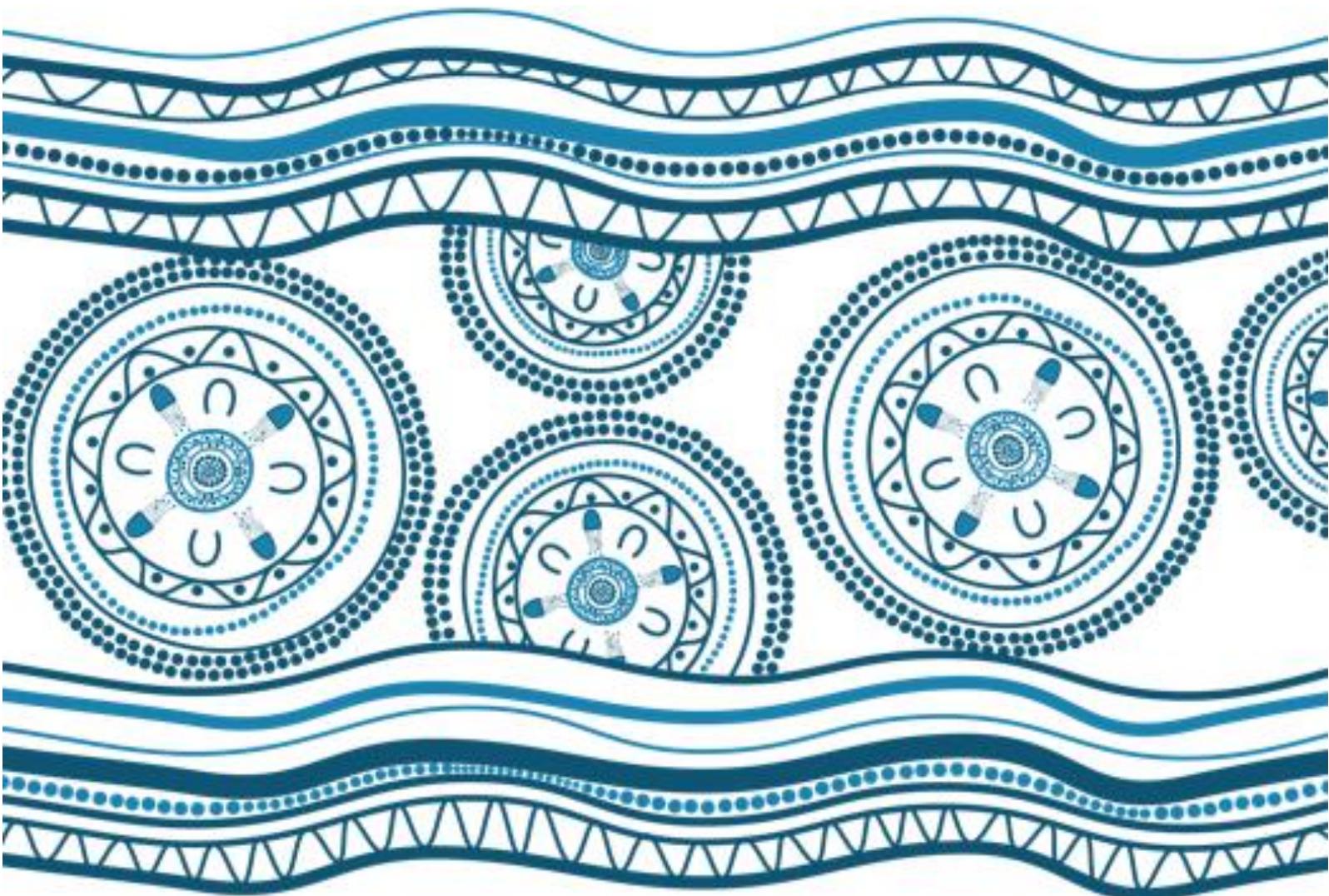


Chapter 8

Non-Aboriginal heritage



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8 Non-Aboriginal heritage

This chapter presents an assessment of the impacts of the project on non-Aboriginal heritage and identifies mitigation and management measures to minimise and reduce these impacts.

The assessment presented in this chapter draws on information from Appendix F (Statement of Heritage Impact) (SoHI).

8.1 Assessment methodology

The project was referred to the Commonwealth Minister for the Environment on 22 October 2020 under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act, reference: 2020/8825). The project was declared a 'Controlled Action' on 12 January 2021. This was due, in part, to the project's potentially significant impact on the Kurnell Peninsula Headland. The assessment of the project's impacts on this matter of national environmental significance is to be carried out in accordance with the assessment bilateral agreement between the NSW and Commonwealth Governments. Therefore, this chapter addresses both the State and Commonwealth assessment requirements.

The method for assessing impacts on non-Aboriginal heritage involved:

- Statutory heritage register searches
- Historical research to identify any suspected potential archaeological sites
- A review of existing secondary historical and archaeological written sources
- An examination of historical mapping and aerial imagery
- A comprehensive field survey within the construction boundaries at each site
- Assessing the heritage significance for all identified listed and potential heritage items
- Assessing archaeological potential and significance for potential archaeological sites
- Assessing the impacts on all non-Aboriginal heritage
- Defining mitigation measures.

8.1.1 Policy framework

The following legislation and policy guided the non-Aboriginal heritage assessment:

- NSW Heritage Manual, the Archaeological Assessment Guidelines (NSW Heritage Office, 1996)
- Statements of Heritage Impact (NSW Heritage Office and Department of Urban Affairs & Planning, 2002)
- Assessing Significance for Historical Archaeological Sites and Relics (NSW Heritage Branch, Department of Planning, 2009)
- Assessing Heritage Significance (NSW Heritage Office, 2001)
- Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (International Council on Monuments and Sites (ICOMOS), 2011)
- Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (Australian Government, Department of the Environment, 2013)
- Unexpected Heritage Items Procedure (NSW Roads and Maritime Services, 2015d)
- NSW Skeletal Remains: Guidelines for Management of Human Remains (NSW Heritage Office, 1998)
- Criteria for the Assessment of Excavation Directors (NSW Heritage Council, 2019) (supersedes prior issue of 2011)
- The Bura Charter (ICOMOS, 2013)
- *Heritage Act 1977* (NSW)
- *Environmental Planning Assessment Act 1979* (NSW)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

8.2 Existing environment

This section provides a brief historical context, lists the national and state listed heritage items and their significance.

