Appendix I
Aboriginal heritage

Australian Industrial Energy

Port Kembla Gas Terminal

Aboriginal Heritage Due Diligence Assessment

November 2018

Executive summary

Australian Industrial Energy (AIE) have commissioned GHD Pty Ltd (GHD) to undertake an Aboriginal Heritage Due Diligence Assessment (AHDDA) for the proposed Port Kembla Gas Terminal (the project) in New South Wales (NSW). The project involves the development of a liquified natural gas (LNG) import terminal including a Floating Storage and Regasification Unit (FSRU) moored at Berth 101 in the Inner Harbour, visiting LNG carriers, wharf offloading facilities and the installation of new pipeline to connect to the existing gas transmission network.

The project has been declared Critical State Significant Infrastructure and must be assessed in accordance with Section 5.13 of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) and Schedule 5 of the State Environmental Planning Policy (SEPP) (State and Regional Development) 2011. An Environmental Impact Statement (EIS) is required to support the application for approval by the NSW Minister for Planning.

This AHDDA has been prepared in accordance with the Secretary's environmental assessment requirements (SEARs) and provides information and advice on Aboriginal heritage considerations for the proposed works. This report is subject to, and must be read in conjunction with, the limitations set out in section 1.5 and the assumptions and qualifications contained throughout the AHDDA.

Based on the results of the desktop assessment and field survey, the study area has been heavily modified, with little to no potential for the survival of Aboriginal archaeological deposits. The exception, is a number of areas located on Spring Hill, and to the east and west of Springhill Road. The proposed gas pipeline route has been designed to avoid impacts to areas of potential for Aboriginal cultural material and no significant impacts are anticipated to either tangible or intangible heritage values.

The following recommendations have been made to ensure legislative compliance and management of Aboriginal heritage risk.

Recommendation 1: Induction

Whilst considered low risk, Aboriginal cultural material or ancestral remains may be unexpectedly encountered during construction and a heritage induction should be included into the general induction package for all individuals undertaking or supervising ground disturbing works. Information in the heritage induction should include descriptions of potential Aboriginal heritage cultural materials within the study area that will allow for the visual identification of these items.

Recommendation 2: Contingency plan

Ensure the inclusion of a contingency plan for the discovery of unanticipated Aboriginal cultural material or ancestral remains as part of the Construction Management Plan. The Plan should outline clear notification and stop work processes in the case of Aboriginal cultural material or ancestral remains.

Recommendation 3: Further investigations

The proposed pipeline route has been developed to assist in avoiding areas of potential for Aboriginal heritage impacts and no further investigation is recommended. If there is a change in the pipeline route, and these identified areas cannot be avoided, then further investigation will be required to identify the nature, extent and significance of potential Aboriginal heritage in these areas. Any such investigation should be undertaken in accordance with relevant guidelines for Aboriginal archaeological investigation and in consultation with OEH.

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1. Introduction

Australian Industrial Energy (AIE) proposes to develop the Port Kembla Gas Terminal (the project) in Port Kembla, New South Wales (NSW). The project involves the development of a liquified natural gas (LNG) import terminal including a Floating Storage and Regasification Unit (FSRU) moored at Berth 101 in the Inner Harbour, visiting LNG carriers, wharf offloading facilities and the installation of new pipeline to connect to the existing gas transmission network.

The project has been declared critical State significant infrastructure and must be assessed in accordance with Section 5.13 of the *Environmental Planning and Assessment Act, 1979* (EP&A Act) and Schedule 5 of the State Environmental Planning Policy (SEPP) (State and Regional Development) 2011. An Environmental Impact Statement (EIS) is required to support the application for approval for determination by the NSW Minister for Planning.

This Aboriginal Heritage Due Diligence Assessment (AHDDA) has been prepared to meet the requirements of the Secretary's environmental assessment requirements (SEARs) and requirements of the NSW Office of Environment and Heritage (OEH) (see Section 1.4).

1.1 Proposed works

The project comprises the development of a LNG import terminal and incorporates four key components.

The four components are proposed to be predominately within land zoned for dedicated port and industrial uses under the SEPP (Three Ports) 2013 and include:

- LNG carrier vessels — there are hundreds of these in operation worldwide transporting LNG from production facilities all around the world to demand centres;
- Floating Storage and Regasification Unit (FSRU) — a cape-class ocean-going vessel which would be moored at Berth 101 in Port Kembla. There are around 30 such vessels currently in operation around the world;
- Berth and wharf facilities – including landside offloading facilities to transfer natural gas from the FSRU into a natural gas pipeline located on shore; and
- Gas pipeline – a Class 900 carbon steel high-pressure pipeline connection from the berth to the existing gas transmission network.
- The pipeline will be constructed using trenching and directional drilling methodologies. Both the proposed pipeline route and construction methodology has been be adjusted to minimise the potential risk of harm to environmental and heritage values.

At present, it is envisaged that an LNG shipment will be required every 2 - 3 weeks to provide for an annual supply of up to 100 petrajoules (PJ) of gas.

The project will take 10 - 12 months to complete construction and other works in order to start operations for the project. Subject to project approvals, it is possible to have first gas delivery by early 2020.

1.2 Study area

The project area is located in a predominantly industrial area within and surrounding Port Kembla (refer to Figure 1). Port Kembla is a deep water harbour located in the Illawarra region, approximately 3 km south of the Wollongong CBD and 80 km south of Sydney. The port operates across two harbours, consisting of an Inner and Outer Harbour. Berth 101, located

within the Inner Harbour, is proposed for use as part of the project and is located between Berth 102 and “the Cut” shipping channel providing access to the Inner Harbour.

Two grain terminals operate on the northern side of the Inner Harbour along with bulk liquid facilities and a number of multi-purpose berths. BlueScope Steelworks operate five berths on the western side of the Inner Harbour. The Port Kembla Coal Terminal (PKCT), a coal export facility, located on the eastern side of the Inner Harbour operates a further two berths. The Wollongong Sewage Treatment Plant is located to the north of the coal export facility.

