St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Brick Cottage 49 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Bridal Cottage 1 Henry St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Brinsley Place 12-14 The Vacluse	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Bromie 248 Castlereagh Rd	Agnes Banks, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Building 229 Lennox St	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Burial Ground to Congregational Church 17 Torrens St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Burnley Campus and Gardens 500 Yarra Blvd	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
CRC Bank and Stables 290 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Cable Tram Depot 649 Bridge Rd	Richmond, VIC, Australia	(Relected Place) Register of the National Estate (Non-statutory archive)
Cable Tram Engine House (former) 1 Bridge Rd	Richmond, VIC, Australia	(Removed from Register or I.) Register of the National Estate (Non-statutory archive)
Carrington RA 271 Colebrook Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Castlereagh Jewel Beetle Habitat and Movement Corridor The Northern Rd	Berkshire Park, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Church Street - Waltham Place Conservation Area Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Churchill and Garden 580 Colebrook Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Clear Cabin 143 Francis St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Corner Cottage 17 Bathurst St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Cottage 13 Bathurst St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Cottage 130 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Cottage 3 Henry St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Cottage 61 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Cottage 63 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Cottages & Former Shop 41-43 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Cottages & Shop 23 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Minor works review of environmental factors

Cottages Group 61-63 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Courthouse, Watch House & Hall 54 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Deep Creek Conservation Park - Extension Blowhole Creek Rd	Cape Jervis, SA, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Discovery Bay Coastal Park	Nelson, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Edwardian Group of Houses 125-135 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Elburn and Outbuildings 317 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Emerald Cottage 23 Torrens St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Factory (former) and Terrace Houses 10, 12-24 Waltham Pl	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Farmhouse 21 (Lot) Edwards Rd	Richmond Lowlands, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Ferryville 8 Henry St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Gas Inspectors Residence (former) 1 Gleadell St	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

Gate Posts Gates and Trees of Ksnilara 93 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Hawkesbury River Road Bridge Kurrajong Rd	North Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Hawthorn (Board) Bridge Bridge Rd	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Hobartville, Outbuildings, Grounds and Trees Chapel St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Hollyhock Cottage 3 Percy St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 1 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 102 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 104 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 104 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 106 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 112 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

Minor works review of environmental factors

House 114 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 12 Union St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 122 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 125 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 126 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 127 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 129 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 131 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 133 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 135 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 155 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

House 16 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 18 Berry St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 20 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 22 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 31 Pitt St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 312 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 32-34 Lennox St	Richmond, NSW, Australia	(Destroyed) Register of the National Estate (Non-statutory archive)
House 36 Lesney St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 42 Bosworth St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 60 Francis St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 7 Bowen St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)

House 72 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 74 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 8 Burgess St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 8 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House 87 Francis St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
House 9 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
House (former) 190 March St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Houses 13, 15 James St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Howlands 37 Docker St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Indigenous Place	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Inew Cottage 7 Chapel St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)

Ivy Cottage 12 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Fonteville 2 Chapel St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Lalorrum Park 146 Finger Post Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Laker House (former) 293 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Lancers Regiment Drill Hall Complex (former) 23 Bosworth St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Landsbill Cottage 15 Gunning St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Lennox Street Cottages Group 1 72-74 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Lennox Street Cottages Group 2 102-104 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Lennox Street Cottages Group 3 112-114 Lennox St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Lilac Cottage 20 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Loch Lomond Cottage & Village Green Opposite 47 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Lower Glenelg National Park Portland Nelson Rd	Nelson, VIC, Australia (Registered) Register of the National Estate (Non-statutory archive)
Maine Cottage 2 Torrens St	Richmond, TAS, Australia (Registered) Register of the National Estate (Non-statutory archive)
March Street Group 8,9,16,20,22 March St	Richmond, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Maonic Temple West Market St	Richmond, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Mayfield House 23 Bridge St	Richmond, TAS, Australia (Registered) Register of the National Estate (Non-statutory archive)
Metro Cinema Memorial Dr	Richmond RAAF Base, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Mill House 2 Wellington St	Richmond, TAS, Australia (Registered) Register of the National Estate (Non-statutory archive)
Monticute 9 Edward St	Richmond, TAS, Australia (Registered) Register of the National Estate (Non-statutory archive)
Morton Lodge & Stables 9 Gunning St	Richmond, TAS, Australia (Registered) Register of the National Estate (Non-statutory archive)
Mountain View Inalls La	Richmond, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
North Base Tris Station Dight St	Richmond RAAF Base, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)