8.2.1 History

Section 4 of Appendix F (Statement of Heritage Impact) provides a detailed historical background of La Perouse, Kurnell and Botany Bay. Table 8-1 summarises the historical land use phases at La Perouse and Kurnell.

Table 8-1: Summary of historic land uses

Phase	History summary
La Perouse	
Phase 1: Early explorations (1770-c.1820)	<ul style="list-style-type: none"> • First phase of non-Aboriginal land use included early exploration by the British and French • Investigation of the La Perouse headland and Frenchmans Bay by the Endeavour crew in 1770, including botanical collecting by Joseph Banks and Daniel Solander • First Fleet docked for several weeks just west of the headland and Bare Island in January 1788 • The French established several structures following their arrival in January 1788 (including the French camp, observatory, garden, and stockade): <ul style="list-style-type: none"> • The location of the garden is estimated to be west of the Macquarie Watchtower and included botanical species planted by the French crew • The French stockade was likely located in a similar position on the headland and was made from timber and included longboats and two defensive guns • A tomb was also established by the French crew for Pere Receveur who died during the expedition's stay in Botany Bay and was buried on the La Perouse headland. The tomb has since been formalised as a memorial/monument.
Phase 2: Military and the Cable Station (c.1820-c.1905)	<ul style="list-style-type: none"> • Military development across the headland as a memorial site for French visitors • Construction of the Cable Station for preparation of the undersea cable. This included: <ul style="list-style-type: none"> • Temporary accommodation for the Eastern Extension Telegraph Company (two timber huts and four tents along the southeast side of Frenchmans Beach) • Cable stations (have been two of these over time) • Gear house and cable storage tanks near the foreshore • Cable house to the southeast of Frenchmans Beach • La Perouse headland was encompassed within a Government reserve in the early 1820s • Macquarie Watchtower was established in 1822 • The Customs Department operated from the Macquarie Watchtower between 1833 and the early twentieth century • The boat house and boat davits (two cranes used to lower boats into the water) were situated at the eastern end of Frenchmans Beach and operated between 1833 and the early twentieth century.
Phase 3: Tourism, recreation and wharf infrastructure (c.1905-present)	<ul style="list-style-type: none"> • From the early twentieth century, the overall land use came to reflect the tourist and recreational boom • Closure of the military and government activities on the headland and conversion of military and government buildings and facilities into tourist and historical sites • Establishment of a slipway in early 1900s at east end of Frenchmans Beach for private boat launching • Establishment of the former La Perouse wharf at the west end of the headland which included an approach road along the north-west boundary of the headland • Additions of landing stairs and a timber shed with a hipped roof were constructed in 1925 • Cable Station no longer used for cable operations by 1917 and ancillary facilities demolished • Second slipway constructed by 1917

Phase	History summary
	<ul style="list-style-type: none"> • Larger boatsheds constructed along foreshore of Frenchmans Bay from 1920s allowing tourists to hire boats and order food/drinks • Paragon Restaurant constructed by 1943 • Anzac Parade Loop formalised by 1963 over former approach road • Paragon Restaurant and former wharf structure destroyed by a storm in 1974.
Kurnell	
Phase 1: Early explorations (1770-1825)	<ul style="list-style-type: none"> • First phase of non-Aboriginal activity at Kurnell included early exploration by the British • Kurnell headland investigated by the Endeavour crew in 1770 (a commemorative plaque located about 270 metres northeast of the construction boundary) • Botanical collecting by Joseph Banks and Daniel Solander during Endeavour crew's eight day stay • Very little development near construction boundary between Cook's voyage and 1815 • Captain Phillip of the First Fleet inspected the area and ordered the land be cleared but decided against establishing a colony at Kurnell.
Phase 2: Farming grants (1815-1899)	<ul style="list-style-type: none"> • The nineteenth century non-Aboriginal land use within the Kurnell construction boundary primarily consisted of farming (this involved vegetation clearing and erecting fences) • James Birnie was granted 700 acres on the west side of the peninsular by Governor Macquarie and started the farming cattle • A homestead and cottages constructed to northwest of the construction boundary (at the site of Alpha House) • Alpha farm was sold to John Connell in 1828 and was continually used to farm cattle and for timber-getting by subsequent generations of the Connell family • Alpha house was relocated further to the northeast • Land purchased in 1861 by Holt who continued to use the farm for timber-getting and cattle • First recorded structure within the construction boundary was the Captain Cook monument which Holt erected in 1870 • Planting of commemorative Norfolk Island Pines during 1881 visit by British royalty • Holts Wharf was constructed by 1882 providing greater access between Kurnell and La Perouse • The listed African Olive tree was planted during this time.
Phase 3: Establishment of the National Park (1899-present)	<ul style="list-style-type: none"> • In 1800, 250 acres of land at Kurnell (including area around the construction boundary) was resumed by the NSW Government to establish the Captain Cook Landing Place Reserve • Captain Cook Landing Place Reserve was managed by the Landing Place Trust until 1967 who undertook a number of updates and developments (eg commemorative plantings, pathways and the new wharf shelter shed, boatshed and sea wall) • A heavy storm hit Kurnell in 1912 and damaged some of the infrastructure established by the Landing Place Trust • The Landing Place Trust built a new wharf known as Trust Wharf in 1912 (remains of this are still visible today under the existing Kurnell viewing platform) • Landing Place Trust constructed the boatshed about 150m southwest of the Kurnell viewing platform • A small cottage was established by 1912 near Captain Cook Drive • Captain Cook Drive was previously planned as part of Polo Street and was not formally established until 1953-56 when it became the first fully sealed road connecting Kurnell to Cronulla to facilitate the construction of the Australian Oil Refinery • The Landing Place Trust established several new plaques that commemorated Captain Cook's voyage near the Captain Cook monument which included the Landing Place Memorial and Captain Cook's watering well plaque which are still present today • Trust Wharf was destroyed by a storm in 1974 although the stone landing survived • The Kurnell viewing platform was constructed in the same location around 2009 • The former Foreshore Track was replaced with the now Monument Track and the previous stone paving barriers around the commemorative plaques were removed and replaced with the current sandstone blocks that the plaques are mounted on.