In addition to the terminal infrastructure, Springhill Road and Masters Roads are the two main vehicular traffic routes connecting Port Kembla to the regional road network including the M1 Princes Motorway. Tom Thumb Road, Springhill Road and Masters Road all carry a high level of heavy vehicle traffic, due to their direct link to and from Port Kembla. Tom Thumb Road services the existing port facilities including the PKCT.

The rail network infrastructure within the port precinct consists of rail lines, sidings and loops. The Port Kembla rail network links to the Illawarra and Moss Vale-Unanderra rail line, managed by the NSW Government and Australian Rail Track Corporation (ARTC) respectively. The Illawarra Line is a shared passenger and freight rail line.

1.3 Consultation

This AHDDA has been prepared in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (OEH 2010). To inform the AHDDA, consultation has been undertaken with the Illawarra Local Aboriginal Land Council (ILALC). Consultation included an initial project brief, an onsite visual inspection of the proposed pipeline route with an ILALC representative and an opportunity to review this Draft AHDDA.The ILALC feedback will then be used to inform the Final AHDDA.

Consultation has also been undertaken OEH, with an initial project brief and post visual inspection meeting to discuss Aboriginal heritage risks.

1.4 Environmental assessment requirements

This AHDDA has been prepared in accordance with the SEARS that were issued for the project on the 10 August 2018. The secretary’s requirements are summarised in Table 1.

Table 1 Secretary’s requirements - heritage

Category	Secretary’s Requirements
Heritage	…including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the project, including adequate consultation with Aboriginal stakeholders having regard to the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (OEH 2010) and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH, 2010).

This AHDDA has also taken into consideration the other following heritage guidelines provided in Attachment 1 of the SEARS:

- *Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter* (ICOMOS, 2013)
- *Guide to investigating, assessing an reporting on Aboriginal cultural heritage in NSW* (OEH, 2011)
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010)

1.5 Limitations and assumptions

This report has been prepared by GHD for Australian Industrial Energy and may only be used and relied on by Australian Industrial Energy for the purpose agreed between GHD and the Australian Industrial Energy as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Australian Industrial Energy arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report based on information provided by Australian Industrial Energy and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report caused by errors or omissions in that information.

Legend

Proposed pipeline route

- Alignment
- Alignment (Proposed HDD Sections)
- Major Roads
- Minor Roads
- Railway
- Waterways

Paper Size ISO A4

100 0 100 200 300

Meters

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

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Australian Industrial Energy
East Coast Gas Project

Project No. **21-27477**
Revision No. **A**
Date **9/10/2018**

Study Area

FIGURE 1

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Print date: 09 Oct 2018 - 11:42

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community. Created by: asford

2. Desktop assessment

This desktop assessment examines technical data to establish a high-level cultural, environmental, statutory, archaeological and historic context for the study area. This context is provided to understand the potential for Aboriginal archaeological and intangible heritage values to be present in the study area and associated heritage risks or legislative obligations for the project.

2.1 Statutory context

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

Commonwealth requirements in relation to environmental (includes heritage) assessment and management are principally specified in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which is administered by the Commonwealth Department of the Environment and Energy (DoEE). The EPBC Act provides for the listing of natural, historic or Indigenous heritage values on Commonwealth lands, under Australian Government control or that are of outstanding heritage value. Listings include the World Heritage List (WHL), National Heritage List (NHL) and Commonwealth Heritage List (CHL).

The EPBC Protected Matters Search Tool was accessed on the 20 August 2018. There are no heritage values registered on the WHL, NHL or CHL within the study area.

2.1.2 National Parks and Wildlife Act 1974

The New South Wales (NSW) *National Parks and Wildlife Act 1974* stipulate the requirements for the assessment, management and protection of Aboriginal heritage in NSW. Requirements for assessment and approvals are regulated by OEH. OEH maintains the Aboriginal Heritage Information Management System (AHIMS), which contains information and records about Aboriginal cultural heritage places and values provided

An extensive search of AHIMS was undertaken on the 27 July 2018. There is one Aboriginal site on AHIMS within the study area, BSS-OS-1 (52-2-3618). 52-2-3618 is an open camp site recorded in 2008 and consists of two flaked stone artefacts located on the crest of a ridgeline in a disturbed context. AHIMS coordinates for 52-2-3618 place the site on the western side of Springhill Road, 100 m to the south of Spring Hill. However, these coordinates may be in error as the site card description and mapping indicates that the site is located on the eastern side of Springhill Road, north of Spring Hill (refer to Figure 2).

The site card records the site as being located on a former access road and suggests that the artefacts may have been introduced with material used to consolidate the road. The site was assessed as having low archaeological significance and no Potential Archaeological Deposit was recorded. There is no accompanying report documenting the original recording for 52-2-3618 and the context for providing an assessment of low archaeological significance in the site card is not provided, other than that the site is located in an area of disturbance.

Paper Size ISO A4

100 0 100 200 300

Meters

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

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GHD

Australian Industrial Energy
East Coast Gas Project

Project No. **21-27477**
Revision No. **A**
Date **9/10/2018**

AHIMS search results

FIGURE 2

N:\AU\Sydney\Projects\21\27477\GIS\Maps\Working\HistoricalHeritageAssessment\21_27477_F002_AHIMS.mxd
Print date: 09 Oct 2018 - 11:44

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community. Created by: asford

2.1 Environmental context

2.1.1 Topography

The study area is located around the former Tom Thumb Lagoon which is now the Port Kembla Inner Harbour (refer to Figure 1). The study area lies within a coastal plan, bounded to the west by the cliff lines of the Illawarra Escarpment, which transitions into gentle slopes and coastal plains. The majority of the study area is characterised as low-lying land that would have formerly been lagoon shoreline, lagoon, saltmarsh and mud flats. The western portions of the study area include gently sloped land and Spring Hill, which would have originally drained to the east into Tom Thumb Lagoon and Allan's Creek. The vast majority of land within the study area and drainage has been heavily modified by the construction of the Inner Harbour and surrounding industrial areas. Much of the land in and around the study area has been reclaimed, with various fill material and drainage now largely modified around the industrial precincts.