Minor works review of environmental factors

North Base Dis Station Dight St	Richmond RAAF Base, (Listed place) NSW, Australia	Commonwealth Heritage List
Nuzeni Colebrook Rd (Off)	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Oak Lodge 18 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Old Store & Granary Group 36-38 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Orwell Cottage 221 Lennox St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Pinsooths Art Gallery 10 Waltham Pl	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Pieo Cottage Richmond Rd	Dulcote via Richmond, TAS, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Plano Tree West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Post & Telegraph Office 286 Windsor Rd	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Port Office Museum 92 Swan St	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Prince of Wales Hotel (Former) 4 Franklin St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Prospect House and Bridge 1384 Richmond Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
RAAF Base Richmond McNamarra Av	Richmond RAAF Base, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
RAAF Base Richmond McNamarra Av	Richmond RAAF Base, NSW, Australia	(Listed place) Commonwealth Heritage List
Railway Gatekeepers Cottage Bourke St	Richmond, NSW, Australia	(Destroyed) Register of the National Estate (Non-statutory archive)
Railway Gatekeepers Cottage (former) Moray St	Richmond, NSW, Australia	(Destroyed) Register of the National Estate (Non-statutory archive)
Red Cottage 15 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Regent Theatre 155 Windsor St	Richmond, NSW, Australia	(Rejected Place) Register of the National Estate (Non-statutory archive)
Richmond Arms Hotel & Stable 42 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Bridge Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Bridge Bridge St	Richmond, TAS, Australia	(Listed place) National Heritage List
Richmond Community Health Centre 283 Church St	Richmond, VIC, Australia	(Removed from Register or IL) Register of the National Estate (Non-statutory archive)
Richmond Congregational Church 25 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Richmond Courthouse & Police Station Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Drill Hall 106 Gipps St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Gaol Historic Site 37 Bathurst St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Hall 3 Elm Gr	Richmond, VIC, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Richmond Historic Town	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Hotel (former) 6 Henry St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Park March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Rest Home West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond United Friendly Societies Dispensary 294 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Richmond Unitins Church 300 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Rose Cottage 12 Bathurst St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Minor works review of environmental factors

Rutherford 154-158 March St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Saddlers Court & Outbuilding 48 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
School House St Johns Ccl	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
School House (former) 18 Torrens St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
School of Arts West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Semi detached Cottages 19-21 Bosworth St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Semi detached Houses 335-337 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Seymour's House 24 Bosworth St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Shop 245 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Shop 301 Windsor St	Richmond, NSW, Australia	(Rejected Place) Register of the National Estate (Non-statutory archive)
Shop & House Combined 46 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Shrub End 16 Commercial Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Andrews Uniting Church & Fence West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Andrews Uniting Church Hall West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Ignace Catholic Church Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St John the Evangelists Church St Johns Ccl	Richmond, TAS, Australia	(Nomination now ineligible for PPAL) National Heritage List
St Johns Catholic Church and Graveyard 14 St Johns Ccl	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Lukes Anglican Church 30 Torrens St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Monicas Catholic Church 7 Bourke St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Monicas Catholic Presbytery 1A Bourke St	Richmond, NSW, Australia	(Relisted Place) Register of the National Estate (Non-statutory archive)
St Peters Anglican Church Group Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Peters Anglican Church and Cemetery Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)

St Peter's Anglican Rectory Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
St Stephen's Anglican Church 360 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Stable Square, Surrounding Lawns and Palm Trees Stable Square Rd	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Star and Gutter Inn (Former) & Two Dwellings 28-30 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
State School Commercial Rd	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Stratford House 15 Wellington St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Tamar River and Environs	Launceston, TAS, Australia	(Rejected Place) Register of the National Estate (Non-statutory archive)
Tara 21 Francis St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Terrace Houses 12-24 Waltham Pl	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
The Cottage and Outbuildings 315 Windsor St	Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
The Old Rectory and the Dispensary 11, 15 Edward St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Minor works review of environmental factors