Source: *Benson and Eldershaw (2007)*.

Figure 8-1: View of the Kurnell foreshore taken from the ferry wharf in 1905, with Captain Cook monument, Holt's Wharf, and the boatshed visible on the right.



Source: *Austin, J.G (1836), State Library of NSW*.

Figure 8-2: The La Perouse Monument by John Gardiner Austin, 1836



Source: Keery & Co. (1884-1917), *Museum of Applied Arts and Sciences*.

Figure 8-3: Captain Cook Monument at Kurnell, c1890-1920 which was mislabelled as the La Perouse Monument.

8.2.2 Listed heritage

Table 8-2 summarises the listed heritage items within or near the construction boundary at La Perouse and Kurnell. These are shown in Figure 8-4 and Figure 8-5.

Table 8-2: Listed heritage within or near the construction boundaries at La Perouse and Kurnell

Item	Listing	Distance from construction boundary
La Perouse		
National significance		
Kamay Botany Bay: Botanical collection sites <i>The Kamay Botany Bay National Park portion of this heritage item is located on the northern and southern headlands of Botany Bay including an area of about 500 hectares. Sir Joseph Banks and Dr Daniel Solander collected plant species from this area, of which 144 can still be found in natural populations at a number of locations across Kamay Botany Bay.</i>	National Heritage List (NHL) ID 106162	Within
State significance		
Kamay Botany Bay National Park (North and South) and Towra Point Reserve	State Heritage Register (SHR) 01918	Within
Bare Island Fort	SHR 00978 Randwick Local Environment Plan 2012 (RLEP) I171	150 m southeast
Local significance		
Botany Bay National Park (Botany Bay National Park, La Perouse Headland, Yarra Bay and Frenchmans Bay)	RLEP C5	Within
La Perouse Memorial	RLEP I169	10 m east
La Perouse Museum (former Cable Station)	RLEP I168	50 m northeast
Macquarie Watchtower	RLEP I166	85 m northeast
Tomb of Pere le Receveur	RLEP I167	50 m southeast
Yarra Bay House	RLEP I172	360 m north
Yarra Bay Beach and Reserve	RLEP I245	400 m north
Jessie Stuart Broomfield Fountain	RLEP I170	175m east
1920s Bungalow at 27 Goorawahl Avenue	RLEP I173	140m northeast
Kurnell		
National significance		
Kurnell Peninsula Headland <i>This nationally listed heritage item occupies about 325 hectares on the southern headland at the entrance to Botany Bay. It includes the Meeting Place Precinct, Captain Cook's Landing Place, and most of the Kamay Botany Bay National Park at Kurnell. It includes many elements of significance such as remnant vegetation, commemorative monuments, and memorials, as well as significant view lines to and from the listing.</i>	NHL ID 105812	Within
Kamay Botany Bay: Botanical collection sites <i>This listing includes an area of about 500 hectares on the northern and southern headlands of the Kamay Botany Bay National Park. It includes a broad mix of native and introduced flora and vegetation communities, rocky cliffs, beaches, cultural plantings and clearings.</i>	NHL ID 106162	Within
State significance		
Kamay Botany Bay National Park (North and South) and Towra Point Reserve	SHR 01918	Within
Local significance		
Kurnell monuments (in Kamay Botany Bay National Park) <i>A series of monuments in the Kamay Botany Bay National Park.</i>	Sutherland Shire Local Environmental	Within

Item	Listing	Distance from construction boundary
	Plan 2015 (SLEP) 2503	
Kurnell Historic Site (in Kamay Botany Bay National Park <i>Covers the majority of the Kurnell Headland</i>)	SLEP 2504	Within
Silver Beach and roadway	SLEP 2506	Within
Captain Cook monument	SLEP A2514	Within
Captain Cook watering well	SLEP A2519	Within
Landing place wharf abutment*	SLEP A2516	Within
Captain Cook watering hole	SLEP A2518	20 m east
Captain Cook's landing site*	SLEP A2511	35 m west
Banks memorial	SLEP A2512	75 m northeast
Alpha Farm site	SLEP A2517	150 m southeast
Forby Sutherland monument	SLEP A2515	160 m east
Solander monument	SLEP A2513	180 m east
Captain Cook's landing place	SLEP A2510	190 m east
Flagpole	SLEP A2520	230 m east

*These sites are assessed in Chapter 9 (Underwater heritage) and Appendix G (Underwater Cultural Heritage Assessment Report).



Figure 8-4: Listed heritage items at La Perouse



Figure 8-5: Listed heritage items at Kurnell

8.2.3 Archaeological potential

Due to the rich history of La Perouse and Kurnell, there is archaeological potential within the construction boundaries (refer to Table 8-3). This has been identified through desktop reviews of historical records, past investigations, current ground conditions, and the field survey of the La Perouse and Kurnell construction boundaries. Archaeological potential refers to the likelihood that an area contains physical remains associated with past occupation, activity or development. This was assessed in accordance with the archaeological guidelines. Figure 8-6 and Figure 8-7 the areas of archaeological potential.