2.1.2 Geology and geomorphology

The underlying geology of the study area consists of fluvial sands, particularly the former Tom Thumb Lagoon area, and Budgong Sandstone on elevated areas, such as Spring Hill (Geological Survey of N.S.W, 1985). The Inner Harbour area is classified as a remnant saline coastal lagoon, approximately 50 hectares (ha) in size.

Prior to the port's development, Tom Thumb Lagoon was an estuary approximately 500 ha in size, comprised of an estuarine channel, saltmarsh and tidal mudflats. The estuary would have been bounded by a sand barrier at the mouth and consisted of a large, moderately deep, central basin influenced predominantly by fluvial processes. The lagoon now consists of modified straight, formalised estuarine channels that do not reflect its original form. A fluvial bay-head delta is no longer present in the system, however a small marine flood-ebb delta is present at the mouth of the estuary (GHD, 2007).

While the soil profiles of the study area are mapped as disturbed terrain (OEH, 2018), it is likely that the majority of original soil profiles at Spring Hill and gentle slopes west of Tom Thumb Lagoon, associated with the Fairy Meadow soil landscape, are less disturbed (Hazelton, 1990). The Fairy Meadow soil landscape is associated with floodplains and consist of alluvial soils overlying Quaternary deposits. Soil profiles in this landscape typically consist of up to 20 cm of loose sandy loam over brown sandy, typically 40 cm thick. Lower horizons typically consist of yellowish brown clay transitioning into olive brown clays sitting above Quaternary sediments (ibid).

2.1.3 Flora and fauna

The study area is located predominately within the Lake Illawarra Barrier, Dapto-Wollongong Coastal Slopes, Kiama Coastal Slopes and Lake Illawarra Alluvial Plains described within the Mitchell NSW landscape system (DECC, 2002). Although heavily altered by urban development, the former landscape of the study area would originally have consisted of wetlands, saltmarsh, coastal scrub, hilly forest and forested plains with some rainforest elements. The landscape would have provided a resource rich environment for Aboriginal people in the past. Aboriginal people would have had access to molluscs, fish, birds, macropods and a range of flora species, particularly around the margins of the former Tom Thumb Lagoon.

2.2 Historical context

2.2.1 Ethnohistory

The study area is located within the traditional lands of the Wodi Wodi, who were part of the wider Dharawal language group. Bass and Flinders sailed down the coast south of Sydney in a boat named Tom Thumb in 1796, encountering Aboriginal people at Lake Illawarra and Red Point (DEC, 2005). Tom Thumb Lagoon was subsequently named after Bass and Flinders boat and Barron Field observed Aboriginal people in this location in 1823:

> *…this day we crossed the shallow entrance from the sea of Lake Illawarra – a large opening a little to the south of Tom Thumbs Lagoon. The lake was illustrated by natives in their canoes looking characteristic and beautiful...* (Organ, 1990, p. 132)

Early settler Alexander Stewart, also recorded Aboriginal people around Tom Thumb Lagoon in 1828, noting that they lived mostly on fish (Stewart, 1894). Artist John Skinner Prout depicted Aboriginal people in a number of compositions camping and fishing around the shores of Tom Thumb Lagoon in the 1840s (refer to Plate 1). These compositions appear to show locations near the mouth of Tom Thumb Lagoon, however Stewart also encountered an estimated 100 Aboriginal people gathering at Spring Hill in 1828 for a corroboree (Stewart, Reminiscenes of Illawarra, 1894).

Plate 1 Tom Thumbs Lagoon (John Skinner Prout 1844)

Aboriginal camps around the lagoon were documented to have continued until 1914, when Aboriginal people were forced to relocate to Hill 60 to make way for industrial redevelopment (DEC, 2005). A traditional camp is documented to have be located near Salty Creek on the southern margins of Tom Thumb Lagoon (refer to Figure 3). Following the eviction, Aboriginal people relocated to the Hill 60 camps, but they continued resource gathering at Tom Thumb Lagoon for many years after.

Port Kembla has remained a place of residence for many local Aboriginal families to the current day. Aboriginal commercial fishing continued in the area up until the World War II, however many Aboriginal people also took up employment in local industries and associated service jobs (DEC, 2005). The combination of local housing and local employment meant that the local Aboriginal community has retained a strong connection to the local area.

While access too much of the study area has been restricted due to industrialisation and port controls, the local Aboriginal community does have recreational access to the Fig trees on Spring Hill. Fig trees are culturally important to the local Aboriginal people, being traditional meeting places and having associations with woman's business. Land around the Fig trees on Spring Hill was previously used for industrial purposes, but was converted into a recreational reserve in 2007 and 2008. Works included landscaping, revegetation and erection of a shelter. This reserve is accessed regularly by the local Aboriginal community and includes memorials to deceased community members.