The Village Store & Stable 29 Bridge St	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Tomb of Archibald Bell Grose Vale Rd	North Richmond, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Torana 157 Windsor St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Two Storied Residence 14 James St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Uniting Church Manse 300 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
University of Western Sydney Hawkesbury Native Vegetation Castlereagh Rd	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Vancluse College Darlington Pde	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Wesleyan Methodist School House (1871) 300 Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Wesleyan Methodist Schoolhouse 1853 (former) 300 (rear) Church St	Richmond, VIC, Australia	(Registered) Register of the National Estate (Non-statutory archive)
West Market Street Group West Market St	Richmond, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
West Pitt Water	Richmond, TAS, Australia	(Registered) Register of the National Estate (Non-statutory archive)

[Windsor Street Group](#) 315-317 Windsor St

Richmond, NSW,
Australia

(Indicative Place)
Register of the
National Estate
(Non-statutory
archive)

Report Produced: Wed Dec 21 06:18:09 2022

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Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Hawkesbury River Bridge	Kurrajong Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	SGOV
Hill Crest	219 Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
House	101A Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
House	15 Grose Vale Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
House	91 Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
Police Station and Residence (Former)	39 Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
Rouse Farm	266 Crooked Lane NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
Seventh Day Adventist Church	54 Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
St John of God Hospital	177-235 Grose Vale Road NORTH RICHMOND NSW 2754	Hawkesbury		Unknown	LGOV
St Phillip's Anglican Church and Cemetery	151 Bells Line of Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
Sunnyside (Former O'Dea's Dairy)	21 Pitt Lane NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV
Terraces, The	227 Terrace Road NORTH RICHMOND NSW 2754	Hawkesbury		Built	LGOV

Yobarnie Keyline Farm	108 Grose Vale Road NORTH RICHMOND NSW 2754	Hawkesbury	01826	Landscape	HNSW
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Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Farm Building and fence	Edwards Road RICHMOND LOWLANDS NSW 2753	Hawkesbury		Built	GAZ
Georgian Farmhouse	216 Edwards Road RICHMOND LOWLANDS NSW 2753	Hawkesbury		Unknown	LGOV
Hawkesbury Agricultural College River Farm	173 Cornwells Lane RICHMOND LOWLANDS NSW 2753	Hawkesbury		Landscape	LGOV
Pines, The (Residence and Trees)	149 Edwards Road RICHMOND LOWLANDS NSW 2753	Hawkesbury		Built	LGOV
River Farm	Edwards Road RICHMOND LOWLANDS NSW 2753	Hawkesbury		Complex / Group	SGOV
The Pines	Edwards Road RICHMOND LOWLANDS NSW 2753	Hawkesbury		Unknown	GAZ



Item Name	Location	LGA	SHR Id	Item Type	Record Owner
Administration Building/Quadrangle Buildings and Garden	Lot 182 DP 39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Administrative Block, Blacksmith Shop and Stable Square	2 College Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Avenue of Plane Trees along Eastern Approach to Richmond	Windsor Street RICHMOND NSW 2753	Hawkesbury		Landscape	LGOV
Avenue of Trees East and West Side of Street	Chapel Street RICHMOND NSW 2753	Hawkesbury		Landscape	LGOV
Bank and Stables	294 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Benson House	61 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Black Horse Inn (Former)	334-340 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Blacksmith's Shop	Lot 182 DP39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Bowman House	368-370 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Bowman House	368-370 Windsor Street RICHMOND NSW 2753	Hawkesbury	00468	Built	HNSW
Building	257-259 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Building	257-259 Windsor Street RICHMOND NSW 2753	Hawkesbury	00610	Built	HNSW

Building, outbuildings, grounds, trees	49 - 51 Bosworth Street RICHMOND NSW 2753	Hawkesbury	00753	Complex / Group	HNSW
Carsisle	82 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Chalmers Building	239 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Clarendon (Servants' Quarters)	96 Dight Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Clear Oaks	135 Francis Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Clear Oaks Moxey's Farm House	135 Francis Street RICHMOND NSW 2753	Hawkesbury	00058	Landscape	HNSW
Commercial Hotel	193 Windsor Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Cottage	78 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 63 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 64 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 66 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 67 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 70 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage	78 March Street (formerly 80 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV

Cottage	78 March Street (formerly 82 March Street) RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Cottage, The	313-315 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
East Richmond Railway Station	32 Bourke Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Eltham	317 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Gate Post at Kamilaro at Entrance to Richmond Public School	103 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Grandstand	2 College Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Grandstand, Scoreboard and Oval	Lot 182 DP 39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Grounds and Landscaping Surrounding Hobartville	36-86 Inalls Lane RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Hall at Rear of Former Masonic Temple	24 West Market Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Hobartville (including Outbuildings)	36-86 Inalls Lane RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Hobartville, including outbuildings	Kurrajong Road RICHMOND NSW 2753	Hawkesbury	00035	Landscape	HNSW
House	126 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	21 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	8 Burgess Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	60 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

House	87A Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	72 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	74 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	102 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	112 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	114 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	104 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	106 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	130 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	155 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	61 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	63 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	122 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	125 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	127 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

House	129 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	131 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	133 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	135 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	245 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	312 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	8 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	9 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	16 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	20 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	22 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	31 Pitt Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	120 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	38 West Market Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
House	51 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
House	102 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

House	179 Windsor Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
House	339 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	117 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	119 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	12 Toxana Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	122 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	13 Conrad Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	13 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	142 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	15 Conrad Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	160 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	162 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	2 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	21 Moray Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	24 Moray Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

House	25-29 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	26 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	30 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	32 Inalls Lane RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	335 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	337 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	34 Teviot Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	35 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	35 Bourke Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	35 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	46 Teviot Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	5 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	52 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	55 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	56 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	56 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	59 Paget Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

House	65 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	7 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	70 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	80 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	82 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	88 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	89 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	9 Chapel Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	9 Paget Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	90 Lennox Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	Corner 67 Windsor Street and 14 Bourke Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
House	126 Windsor Street RICHMOND NSW 2753	Hawkesbury	00045	Built	HNSW
House (Former)	190 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Inew Cottage	7 Chapel Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Josieville	2 Chapel Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

Kialla	130 Francis Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Masonic Temple (Former)	24 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
McMahons Homestead	26 Drift Road RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Methodist Church (Former)	10 Paget Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Mortimers Cottage	42 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Mountain View	22 Inalls Lane RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Mountain View	22 Inalls Lane RICHMOND NSW 2753	Hawkesbury	00044	Complex / Group	HNSW
Owen Carter Memorial Chapel	Lot 182 DP39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Pangelis	118 March Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Presbytery, The	1A Bourke Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Railway Cottage (Former)	1 March Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Regent Theatre	145 Windsor Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Residence and Iron Works	3 Paget Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Richmond Council Chambers (Former)	29 West Market Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Richmond Courthouse and Police Station	288 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Richmond Courthouse and Police Station	Windsor and West Market RICHMOND NSW 2753	Hawkesbury		Built	SGOV

Richmond Park	Bounded by East Market, Windsor and March Streets RICHMOND NSW 2753	Hawkesbury	01808	Landscape	HNSW
Richmond Park (Draft)	East Market, Windsor and March Streets (bound by) RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Richmond Park Pavilion and Statue	180 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Richmond Police Station and Court House	288 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Richmond Post Office	286 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Richmond Post Office	286 Windsor Street RICHMOND NSW 2753	Hawkesbury	01410	Built	HNSW
Richmond Presbyterian Cemetery	16 Jersey Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Richmond Public School – Buildings B00A and B00D and Period Gates	115 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Richmond Railway Station	61 March Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Richmond Railway Station and yard group	Blacktown-Richmond railway RICHMOND NSW 2753	Hawkesbury	01236	Complex / Group	HNSW
Richmond Railway Station Group	East Market Street RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Richmond Rest Home (Former)	Corner West Market Street and March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Rosmoynne	128 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV

Royal Hotel	167 Windsor Street (Corner East Market Street) RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Rutherglen	158 March Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
School of Arts	26 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Seymours House	24 Bosworth Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Seymours House	24 Bosworth Street RICHMOND NSW 2753	Hawkesbury	00681	Built	HNSW
Shop	187 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Shop	201-205 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Shop	295 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Shop (Former Barn)	239 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
St Andrew's Uniting Church	25 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
St Andrew's Uniting Church Hall	25 West Market Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
St Monica's Roman Catholic Church	1A Bourke Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
St Peters Anglican Church	384 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
St Peter's Anglican Church Group	384 Windsor Street RICHMOND NSW 2753	Hawkesbury	02028	Complex / Group	HNSW