Table 8-3: Archaeological potential and significance at La Perouse and Kurnell

Phase	Potential archaeological remains	Potential	Significance
La Perouse			
Phase 1: 1770- 1815	Remains of the French stockade and garden, including timber posts and post holes, garden edging and soils, and refuse pits or artefact deposits. Evidence of land clearance (tree stumps, land modifications), temporary camps, and discarded artefacts	Nil to Low	State/National
Phase 2: 1815- 1899	Structural footings associated with the cable tanks, gear house, cable house and boatsheds, including concrete and brick footings, timber posts and post holes, sandstone cuttings, yard surfaces and isolated artefact scatters and deposits	Low	Local
Phase 3: 1899- present	Remains of the former wharf approach road including bitumen and sandstone road construction and kerbing	High	Local
	Minor artefact deposits	High	Would not reach the threshold of local significance
Kurnell			
Phase 1: 1770– 1815	Remains of land clearance (tree stumps, land modifications), temporary camps, watering holes, and discarded artefacts	Nil to Low	State/National
Phase 2: 1815– 1899	Remains of land clearance and farming activities (tree stumps, land modifications, furrows), timber posts, post holes, minor artefact deposits, and structural remains of undocumented structures (timber posts and post holes)	Nil to Low	Local
Phase 3: 1899– present	Remains of Cottage Number 2 including structural remains (brick and concrete footings), timber posts, post holes, yard surfaces, refuse deposits and minor artefact scatters. Remains of sandstone sea walls	High	Local
	Remains of the boatsheds including structural remains (brick and concrete footings), timber posts, post holes, yard surfaces and minor artefact deposits	Low	Local
	Concrete slab remains of Foreshore track and minor artefact deposits	High	Would not reach the threshold of local significance



Figure 8-6: Potential archaeology at La Perouse



Figure 8-7: Potential archaeology at Kurnell

8.3 Assessment of potential impacts

The following impacts have been assessed:

- Direct impacts resulting from works that would result in physical alterations or damage to the item that would alter its heritage significance (value)
- Potential direct impacts from vibration and ground settlement that may result in changes to a heritage item
- Indirect impacts to significant view lines as well as heritage significant vistas and the setting of the item
- Archaeological impacts to potential remains.

The terminology for assessing the magnitude of impacts has been adopted from ICOMOS and Heritage NSW guidelines and includes:

- Major – long-term and substantial impact on the significance (value) of a heritage item
- Moderate – considerable changes to a heritage item that would impact the item's significance (value)
- Minor – slight impacts to the significance (value) of a heritage item
- Negligible – very minor changes to the significance (value) of heritage items
- Neutral – no change and no impact on significance (value) of a heritage item
- Positive – impacts which improve the condition of fabric or local setting which improves the legibility of the significance (value) of the heritage item.

A summary of construction impacts is provided in Table 8-4.

8.3.1 Assessment of construction impacts

Direct impacts

The proposed works within the construction boundary include land disturbance to construct the wharf, install utilities, landscape the wharf tie-in areas, and reconfigure the car parking area at La Perouse. Where this land disturbance is on or over a known heritage item it would be directly impacted.

Three listed heritage items would be directly impacted to a minor extent:

- Kurnell Peninsula Headland (Kurnell) (NHL ID 105812)
- Kamay Botany Bay National Park (North and South) and Towra Point Reserve (Kurnell and La Perouse) (SHR 01918)
- Kurnell Historic Site (in Kamay Botany Bay National Park, Kurnell) (SLEP 2504).

There are multiple elements (smaller individual components of a heritage item) that make up and contribute to these heritage listings such as monuments, vegetation, significant views, and site lines from the relevant national, state and local heritage listings in the area. The Meeting Place Precinct Conservation Management Plan (CMP) and the La Perouse Headland CMP list the significant elements which make up these heritage listings. The purpose of these CMP's are to guide future use and management of the area by providing conservation strategies and guidelines. These include items such as a remnant structures (eg coursed stone sea wall and the monument track), plantings (including an African Olive tree) and monuments. Table 37 and 38 of Appendix F (Statement of Heritage Impact) provides a full list of these significant elements.

The significant heritage at La Perouse which are listed in the La Perouse Headland CMP include the following elements:

- Pere le Receveur Tomb
- Cable Station
- Battery Room
- Store Room
- Courtyard
- La Perouse Monument
- Landscape.

All of these elements except for the landscape are located outside of the construction boundary. They would therefore not be directly impacted. The landscape element of the Headland CMP is within the construction boundary and would therefore be directly impacted by excavation and construction activities. The significance of this element is associated with its visual setting, rather than the physical fabric (individual physical items). The impacts would be limited to removal of grassed areas and any direct impacts to sandstone rock outcrops and sandy soils would be minimal. As a result, direct impacts to the landscape element would be negligible.

There would be limited vegetation removal at La Perouse and Kurnell. This includes five juvenile trees near the wharf tie-in area at Kurnell which are proposed to be removed. However, these trees are not identified as historical or cultural plantings under the Meeting Place Precinct CMP and have little to no contribution to the significance of the overall Meeting Place Precinct. There would also be clearing of a small area of remnant Coast Banksia community vegetation at La Perouse and Kurnell. However, this is identified as being in low condition due to historical clearing and weed invasion (refer to Chapter 11 (Terrestrial biodiversity)). Removal of an African Olive tree is assessed below.

The following heritage elements would be directly impacted at Kurnell:

- Course stone sea wall - the installation of utilities is expected to pass through a section of the course stone sea wall near Monument Track. This would require the removal of a section of the sea wall about two metres wide. This would result in a minor direct impact.
- Monument Track - the installation of utilities would require excavation under parts of Monument Track. This would result in a major temporary but negligible permanent direct impact.
- African Olive tree - the installation of utilities trench would require the removal of this tree; however it is considered of little significance to the overall heritage listings (it is not a species listed under the Kamay Botany Bay: Botanical collection sites listing). This would result in a major direct impact to the plantings from early farm use but would have an overall minor direct impact on the wider heritage vegetation items. Refer to Chapter 11 (Terrestrial biodiversity) for further assessment of impacts from vegetation removal.
- Captain Cook watering well - this monument may need to be temporarily relocated during construction to avoid permanent direct impacts. This would result in negligible temporary and neutral permanent direct impacts.
- Landing Place Memorial - this plaque may need to be temporarily relocated during construction to avoid being impacted. This would result in negligible temporary and neutral permanent direct impacts.