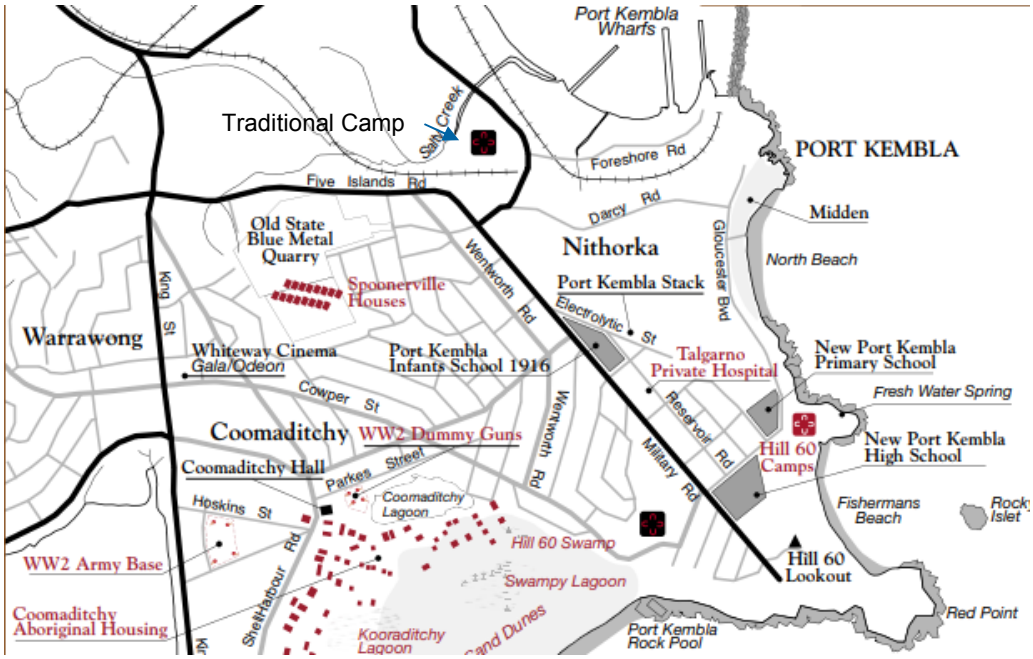


Figure 3 Significant features in the Port Kembla landscape 1770 -1970 (DEC, 2005)

2.2.2 Historical land use

Cedar cutters were known to have been active in the Illawarra area as early as 1805, with settlement for farming occurring later in 1817. Two of the first five land grants for the Illawarra area made in 1816, are located south of the study area, with the northern boundaries of these grants being defined by the original shoreline of Tom Thumb Lagoon and Allan's Creek (DEC, 2005) (refer to Figure 4). The larger 2,200 acre (ac) land grant was provided to David Allan and included Port Kembla, Red Point and the southern shoreline of Tom Thumb Lagoon. Robert Jenkins was provided a smaller grant of 1,000 ac adjoining Allan's to the west and includes a small portion of the study area south of Allan's Creek.

Other grants around Tom Thumb Lagoon were made in 1830 and 1831 to John Drummond (280 ac), Frederick Jones (100 ac) and George Tate (500 ac) (McCaffrey, 1922), with only Tates grant being located within the study area (refer to Figure 5). By 1826 the local administration had moved from Red Point to Wollongong and the Town of Wollongong was gazetted in 1834 (Dowd, 1977). Eastern sections of the study area on the northern mouth of Tom Thumb Lagoon appear have been largely used as "commons" and recreational purposes. Sections of permanent and temporary commons were gazetted in 1865 and 1865 respectively, while a reserve for a race course and public recreation was gazetted in 1875 (refer to Figure 5).

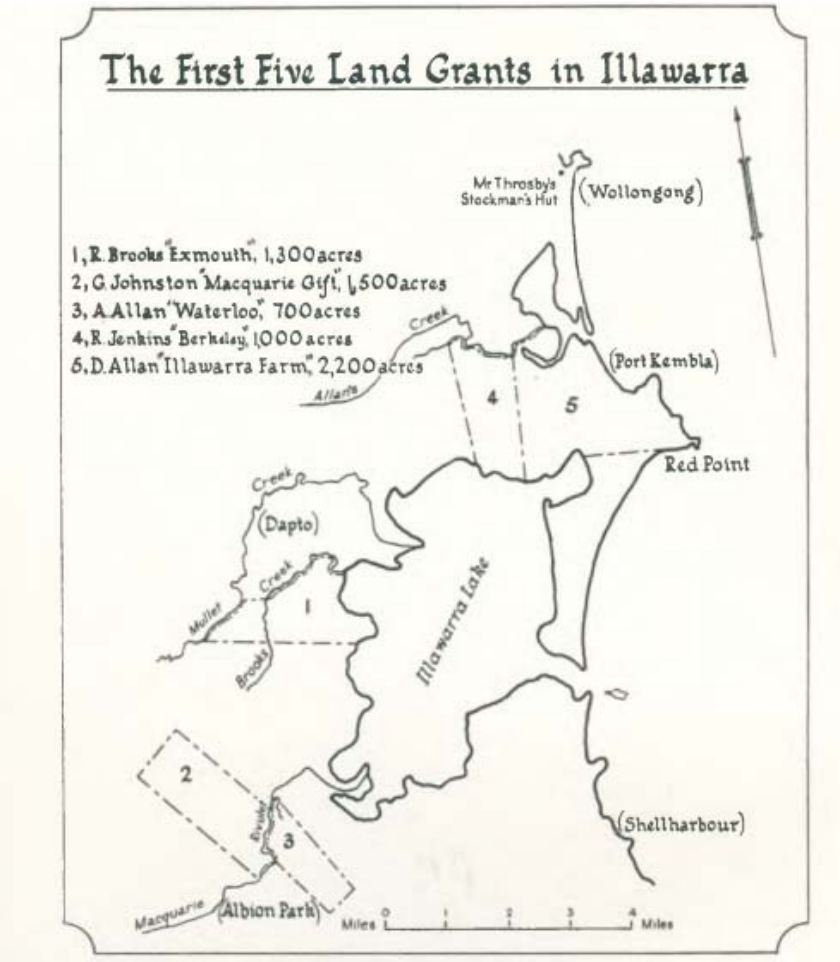


Figure 4 The First Five Land Grants in Illawarra (Dowd, 1977)

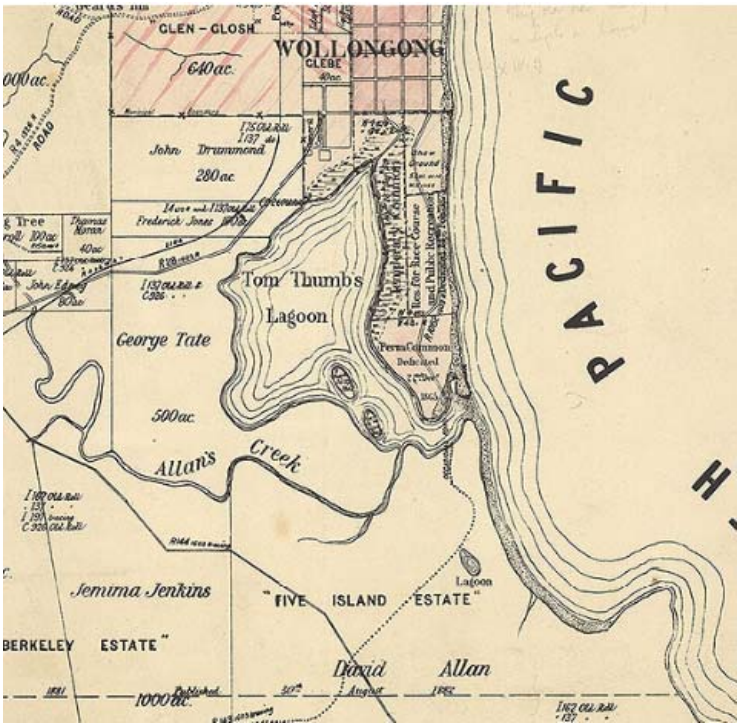


Figure 5 1884 Wollongong parish map (State Library of New South Wales)