St Peter's Anglican Church Hall and Cemetery	347, 347A and 349 Windsor Street RICHMOND NSW 2753	Hawkesbury		Complex / Group	LGOV
Stable Square, Surrounding Lawns and Palm Trees	Lot 182 DP 39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Tara	21 Francis Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Toxana	147 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Toxana	147 Windsor Street RICHMOND NSW 2753	Hawkesbury	00014	Built	HNSW
UWS Campus Planned Landscape	Londonderry Road RICHMOND NSW 2753	Hawkesbury		Landscape	SGOV
UWS Campus, Nature Reserve and Castlereagh Jewel Beetle Habitat And Movement	Castlereagh Road and The Driftway RICHMOND NSW 2753	Hawkesbury		Complex / Group	SGOV
Vicky's House	106 Windsor Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV
Westpac Bank	237 Windsor Street RICHMOND NSW 2753	Hawkesbury		Built	LGOV
Wool Classing Building	Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Yarramundi House and Cottages	Lot 182, DP 39768 Londonderry Road RICHMOND NSW 2753	Hawkesbury		Built	SGOV
Zeta	132 Francis Street RICHMOND NSW 2753	Hawkesbury		Unknown	LGOV

Priority weeds for the Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby Shire Council, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

[Select another region](#)

Weed

Duty

All plants

General Biosecurity Duty

All plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

[Aaron's beard prickly pear](#)

Opuntia leucotricha

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

[African boxthorn](#)

Lycium ferocissimum

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

[African olive](#)

Olea europaea subsp. *cuspidata*

Regional Recommended Measure

Exclusion zone is established for all lands in Blue Mountains City Council local government area and in Penrith local government area west of the Nepean River. Core area: The remainder of the region.

Whole region: The plant or parts of the plant are not traded, carried, grown or released into the environment. *Exclusion zone:* The plant is eradicated from the land and the land kept free of the plant. *Core infestation area:* Land managers prevent spread from their land where feasible. Land managers reduce impacts from the plant on priority assets.

[Alligator weed](#)

Alternanthera philoxeroides

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Alligator weed

Alternanthera philoxeroides

Biosecurity Zone

The Alligator Weed Biosecurity Zone is established for all land within the state except land in the following regions: Greater Sydney; Hunter (but only in the local government areas of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens).

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Alligator weed

Alternanthera philoxeroides

Regional Recommended Measure

Exclusion zone: Blue Mountains City Council area. Core infestation area: the remainder of the region.

Whole region: Land managers prevent spread from their land where feasible. Exclusion zone: The plant is eradicated from the land and the land kept free of the plant. Core infestation area: Land managers mitigate the risk of new weeds being introduced to their land. Land managers reduce the impact on priority assets.

Anchored water hyacinth

Eichhornia azurea

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Asparagus fern

Asparagus virgatus

Regional Recommended Measure

Exclusion zone: all lands in the region, except the core infestation area of: Central Coast local government area.

Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Notify the Local Control Authority if found.

Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation: Land managers should mitigate spread from their land. Land managers should reduce impacts from the plant on priority assets.

Athel pine

Tamarix aphylla

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Bellyache bush

Jatropha gossypifolia

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Bitou bush

Chrysanthemoides monilifera subsp.
rotundata

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Bitou bush

Chrysanthemoides monilifera subsp.
rotundata

Biosecurity Zone

The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south.

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Black knapweed

Centaurea x moncktonii

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Black willow

Salix nigra

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Black willow

Salix nigra

Regional Recommended Measure

The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land.

Blackberry

Rubus fruticosus species aggregate

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the *Rubus fruticosus* species aggregate have this requirement, except for the varieties Black Satin, Chehalam, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree

Blind cactus

Opuntia rufida

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Boneseed

Chrysanthemoides monilifera subsp.
monilifera

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Boneseed

Chrysanthemoides monilifera subsp.
monilifera

Control Order

Boneseed Control Zone: Whole of NSW

Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Boxing glove cactus

Cylindropuntia fulgida var. *mamillata*

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Bridal creeper

Asparagus asparagoides

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

***this requirement also applies to the Western Cape form of bridal creeper**

Bridal veil creeper

Asparagus declinatus

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Broomrapes

Orobanche species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of *Orobanche* are Prohibited Matter in NSW, except Clover broomrape, *Orobanche minor* and Australian broomrape, *Orobanche cernua* var. *australlana*.

Bunny ears cactus

Opuntia microdasys

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Cabomba

Cabomba caroliniana

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Cabomba

Cabomba caroliniana

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. Plants should not be bought, sold, grown, carried or released into the environment.