All other listed significant heritage elements at Kurnell would be impacted to a negligible or neutral magnitude as they are not directly impacted by the construction works.

Potential direct impacts (vibration and ground settlement)

There are some vibration intensive construction activities that could indirectly impact nearby heritage items. Excavation activities could also cause indirect subsidence impacts.

With the exception of the Landscape element, none of the significant elements listed in the La Perouse Headland CMP are located within the construction boundary. The Cable Station, Battery Room, Store Room and Pere le Receveur Tomb are located more than 70 metres from vibration intensive construction activities, which is beyond the minimum safe working distances to avoid vibration impacts (see Chapter 15 (Surface noise and vibration)).

The La Perouse Monument is located within the grassed area inside the Anzac Parade Loop about five metres from the construction boundary. The monument may be close enough to the construction works to be impacted if certain large vibration generating equipment is used. This could be avoided through the use of smaller equipment that has a lower vibration impact and vibration monitoring which would be specified in the Construction Environmental Management Plan (CEMP).

Most vibration intensive construction activities at Kurnell would be from piling of the wharf. The coursed stone sea wall is within five to ten metres of these works and therefore could be affected by vibration. There are parts of the sea wall that are no longer mortared together and are in a state of disrepair. Vibration may cause these sections of the wall to collapse.

Captain Cook monument is located within the construction boundary and adjacent to Monument Track where the utilities trench would be installed. The monument is founded on sandstone bedrock and any hammering into this bedrock could cause vibration impacts.

Archaeological test pits carried out in November 2020 identified that the Captain Cook monument is located on a bedrock shelf that is at depth of about 1.1 metres adjacent to Monument Track. The excavations for the utilities trench are only proposed to a depth of 0.9 metres, and therefore are likely to be above the bedrock. It is possible that the bedrock may not be uniform in depth and shallower pockets may exist which could be encountered during installation of the utilities. If shallower bedrock is encountered, hammering would only be needed in localised areas and can be managed through the use of hand tools and small hydraulic hammers to avoid vibration impacts on the Captain Cook monument.

As Captain Cook monument is founded on bedrock, excavation and backfilling of soil adjacent to the monument would not result in potential subsidence impacts that could impact the structural integrity of the monument.

All other monuments (Banks Memorial, Solander monument and Forby Sutherland monument) are located a sufficient distance from construction activities that they would not be indirectly impacted from vibration.

Excavation required for landscaping works would be close to the Ferry shelter shed. Due to the shallow nature of the excavations, potential indirect subsidence impacts are not expected. However, as the works are in close proximity to the Ferry shelter shed, there is the potential for indirect vibration impacts. This would be managed by measures outlined in the CEMP.

Monument Track would be directly impacted from construction of the utilities trench as described above. Any impacts from vibration would be no greater than the direct impacts.

Indirect impacts

The construction of the project has the potential to indirectly impact the views to and from significant heritage features. Some views are specifically listed as heritage elements under the national, state and local heritage listings.

The construction activities (such as equipment, exposed earth and construction vehicles) would be visible in views for heritage elements which are located in close proximity to or within the construction boundary. This would introduce negative visual clutter within the sightlines to these heritage items. However, these visual impacts would be temporary.

Indirect impacts may also include impacts to access. Access to any heritage items within the construction boundaries would be restricted for the duration of the construction period. This would temporarily affect amenity and user enjoyment. Access to the Captain Cook monument would be temporarily restricted by the works along the Monument Track during construction. This is expected to have a moderate indirect impact on the monument, but the re-establishment of the link following construction is expected to provide greater visitor access to the area. As impacts would be temporary, it would not permanently affect any item's heritage significance (value).

Archaeological impacts

As outlined in section 8.2.3, there is generally nil to low potential for archaeological remains associated with Phase 1 (1770-1815) and Phase 2 (1815-1899). However, there is high potential for archaeological remains associated with Phase 3 (1899-present).

The ground disturbance works at La Perouse are generally limited to areas that have been previously disturbed by utilities, road construction and historical developments. It is not expected that significant archaeological remains associated with Phase 1 and 2 would be impacted.

For Phase 3 remains, there was archaeological evidence of the former wharf approach road found as shallow as 0.2 metres during archaeological test excavations in November 2020. The former wharf approach road is within the footprint of the planned ground disturbance near the wharf tie-in. Due to the shallowness of the remains, impacts including loss, damage or destruction could occur from wharf construction, trenching for utilities and landscaping in this area.

If a substantial degree of the archaeological remains of the wharf approach road exist on the western side of the headland, the proposed ground disturbance could potentially result in the removal of up to about 70 per cent of the archaeological footprint of the former road. It is likely that part of this area has been previously impacted and further archaeological remains may survive beneath the impact depth of proposed works. Impacts would generally be limited to direct impacts of loss, damage or destruction associated with excavations rather than indirect impacts from vibration. The construction activities would still represent a substantial impact to the potential archaeological record of the wharf approach road. This is considered a major impact to archaeological remains of local significance. The former wharf approach road is located outside of the State heritage curtilage of Kamay Botany Bay National Park (North and South) and Towra Point Reserve (SHR 01918). Therefore, this would only result in an archaeological impact to the local heritage conservation area Botany Bay National Park (Botany Bay National Park, La Perouse Headland, Yarra Bay and Frenchmans Bay) (RLEP C5).

At Kurnell, the proposed ground disturbance is unlikely to impact any archaeological remains associated with Phase 1 and 2, due to their low potential within the construction boundary. There is potential for impacts to Phase 3 archaeological remains associated with the former sandstone sea wall, the former Foreshore track, and minor deposits of twentieth century artefacts (fragments of glass and ceramic).