George Tate was promised a grant of 500 ac at Spring Hill in 1821 by Governor Macquarie (citation). Tate was further granted a licence for the Springhill Hotel between 1829 and 1832 (Herben, 2007). The Tate family also undertook cedar cutting and cattle breeding on the property, focussing on bullocks used for timber hauling. Following the death of his wife, Elizabeth Tate at Spring Hill in 1827, George remarried and opened The Man of Kent Hotel in Jamberoo with his new wife (McCaffrey, 1922).

George Tate sold Spring Hill to Captain Charles Waldron in 1832, who was killed in 1833 (Stewart, 1894) by servants, after which his widow Jemima Waldron took over the property (Herben, 2007). By this time the grant was commonly referred to as Spring Hill Estate and the former hotel as Springhill House. Jemima encountered financial difficulties and mortgaged the property in 1837 and again in 1839, and over time the Spring Hill Estate was broken into smaller farms including Homestead Farm, Rose Hill Farm, Elliot's Farm, Bullard Farm, Swamp Farm and the Horse Paddock. Many of these properties passed in and out of the Waldron family until 1920, when land was formally resumed by the NSW Government (Hoogendoorn, 1999).

Jemima was tenant farming Swamp Farm in the 1840s, a 70 ac portion of the former estate, that included Springhill House and outbuildings located in the western section of the study area. Jemima commissioned a private road through the larger estate in the mid 1800s, which would eventually become Springhill Road and remained on the property until ill health forced her to relocate to Wollongong (Hoogendoorn, 1999). The Horse Paddock was located north of Swamp Farm and roughly bounded by the private road to the west and Tom Thumb Lagoon to the east.

While an Aboriginal commercial fishing industry had existed at Port Kembla since 1876, heavy industrialisation of Tom Thumb Lagoon and surrounds began in 1882 when the Mount Kembla Coal and Oil Co established a private jetty and rail link to transport coal (Wollongong City Council, 2018c). The rail line was routed through the northern sections of the Berkley Estate south of Allan's Creek (refer to Figure 6). Coal operations at the port expanded in the 1880s and shortly thereafter the *Port Kembla Harbour Act 1898* was passed, enabling expansion of the port through construction of breakwaters in the early 1900s (Wollongong City Council, 2018c).

The NSW Government had acknowledged the future need for a deep-water port to service industry at Port Kembla since 1887, with various plans considered. Following authorisation of the extension of the Port Kembla northern breakwater in 1912, the NSW Government gazetted its intent to resume the Spring Hill grant in 1913. Negotiation with the Waldron family commenced and seven years later, the land was formally resumed by The Public Works Department for a compensation fee of £9,307 (Hoogendoorn, 1999). Springhill House was demolished around 1940 (Herben, 2007), however this date may be disputed noting the Smith family took photos of a number of early Illawarra historical buildings between the 1930s and 1940s, which included the still standing Springhill House.

Following the acquisition of land, the Port Kembla rail line was constructed in 1916 along the western boundary of Tom Thumb Lagoon (Wollongong City Council, 2018c) (refer to Figure 7). Springhill Road also appears to have been formalised around this time and appears on the 1927 mapping (refer to Figure 7), largely following the route of Jemima Waldron's private road according to author Hoogendoorn (1999).