Cane cactus

Austrocyllindropuntia cylindrica

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the *Austrocyllindropuntia* genus have this requirement

Cape broom

Genista monspessulana

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Cat's claw creeper

Dolichandra unguis-cati

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Cat's claw creeper

Dolichandra unguis-cati

Regional Recommended Measure

Land managers prevent spread from their land where feasible. Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets. The plant should not be bought, sold, grown, carried or released into the environment.

Chicken dance cactus
Opuntia schickendantzii

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Chilean needle grass
Nassella neesiana

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Chinese knotweed
Persicaria chinensis

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Chinese violet
Asystasia gangetica subsp. *micrantha*

Control Order

Owners and occupiers of land on which there is Chinese violet must notify the local control authority for the area if the Chinese violet is part of a new infestation on the land, destroy all Chinese violet on the land ensuring that subsequent generations of Chinese violet are destroyed; and keep the land free of Chinese violet. A person who deals with a carrier of Chinese violet must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.

Climbing asparagus
Asparagus africanus

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Climbing asparagus
Asparagus africanus

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. Notify local control authority if found.

Climbing asparagus fern
Asparagus plumosus

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Common pear
Opuntia stricta

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Coral creeper
Barleria repens

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

East Indian hygrophila
Hygrophila polysperma

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Eurasian water milfoil
Myriophyllum spicatum

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Eve's needle cactus
Austrocylindropuntia subulata

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the Austrocylindropuntia genus have this requirement

Fireweed
Senecio madagascariensis

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Flax-leaf broom
Genista linifolia

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Foxtail fern
Asparagus densiflorus

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Frogbit

Limnobium laevigatum

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of Limnobium are Prohibited Matter

Gamba grass

Andropogon gayanus

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Giant devil's fig

Solanum chrysotrichum

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Giant rat's tail grass

Sporobolus pyramidalis

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Giant reed

Arundo donax

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment.

Glory lily

Gloriosa superba

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Gorse

Ulex europaeus

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Gorse

Ulex europaeus

Regional Recommended Measure

Exclusion zone: Blue Mountains City Council area. Core infestation area: rest of region

Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation area: Land managers should mitigate spread from their land.

Green cestrum

Cestrum parqui

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to land used for grazing livestock. Land managers should mitigate spread from their land. Plant should not be bought, sold, grown, carried or released into the environment.

Grey willow

Salix cinerea

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Grey willow

Salix cinerea

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Ground asparagus

Asparagus aethiopicus

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Groundsel bush

Baccharis halimifolia

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Hawkweeds

Pilosella species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the genera *Pilosella* and *Hieracium* are Prohibited Matter except for *Hieracium murorum*.

Holly leaved senecio

Senecio glastifolius

Regional Recommended Measure

Exclusion zone: whole region except for the core infestation area of the Royal National Park.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. The Local Control Authority should be notified if the plant is found. Exclusion zone: The plant is eradicated and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible. Land managers reduce impacts from the plant on priority assets.

Horsetails

Equisetum species

Regional Recommended Measure

Exclusion zone: whole of region except Northern Beaches local government area. The Northern Beaches local government area is the core area.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Exclusion zone: The plant is eradicated from the land and the land is kept free of the plant. Core area: Land managers prevent spread from their land where feasible.

Hudson pear

Cylindropuntia pallida

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Hydrocotyl

Hydrocotyle ranunculoides

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Hygrophila
Hygrophila costata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Hymenachne
Hymenachne amplexicaulis and
hybrids

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Hymenachne
Hymenachne amplexicaulis and
hybrids

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Karoo acacia
Vachellia karroo

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Kei apple
Dovyalis caffra

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Kidney-leaf mud plantain
Heteranthera reniformis

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Kochia
Bassia scoparia

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Excluding the subspecies *trichophylla*

Koster's curse

Clidemia hirta

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Kudzu

Pueraria lobata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Lagarosiphon

Lagarosiphon major

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Lantana

Lantana camara

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Leaf cactus

Pereskia aculeata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Ludwigia

Ludwigia peruviana

Regional Recommended Measure

Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant should not be bought, sold, grown, carried or released into the environment. Local Control Authority is notified if the plant is found on the land.