The archaeological remains of Foreshore track and minor deposits of twentieth century artefacts did not reach the threshold for local significance. As a result, any impacts to these remains would not be significant. However, impacts to these items may still have a non-statutory impact.

The full extent of the former sandstone sea wall is unknown due to the limited nature of previous archaeological investigations. If there are further archaeological remains present within the proposed area for the installation of utilities along Monument Track, then these potential archaeological remains could be impacted by the construction activities. This may result in a moderate localised impact to the former sea wall. Any unknown heritage would be managed by the Unexpected Heritage Items Procedure (NSW Roads and Maritime Services, 2015d) which requires that works stop, the appropriate people are consulted, an assessment is carried out and appropriate management measures are put in place.

Table 8-4: Summary of heritage impacts

Heritage item	Impact			
	Direct	Potential direct	Indirect (visual)	Archaeological
La Perouse				
Kamay Botany Bay National Park (North and South) and Towra Point Reserve	Minor	Minor	Minor	Minor
Botany Bay National Park (Botany Bay National Park, La Perouse Headland, Yarra Bay and Frenchmans Bay)	Negligible	Negligible	Negligible	Major
Kamay Botany Bay: Botanical collection sites	Negligible	Neutral	Negligible	Neutral
La Perouse Memorial	Neutral	Negligible	Negligible	Neutral
La Perouse Museum (former Cable Station)	Neutral	Neutral	Negligible	Neutral
Tomb of Pere le Receveur	Neutral	Neutral	Negligible	Neutral
Bare Island Fort	Neutral	Neutral	Neutral	Neutral
Macquarie Watchtower	Neutral	Neutral	Neutral	Neutral
Yarra Bay House	Neutral	Neutral	Negligible	Neutral
Yarra Bay Beach and Reserve	Neutral	Neutral	Negligible	Neutral
Jessie Stuart Broomfield Fountain	Neutral	Neutral	Neutral	Neutral
1920s Bungalow at 27 Goorawahl Avenue	Neutral	Neutral	Neutral	Neutral
Kurnell				
Kurnell Peninsula Headland	Minor	Minor	Minor	Minor
Kamay Botany Bay National Park (North and South) and Towra Point Reserve	Minor	Minor	Minor	Minor
Kurnell Historic Site (in Kamay Botany Bay National Park)	Minor	Minor	Minor	Minor
Kamay Botany Bay: Botanical collection sites	Negligible	Neutral	Negligible	Neutral
Silvery Beach and roadway	Neutral	Neutral	Negligible	Neutral
Kurnell monuments (in Kamay Botany Bay National Park)	Neutral	Negligible	Negligible to minor	Neutral
Captain Cook monument	Neutral	Negligible	Minor	Neutral
Banks memorial	Neutral	Neutral	Negligible	Neutral
Forby Sutherland monument	Neutral	Neutral	Negligible	Neutral
Solander monument	Neutral	Neutral	Negligible	Neutral
Captain Cook watering well	Neutral	Neutral	Negligible	Neutral
Captain Cook watering hole	Neutral	Neutral	Negligible	Neutral
Captain Cook's landing place	Neutral	Neutral	Negligible	Neutral
Alpha Farm site	Neutral	Neutral	Neutral	Neutral
Flagpole	Neutral	Neutral	Negligible	Neutral

8.3.2 Assessment of operation impacts

There would be no further ground disturbance that could expose and impact heritage items causing direct impacts. Similarly, there are not expected to be any indirect impacts from vibration or subsidence. The permanent structure of the wharves would cause indirect visual impacts and access impacts as follows.

Visual impacts

The La Perouse Headland CMP describes the visual significance of the headland as being associated with its open views across the Bay, the stark, open nature of its setting, and its low grass and vegetation.

The proposed wharf would be clearly visible from several of the significant heritage elements at La Perouse. As the landscape is open and generally unvegetated, there are clear sightlines to and from Cable Station (La Perouse Museum), the Battery Room, La Perouse Monument, Pere le

Receveur Tomb and the Miscellaneous Items; consisting of small rock cut features near the Cable Station. The wharf would introduce additional visual clutter within sight of these significant elements and therefore visually impact their setting.

The wharf would not interrupt significant views towards Kurnell and Botany Bay as the wharf is set mostly against the backdrop of Port Botany rather than the Bay itself.

The proposed wharf is consistent with the historical setting of the headland as there have been several wharves present in that location since the late nineteenth century, and the wharf has been designed to be slim, minimal, and integrated with the landscape so as to reduce the visual impact on the setting of the headland.

At Kurnell, the Meeting Place Precinct CMP identifies a number of specific significant views:

- Orientation of the site to the Bay
- View from Alpha House
- Views of the Meeting Place Precinct across Botany Bay
- Views of Kurnell and La Perouse across Botany Bay.

At Kurnell the proposed wharf would introduce an additional structural element within sight of the heritage items in the construction boundary, therefore impacting their setting.

As the proposed wharf extends out from the foreshore it would disrupt views towards Botany Bay and La Perouse when looking north from heritage items to the south of the wharf including from Monument Track and Captain Cook monument. This view is currently largely uninterrupted, except for the existing Kurnell viewing platform.

Views looking south west towards the wharf are already interrupted by the more substantial Kurnell Terminal Wharf associated with the Kurnell Port and Berthing Facility. The proposed wharf would be smaller than the existing Kurnell Terminal Wharf, which would be visible in all views looking west.

Although the new wharf would introduce additional structural elements, the new wharf is consistent with the historical setting of the foreshore. The new wharf would be in the same location as the former wharf, which collectively has been part of the visual setting of the monument for about 100 years. As a result, although the new wharf would have a visual impact on the existing environment, it would have a neutral impact on the visual setting in a historical context.