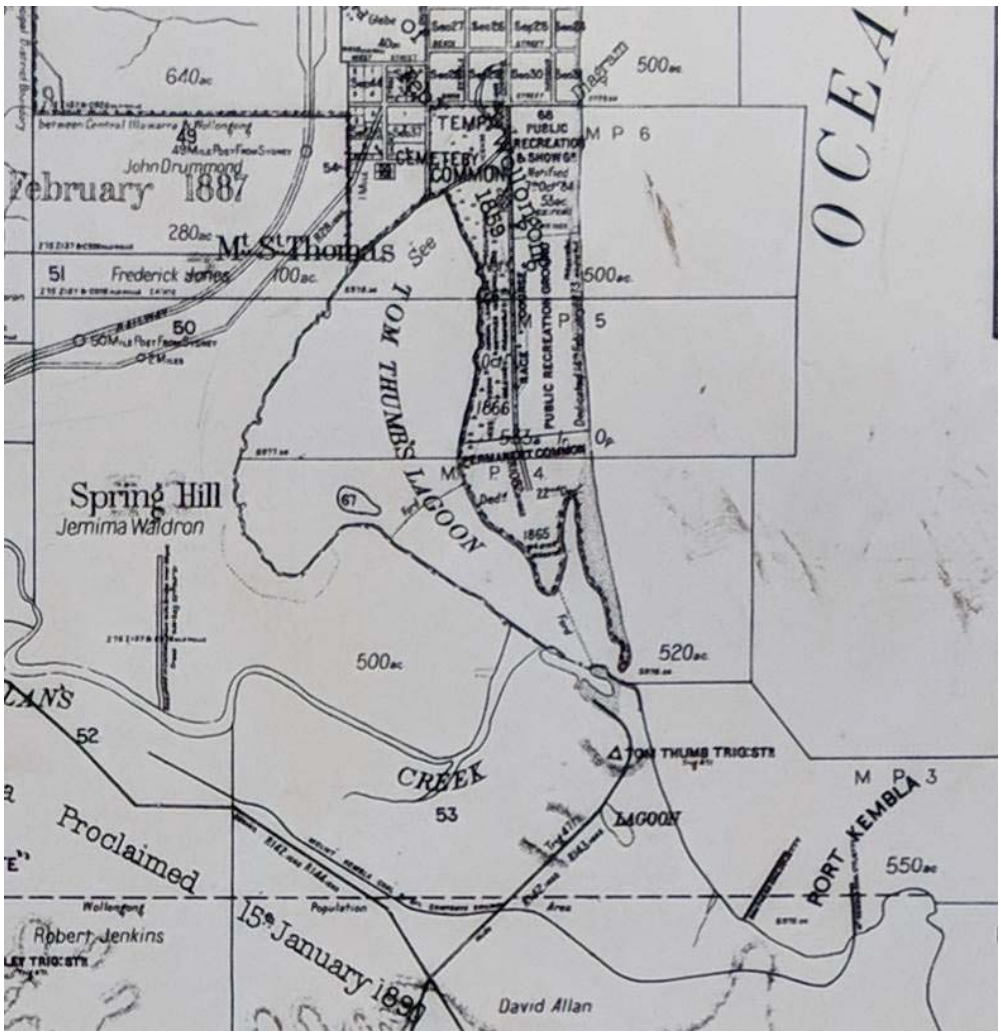


Figure 6 1897 Wollongong parish map (Wollongong City Library)

Figure 7 Wollongong, New South Wales (Royal Australian Engineers 1927)

In 1927, the Australian Iron and Steel Company established an agreement with the State Government to establish a steel mill at Port Kembla (Wollongong City Council, 2018c). The mill was constructed between 1928 and 1930, on land that had part of the former Berkeley Estate,

south of Allan's Creek (refer to Plate 2). The mill began operations in 1930 and the Australian Iron and Steel Company would later merge with Broken Hill Proprietary (BHP) in 1935. Following the merger, BHP entered into an agreement with the State Government to further expand operations around Tom Thumb Lagoon (Hoogendoorn, 1999).

The expansion of the BHP steel works included the reclamation of 75 acres of the western edge of Tom Thumb Lagoon (refer to Plate 3). The reclamation program raised land by approximately 7 m, which required 2.3 million cubic metres of fill material, predominately sourced from Port Kembla sand dunes and dredge material from Tom Thumb Lagoon (Hoogendoorn, 1999). While dredging appears to have occurred throughout the 1930s and 1940s, increasing industrial demand after World War II led to construction of the Inner Harbour in the 1950s and 1960s (Catterall, 1994). This involved significant dredging to create a deep water port (refer to Plate 4), systematic drainage and reclamation of other areas of Tom Thumb Lagoon (refer to Plate 5), and the demolishing of Tom Thumb Road Bridge.

The industrialisation boom during the 1950s and 1960s led to large scale land modification across the majority of the study area, with only northern sections of the Inner Harbour and the "Horse Paddock" east of Springhill Road not being infilled by the 1975 (see Plate 6). The resulting industrial development required extensive modification of the natural drainage systems in the area, with Allan's Creek being heavily modified and rerouted around the border of the industrial estates. Drainage along Springhill Road and the former Tom Thumb Lagoon were similarly heavily modified.

While steel operation areas have remained largely unchanged since the 1960s, works on the Inner Harbour berths and terminals continued well into the 1980s (see Plate 7), 1990s (see Plate 8) and to the present day. These modifications have been undertaken to meet changing commercial demands on the port. The northern sections of the Inner Harbour have been entirely infilled for freight and car storage, while additional berths have been constructed around the permitter of the Inner Harbour (see Figure 1). Industrial areas west of Springhill Road have significantly changed, with many areas along the western boundary of the road longer in use.

Plate 2 Australian Iron and Steel mill under construction ca 1928 (Wollongong City Library)

Plate 3 Tom Thumb Lagoon 1937 (Wollongong City Library)

Plate 4 Dredging of Tom Thumb Lagoon 1958 (Wollongong City Library)

Plate 5 Tom Thumb Lagoon 1961 (Wollongong City Library)

Plate 6 Wollongong w 8285-9 1975 Orthophotomap (Wollongong City Library)

Plate 7 Coal Terminal Port Kembla 1982 (Wollongong City Library)

Plate 8 Port Kembla Inner Harbour in 1996 (Hoogendoorn, 1999)

2.3 Archaeological context

2.3.1 Previous studies

While the Port Kembla Township and nearby Hill 60 have been subject to numerous heritage studies, very few historical heritage reports or archaeological surveys have been undertaken of the Inner Harbour area at Port Kembla. Previous environmental assessments for development within and around the Inner Harbour area have not included stand alone heritage assessments on the basis that the history of disturbance at the site has left little potential for Aboriginal or historical heritage values (PKCT, 1992; Cardno, 2007; Cardno, 2008; SKM, 2005).

SKM prepared an environmental assessment (2005) for the general cargo handling facility which infilled on reclaimed land in the central north of the Inner Harbour. The report stated that:

> *No specific archaeological or heritage studies have been undertaken in the area. The land proposed for the expansion of the general cargo facility is within an industrial area and as such has been previously disturbed. It is highly unlikely given the disturbed nature of the land that any Indigenous archaeological deposits or sites would be present.*

> *Furthermore, the land to the north of Tom Thumb Road is reclaimed land would not contain any archaeological material* (SKM, 2005).

Similarly, a 2008 environmental assessment for the Port Kembla Coal Terminal (PKCT) stated that:

> *The land on which PKCT sits has been artificially created by Western settlers in the early 1900 and in continuous uses for coal related operations since construction. There has not been any opportunity for use of the site by Aboriginal Groups. Furthermore, gradual development has been carried out within the PKCT site for approximately 100 years which has resulted in the land being highly disturbed* (Cardno, 2008, p. 156).

Aboriginal heritage studies of industrial land to the east and west of Springhill Road in Spring Hill have also been limited. Development works in the area focusing on modifications to existing industrial areas and environmental assessments have not included archaeological or other heritage studies. The AHIMS site card for 52-2-3618 indicates that parts of the study area were surveyed in 2008 for a potential expiation of industrial works, however no accompanying report was lodged with AHIMS.