Madeira vine

Anredera cordifolia

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Mesquite

Prosopis species

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the genus *Prosopis* have this requirement

Mexican feather grass

Nassella tenuissima

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Miconia

Miconia species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of *Miconia* are Prohibited Matter in NSW

Mikania vine

Mikania micrantha

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

***all species in the genus *Mikania* are Prohibited Matter in NSW**

Mimosa

Mimosa pigra

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Ming asparagus fern

Asparagus macowanii

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Mysore thorn

Caesalpinia decapetala

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment.

Nodding thistle

Carduus nutans subsp. *nutans*

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Pampas grass

Cortaderia species

Regional Recommended Measure

Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant or parts of the plant are not traded, carried, grown or released into the environment.

Parkinsonia

Parkinsonia aculeata

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Parkinsonia

Parkinsonia aculeata

Control Order

Parkinsonia Control Zone: Whole of NSW

Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is parkinsonia must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Parthenium weed

Parthenium hysterophorus

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Parthenium weed

Parthenium hysterophorus

Prohibition on certain dealings

The following equipment must not be imported into NSW from Queensland: grain harvesters (including the comb or front), comb trailers (including the comb or front), bins used for holding grain during harvest operations, augers or similar for moving grain, vehicles used to transport grain harvesters, support vehicles driven in paddocks during harvest operations, mineral exploration drilling rigs and vehicles used to transport those rigs, unless set out as an exception in Division 5, Part 2 of the Biosecurity Order (Permitted Activities) 2017

Pond apple

Annona glabra

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Prickly acacia

Vachellia nilotica

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Prickly pears - Austrocyllindropuntias

Austrocyllindropuntia species

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the Austrocyllindropuntia genus have this requirement

Prickly pears - Cyllindropuntias

Cyllindropuntia species

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the Cyllindropuntia genus have this requirement

Prickly pears - Opuntias

Opuntia species

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

For all Opuntia species except for *Opuntia ficus-indica* (Indian fig).

Riverina pear

Opuntia elata

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

For all *Opuntia* species except for *Opuntia ficus-Indica* (Indian fig).

Rope pear

Cylindropuntia imbricata

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the *Cylindropuntia* genus have this requirement

Rubber vine

Cryptostegia grandiflora

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Sagittaria

Sagittaria platyphylla

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Salvinia

Salvinia molesta

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Salvinia

Salvinia molesta

Regional Recommended Measure

Exclusion zone: whole region except for the core infestation area of the Georges and Hawkesbury-Nepean Rivers and their tributaries.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. Exclusion zone: The plant is eradicated and the land kept free of the plant. The Local Control Authority should be notified if the plant is found. Core infestation area: Land managers should prevent spread from their land where feasible.

Scotch broom

Cytisus scoparius subsp. *scoparius*

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Database search result

Scotch broom

Cytisus scoparius subsp. *scoparius*

Regional Recommended Measure

Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets.

Sea spurge

Euphorbia paralias

Regional Recommended Measure

Exclusion zone: whole region except the core infestation area of the Sutherland Shire.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Exclusion zone: The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. Core area: Land managers prevent spread from their land where feasible.

Senegal tea plant

Gymnocoronis spilanthoides

Regional Recommended Measure

Exclusion zone: whole region except the core infestation area of the Central Coast Council LGA, Royal National Park and the Hawkesbury-Nepean River and its tributaries.

Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. Exclusion zone: The plant is eradicated and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible.

Serrated tussock

Nassella trichotoma

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Serrated tussock

Nassella trichotoma

Regional Recommended Measure

Exclusion zone: whole region excluding the core infestation area of Wollondilly and Camden local government areas.

Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Notify the Local Control Authority if found. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation: Land managers prevent spread from their land where feasible.

Siam weed

Chromolaena odorata

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Sicilian sea lavender

Limonium hyblaenum

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Sicklethorn

Asparagus falcatius

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Silverleaf nightshade

Solanum elaeagnifolium

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Singapore daisy

Sphagneticola trilobata

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment. Land managers reduce the impact on priority assets.

Skunk vine

Paederia foetida

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Smooth tree pear

Opuntia monacantha

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Snakefeather

Asparagus scandens

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Spanish broom

Spartium junceum

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Spongeplant

Limnobiium spongia

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of *Limnobiium* are Prohibited Matter

Spotted knapweed

Centaurea stoebe subsp. *micranthos*

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Tiger pear

Opuntia aurantiaca

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Tiger pear

Opuntia aurantiaca

Regional Recommended Measure

Exclusion zone: all lands in the region except the core infestation area of: Blacktown and Wollondilly local government areas.