Furthermore, although larger than the existing Kurnell viewing platform, the new wharf has been designed to be slim, minimal, and integrated with the landscape so as to reduce the visual impact on the setting of the area.

Access impacts

The reinstatement of the wharves, allowing the provision of a ferry service, would improve access to the heritage items within Kamay Botany Bay National Park (refer to Chapter 12 (Traffic and transport) for an assessment of accessibility benefits).

8.3.3 Assessment against conservation management plans

Due to the significance of Kamay Botany Bay National Park, a number of conservation and management plans exist to strategically guide the management and future of development of the place:

- Meeting Place Precinct: Botany Bay National Park – Kurnell. Conservation Management Plan (Context, 2008)
- La Perouse Headland Conservation Management Plan (Jill Sheppard Heritage Consultants, 2009)
- Kamay Botany Bay National Park Kurnell Master Plan (NSW DPIE, 2019)
- Kamay Botany Bay National Park Plan of Management (NSW DPIE, 2020a).

Section 9.4 of Appendix F (Statement of Heritage Impact) assesses the project against the conversation management plans. In summary, while there would be impacts to some heritage features as described above which may not be consistent with the CMP's, the impacts would be limited to only a few heritage features within the overall heritage setting. Mitigation would be implemented to reduce impacts and maintain the significant elements of the CMP's. The project is consistent with the La Perouse Headland CMP and the Meeting Place Precinct CMP as the reinstatement of the wharves would allow the provision of a ferry service. This aligns with the Meeting Place Precinct and La Perouse Headland, as part of the ongoing efforts to improve community access and engagement in accordance with the relevant master plans.

The project is consistent with the aims and policies of the Kamay Botany Bay National Park Kurnell Master Plan and the Kamay Botany National Park Plan of Management, which both include the establishment of the ferry wharves as part of their objectives (refer to Chapter 3 (Strategic justification and project need)). The reinstatement of the ferry service is sympathetic with the historical setting of the area.

8.3.4 Cumulative impact

Section 9.3 of Appendix F (Statement of Heritage Impact) provides an assessment of cumulative impacts. In summary, whilst the project would result in negligible to minor impacts to the individual heritage items surrounding the proposed wharves, in combination these impacts would not degrade the heritage value of the area.

The project would have a positive cumulative impact as the reinstatement of the ferry wharves forms part of the ongoing efforts to improve community access to historical sites in accordance with the relevant master plans.

8.3.5 Assessment of impacts to national heritage values

There are two nationally listed heritage items that would be impacted by the project:

- Kurnell Peninsula Headland (ID 105812)
- Kamay Botany Bay: Botanical collection sites (ID 106162).

The project has been declared by the Commonwealth to be a controlled action due, in part, to the potential for significant impacts on the Kurnell Peninsula Headland. For completeness, the impacts of the project on both NHL items has been assessed in accordance with the requirements under the EPBC Act.

Section 8 of Appendix F (Statement of Heritage Impact) assesses the impact against the values of these heritage items in accordance with the Significant Impact Criteria outlined in the Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (Australia Government, Department of Environment, 2013).

In summary, while the project was referred for potential significant impacts on the Kurnell Peninsula Headland, through further assessment, the project is not expected to result in a significant impact to the National heritage values, setting and/or fabric of these items (see Table 48 in Appendix F (Statement of Heritage Impact)). The project would not result in any of the significant impact criteria scenarios to be met. The direct impacts and archaeological impacts would largely be limited to fabric that is not a contributing element to the heritage values of the NHL items.

While the removal of five juvenile trees and the African Olive tree at Kurnell would alter the visual setting of the NHL items, these particular trees are not part of the remnant vegetation. Therefore, the visual impact on the heritage item would be minimal. The Coast Banksia that is to be removed at La Perouse and Kurnell is considered low condition and its removal would have a negligible impact on the NHL items overall.

8.3.6 Statement of heritage impacts

Heritage NSW guidelines for statement of heritage impact have been followed as outlined in section 9.4 of Appendix F (Statement of Heritage Impact), a summary is provided below.

Table 8-5: Statement of heritage impact

NSW Heritage guidelines	Response summary
Respecting the heritage significance of the project area	<p>The project achieves this by:</p> <ul style="list-style-type: none"> • Acknowledging the importance of Kamay Botany Bay as an extremely significant early contact site in the history of Australia through: <ul style="list-style-type: none"> • Designing the project to have a light touch on the landscape, minimalist structure and careful selection of materials and landscape items to integrate with the existing environment • Restoring a historic use of the place through the reinstatement of the ferry wharves • Is consistent with the aims and policies of the approved plans for the Meeting Place Precinct and La Perouse Headland • Improves accessibility to the Kamay Botany Bay area by providing a transport connection between La Perouse and Kurnell that encourages greater appreciation and engagement with the rich history of the site and its significance.
Detrimental impacts to the heritage significance of the project area	<p>The project avoids detrimental impacts by:</p> <ul style="list-style-type: none"> • Generally involving minimal permanent detrimental impacts to the heritage significance of contributing elements within the project area • Location of the wharves and the design option has been selected on the basis of their smallest heritage impact • Construction and excavations required for utilities and landscaping would impact heritage items to a generally negligible to minor extent (except for major archaeological impacts to Botany Bay National Park [Botany Bay National Park, La Perouse Headland, Yarra Bay and Frenchmans Bay] [RLEP C5]) • Impacts should be considered in light of the project reinstating a historic use of the place associated with an important phase of history in the twentieth century • Impacts to heritage items would not alter the overall heritage significance.
Discounted heritage sympathetic options	<p>The project achieves this by:</p> <ul style="list-style-type: none"> • Three options were explored (refer to Chapter 4 (Project developments and alternatives)) • Potential heritage impact was an important consideration in the finalisation of location selection (refer to section 5.3 of Appendix F (Statement of Heritage Impact)) • Two main design themes were explored following the site selection ('Do Minimum' and 'Do Maximum'). Assessment of these options lead to: <ul style="list-style-type: none"> • A judgement of the most beneficial and essential features of the proposed wharf structures to meet targets for cost optimisation and creation of amenity, but not which are surplus to requirement • The designs represent those selected after a thorough design and assessment process which considered and respected the heritage significance of the place and sought to minimise physical and visual impacts to the items.