The study area does include pockets of land that have not been subject to industrialisation or land reclamation, i.e the Horse Paddock east of Springhill Road (refer to Figure 1). While no formal assessments of the study area are available, regional Aboriginal heritage trends have been undertaken by Australian Museum Business Services (AMBS) in 2010 and by Artefact Heritage in 2013.

In addition to these two regional assessments, two Biosis assessments (2017a and 2017b) were undertaken on the western edge of Lake Illawarra. These landforms are likely similar to what was present around the western margins of Tom Thumb Lagoon prior to industrialisation. These four assessments are summarised below.

Australian Museum Business Services 2010

AMBS undertook a preliminary Aboriginal and historic heritage assessment for the West Dapto Urban Release Area (2010). While examining the West Dapto area, the study assessed the entirety of Wollongong and surrounds of Lake Illawarra, including the current study area.

In assessing regional trends for Aboriginal archaeology in the Illawarra, AMBS noted that most Aboriginal sites within the region date to within the last 6,000 years, with many shell midden sites dating back to at least 3,000 years (AMBS, 2010).

AMBS documented that the coastal sections of the Illawarra have been subject to more archaeological investigation than hinterland areas, with the most common sites being shell middens (47%) followed by artefact scatters (35%) (ibid). Other site types occurred at significantly less frequency (18%) but included burial, ceremony and dreaming, scarred trees, resource and gathering areas, potential archaeological deposits, rock shelters and habitation structures. Shell middens tend to be located in coastal areas, while artefact scatters occurred across a range of landforms. Based on the regional trends identified by AMBS, it is very likely that shell middens and open camp sites existed at one time along the margins of the former Tom Thumb Lagoon in the study area.

Artefact Heritage 2013

Artefact Heritage prepared a preliminary Aboriginal and non-Indigenous heritage assessment for the Farmborough Heights to Mount Kembla Strategic Planning Study (2013). The study investigated land approximately 500 m to the west of the study area focussing largely on the suburbs of Farmborough Heights, Kembla Heights, Mount Kembla and Unanderra. A search of the AHIMS register in 2013 indicated 29 recorded Aboriginal sites within the search area, which

comprised the wider Wollongong region. One Aboriginal site was located in the suburbs of Farmborough Heights, Kembla Heights, Mount Kembla and Unanderra, Farmborough Road IF 1 (52-2-3592), an open artefact site consisting of a single chert artefact.

The study area shares a similar history of European settlement with the suburbs of Farmborough Heights, Kembla Heights, Mount Kembla and Unanderra, only diverging in the 1920s when industrialisation took place in the study area. Suburbs further to the west of the study area remained largely pastoral land until after World War II, when residential subdivisions gradually occurred in the area to serve incoming migrant workers for nearby industries. Wollongong doubled in population between 1947 and 1961 (Artefact Heritage, 2013).

In considering Aboriginal archaeological potential, Artefact Heritage documented that stone artefacts were the most likely Aboriginal site type to be present in areas that had not been substantially modified by residential development. Stone artefacts were also still considered to have the potential to occur were topsoils remained, albeit in disturbed contexts (Artefact Heritage, 2013). Grinding grooves and shelter sites also had the potential to occur where suitable sandstone outcrops remained. Scarred trees could also occur were mature native vegetation remained.

Biosis 2017a

Biosis (2017a) undertook an archaeological assessment for Aboriginal heritage for land at Koonawarra, on the southwest edge of Koonawarra Bay at Lake Illawarra. The assessment area comprises a mosaic of foothills, ridges, spurs, hillocks and floodplains, similar to the western sections of the current study area and located within the same soil landscapes. Although subject to vegetation clearance and agricultural activities, the majority of the 2017 assessment area has not been developed.

As a result of the Biosis assessment, two Aboriginal sites were registered, Boomberry Point 1 (52-5-0223) and Elizabeth Point (52-5-0225). These sites consisted of a shell midden material (52-5-0223) and an isolated stone artefact (52-5-0225). Biosis documented that undisturbed landforms surrounding Lake Illawarra had the potential for stone artefact scatters and shell middens, with areas of moderate Aboriginal archaeological potential located on a prominent spur line overlooking Koonawarra Bay (Biosis, 2017b).

Biosis 2017b

Biosis (2017b) undertook a further archaeological assessment for Aboriginal heritage for land at Dapto, immediately north of Duck Creek and 500 m west of Lake Illawarra. The later assessment area is a mosaic of foothills, ridges, spurs, hillocks and floodplains, similar to the western sections of the current study area and located within the same soil landscapes. Although subject to vegetation clearance and agricultural activities, the majority of the assessment area (2017b) has not been developed.

As a result of the Biosis assessment, four Aboriginal sites were registered in the assessment area,

- Tallawarra Pipeline PAD 3 (52-5-0523)
- TLPD AFT 7 (52-5-0613)
- TLPD AFT 8 (52-5-0614)
- TLPD AFT 9 (52-5-0615).

These sites included a Fig tree, potential archaeological deposits, shell material and stone artefact scatters associated with mid slopes, upper slopes and hillcrests overlooking a drainage feature.

In interpreting past land use patterns, Biosis noted that undisturbed landforms surrounding Lake Illawarra had the potential for stone artefact scatters and shell middens, while Fig trees were culturally important to Aboriginal people in the region (Biosis, 2017b). Biosis documented areas of high and moderate Aboriginal archaeological potential located on a prominent high points and around a drainage feature.

The majority of the current study area has been subject to industrialisation and therefore are considered unlikely to contain Aboriginal cultural material as documented in the Biosis (2017a, 2017b) studies. However areas that have not been subject to disturbance are likely to show similar Aboriginal site pattering, particularly around the lagoon and former drainage features and elevated areas as demonstrated in the Biosis studies.