Whole region: Land managers mitigate the risk of the plant spreading from their land. Notify Local Control Authority if found. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation: Land managers should mitigate the risk of new weeds being introduced to their land. Land managers reduce impacts from the plant on priority assets.

Tropical soda apple

Solanum viarum

Control Order

Tropical Soda Apple Control Zone: Whole of NSW

Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.

Velvety tree pear

Opuntia tomentosa

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Water caltrop

Trapa species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the *Trapa* genus are Prohibited Matter in NSW

Water hyacinth

Eichhornia crassipes

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

Water hyacinth

Eichhornia crassipes

Biosecurity Zone

The Water Hyacinth Biosecurity Zone applies to all land within the State, except for the following regions: Greater Sydney or North Coast, North West (but only the local government area of Moree Plains), Hunter (but only in the local government areas of City of Cessnock, City of Lake Macquarie, MidCoast, City of Maitland, City of Newcastle or Port Stephens), South East (but only in the local government areas of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong).

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Water hyacinth
Eichhornia crassipes

Regional Recommended Measure

Land managers should mitigate spread from their land. Plant should not be bought, sold, grown, carried or released into the environment.

Water lettuce
Pistia stratiotes

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Water poppy
Hydrocleys nymphoides

Regional Recommended Measure

Exclusion zone: All lands and waters in the region except for the core infestation area of the Hacking River catchment. Whole region: The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Notify Local Control Authority if found. Core infestation: Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land.

Water soldier
Stratiotes aloides

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Water star grass
Heteranthera zosterifolia

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Wheel cactus
Opuntia robusta

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

White blackberry
Rubus niveus

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Willows
Salix species

Prohibition on certain dealings

Must not be imported into the state, sold, bartered, exchanged or offered for sale.

All species in the *Salix* genus have this requirement, except *Salix babylonica* (weeping willows), *Salix x calodendron* (pussy willow) and *Salix x reichardtii* (sterile pussy willow)

Witchweeds
Striga species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the *Striga* genus are Prohibited Matter in NSW, except the native *Striga parviflora*

Yellow burrhead
Limnocharis flava

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

The content provided here is for information purposes only and is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia.

www.dpi.nsw.gov.au

Appendix D: Aboriginal cultural heritage advice



Transport
for NSW

13th of January 2023

Gene Gill

Project Manager
Western Parkland City
Sydney Infrastructure Development | Infrastructure & Place
Transport for NSW

Dear Gene,

Preliminary assessment results for New Richmond Bridge and traffic improvements Stage 2 based on Stage 1 of the *Procedure for Aboriginal cultural heritage consultation and investigation* (the procedure).

The project, as described in the Stage 1 assessment checklist, was assessed as being unlikely to have an impact on Aboriginal cultural heritage.

The assessment is based on the following due diligence considerations:

- The project is unlikely to harm known Aboriginal objects or places.
- The AHIMS search did not indicate moderate to high concentrations of Aboriginal objects or places in the study area.
- The cultural heritage potential of the study area appears to be reduced due to past disturbance.
- There is an absence of sandstone rock outcrops likely to contain Aboriginal art.

Your project may proceed in accordance with the environmental impact assessment process, as relevant, and all other relevant approvals.

If the scope of your project changes, you must contact The Aboriginal Engagement Section, Greater Sydney Region, and your regional environmental staff to reassess any potential impacts on Aboriginal cultural heritage.

If any potential Aboriginal objects (including skeletal remains) are discovered during the course of the project, all works in the vicinity of the find must cease. Follow the steps outlined in the Roads and Maritime Services' *Unexpected Heritage Finds Procedure*.


Roads and Maritime Services

Level 3, 27 Argyle Street, Parramatta NSW 2150
E comne.quinlan@transport.nsw.gov.au | M 0447 978 380

13 22 13

For further assistance in this matter do not hesitate to contact me.

Yours sincerely / faithfully

A handwritten signature in black ink, appearing to read 'Corrine Quinlan', enclosed within a thin black rectangular border.

Corrine Quinlan
Aboriginal Cultural Heritage Advisor – Greater Sydney Region



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