8.4 Environmental management measures

The design and location of the wharves has inherently avoided impacts to non-Aboriginal heritage. Table 8-6 outlines the management measures to further mitigate impacts.

Table 8-6: Environmental management measures for non-Aboriginal heritage impacts

Impact	ID	Environmental management measure	Responsibility	Timing
Heritage considerations in design	NAH1	Detailed design will consider opportunities to avoid impacts to significant heritage values and known/discovered intact archaeological remains in consultation with Heritage NSW. Options to consider during the detailed design include: <ul style="list-style-type: none"> a. Excavating the utility trench at Kurnell underneath the buried portion of the course stone sea wall near the wharf tie-in instead of removing a section of the sea wall b. Excavating the utility trench at Kurnell underneath the archaeological remains of the former sea wall near the wharf tie-in instead of impacting the archaeological remains c. Limiting the impact depth of landscape works at La Perouse to reduce impacts to the archaeological remains of the former wharf approach road d. Avoiding impact to remnant Coast Banksia community at La Perouse. Where impact cannot be avoided, offset planting of native vegetation at La Perouse and Kurnell will be provided. 	Transport for NSW	Detailed design
	NAH2	During detailed design, elements of design such as finishes and treatments as well as heritage interpretation, such as displays and panels, will be informed by the non-Aboriginal cultural heritage principles in the following policies and plans: <ul style="list-style-type: none"> a. Kamay Botany Bay National Park Kurnell Master Plan (NSW DPIE, 2019) b. Kamay Botany Bay National Park Plan of Management (NSW DPIE, 2020a) c. Meeting Place Precinct: Botany Bay National Park – Kurnell. Conservation Management Plan (Context Pty Ltd, 2008) d. La Perouse Headland Conservation Management Plan (Jill Sheppard Heritage Consultants, 2009). 	Transport for NSW	Detailed design
Non-Aboriginal heritage construction management	NAH3	Non-Aboriginal heritage management measures will be included as part of the Construction Heritage Management Plan (HMP). The HMP will include: <ul style="list-style-type: none"> a. Construction measures and procedures to minimise and manage impacts on non-Aboriginal cultural heritage 	Contractor	Pre-construction and construction

Impact	ID	Environmental management measure	Responsibility	Timing
		<ul style="list-style-type: none"> b. Sensitive area maps that identify non-Aboriginal heritage values, culturally and archaeologically sensitive areas and constraints within the study area c. Identification of heritage protection zones and protection requirements for heritage items within and in the vicinity of the construction boundary d. An outline of the required archaeological management strategies e. A heritage register to document the location, condition, significance, storage requirements of any memorials, monuments and interpretive panels which need temporarily relocating and storing during construction including The Captain Cook watering well, The Landing Place Memorial and interpretative panels on the extant wharf f. Unexpected Heritage Items Procedure (NSW Roads and Maritime Services, 2015d) g. Consultation with National Parks and Wildlife Service, Heritage NSW, Randwick City Council and Sutherland Shire Council. 		
<p>Damage to former sea wall at Kurnell and former wharf approach road at La Perouse</p> <p>Preserving the heritage record of the coursed stone sea wall and other listed items impacted by the project</p>	NAH4	An Archaeological Research Design (ARD) will be prepared before work starts. The ARD will confirm the areas within the construction boundaries requiring archaeological investigation, management and any salvage requirements, following detailed design. It will outline the archaeological investigation method. Archaeological Work Method Statements (AWMS) will be prepared prior to construction to support the ARD.	Transport for NSW Contractor	Pre-construction
Heritage awareness and responsibilities	NAH5	Non-Aboriginal Heritage Awareness Inductions will be given to all workers during site inductions. This will ensure they are aware of their obligations under the NSW <i>Heritage Act 1977</i> and best practice as outlined in The Burra Charter (Australia ICOMOS 2013). Updates will be provided based on stakeholder feedback and following any unexpected finds and the outcome of the ARD.	Contractor	Construction
Impacts on heritage fabric, views and landscapes at La Perouse and Kurnell	NAH6	A Photographic Archival Recording Program will be undertaken in accordance with the How to Prepare Archival Recording of Heritage Items (NSW Heritage Office 1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (NSW Heritage Office 2006). Photographic archival recording will	Contractor	Pre-construction

Impact	ID	Environmental management measure	Responsibility	Timing
		<p>be carried out for heritage items that are directly impacted within the construction boundaries and record the setting and views of the heritage items within the study area that will be subject to minor or greater visual impacts based on Table 8-4 of the EIS. The impacted elements include but are not limited to:</p> <ol style="list-style-type: none"> a. The former sea wall at Kurnell b. The former wharf approach road at La Perouse c. The archaeological potential areas at La Perouse d. Nearby heritage items subject to minor visual impacts including; Kurnell Peninsula Headland, Kamay Botany Bay National Park (North and South) and Towra Point Reserve, Kurnell Historic Site (in Kamay Botany Bay National Park), Kurnell monuments (in Kamay Botany Bay National Park) and Captain Cook monument. 		
Reinstatement of Monument Track to maintain the historical circulation pattern	NAH7	<p>Monument Track will be reinstated in the same location following construction. This will ensure that the historical circulation pattern is maintained in accordance with the policies outlined in section 5.5 of the Landscape of the Meeting Place Precinct CMP. Specifically:</p> <ol style="list-style-type: none"> a. The existing concrete slabs will be temporarily removed and reinstated rather than being replaced. If this is not possible, replaced sections will match the existing track b. Care will be taken to remove sections with interpretive text and ensure that they are returned to their original location. 	Contractor	Construction