2.3.2 Aboriginal heritage place patterning

An extensive search of AHIMS was accessed on the 27 July 2018 and covered an area approximately 12 km by 10 km centred on the study area. A total of 40 Aboriginal sites were identified in the search area, including:

- 20 midden sites
- Four isolated finds
- One resource and gathering site
- Six ceremony and dreaming sites
- Five artefact scatters
- One scarred tree
- One shelter with midden
- One potential archaeological deposit
- One site was restricted and midden included ancestral remains (58-2-0072)

Midden sites are located on coastal margins or around the shores of Lake Illawarra, with the majority of ceremony and dreaming also being located around Lake Illawarra. Other Aboriginal site types are more widely distributed across the region. There is only one Aboriginal site on AHIMS recorded within close proximity of the study area, 52-2-3618, consisting of two flaked stone artefacts located on the crest of Spring Hill in a disturbed context.

2.3.3 Aboriginal archaeological potential

The majority of the study area has been heavily impacted by industrialisation and land reclamation works. Industrialisation in the study area largely occurred from the 1920s onwards, with the bulk of the port and steel mill development works occurring in the 1950s and 1960s, while development of the port has continued up until the present. The majority of the study area includes land reclaimed from Tom Thumbs Lagoon, or areas that have been heavily impacted by the development of the Port Kembla Coal Terminal, Port Kembla Steel Mill, heavy industries established along Springhill Road, or through significant drainage modification works.

Areas that have not been heavily impacted include sections along Springhill Road, the most prominent area being the Horse Paddock. These sections of land are associated with the former Springhill Estate and subsequent sub farms. Spring Hill is known to have been a meeting place for Aboriginal people in the past, with a corroboree being observed in the location in 1828 by Stewart. Two Fig trees, located immediately to the west of the former Springhill House, remain visible in recent aerials and appear to have been incorporated into a recreational open space by 2008 (see Figure 8). As documented by Biosis, Fig trees are known to have be culturally

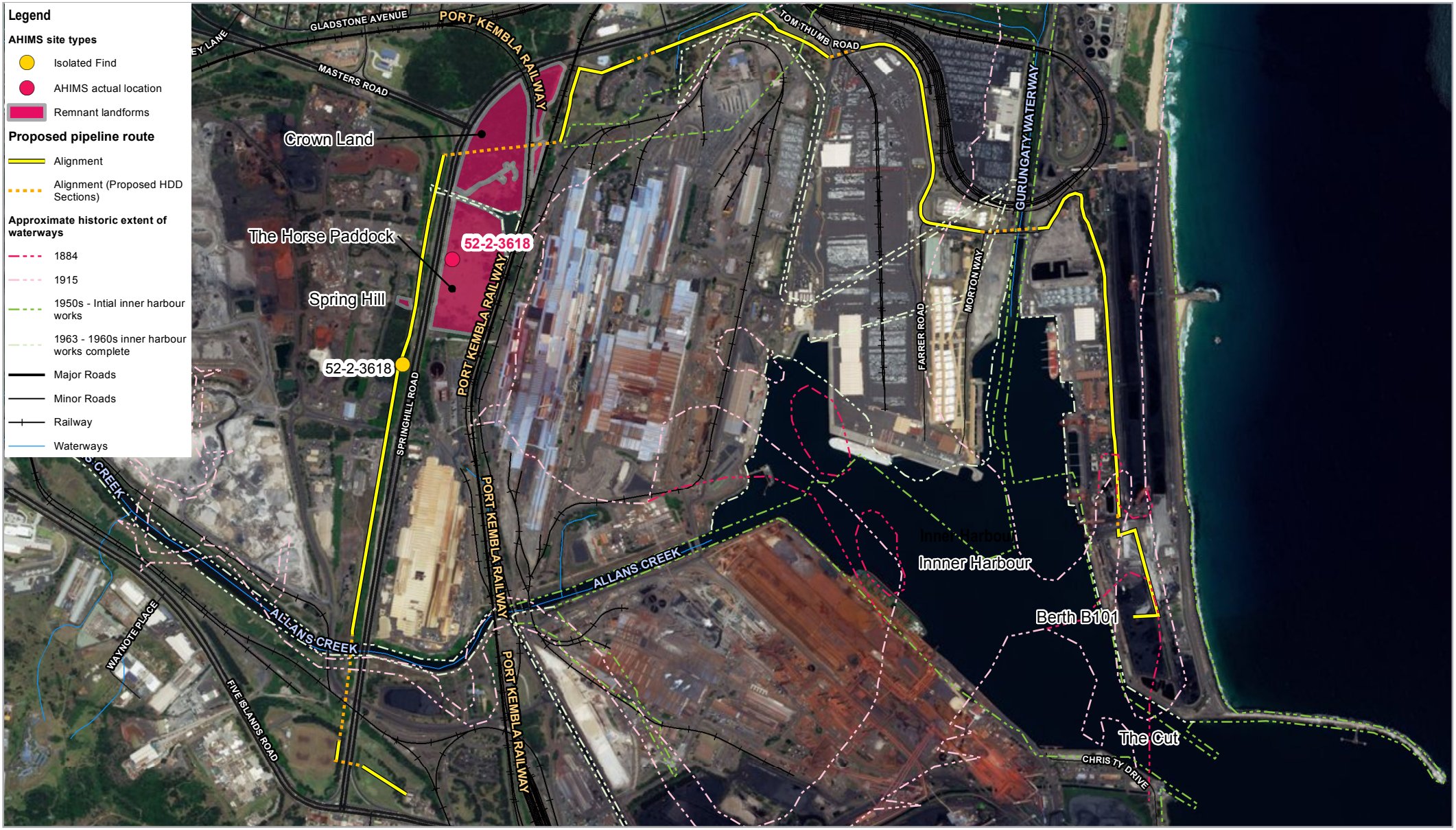
significant to Aboriginal people in the Illawarra and areas and Spring Hill is likely to hold both tangible and intangible cultural heritage values (2017b).

Other surviving land surfaces around the margins of the former Tom Thumb Lagoon are also likely to have potential for Aboriginal cultural material. This would most likely be in the form of middens, stone artefacts, and scarred trees (where mature native vegetation has survived).

2.4 Desktop assessment summary

The study area is located in and around the margins of the former Tom Thumb Lagoon, with much of the land being reclaimed or modified as part of the Inner Harbour construction and industrial development occurring in the 1950s and 1960s. Pockets of undeveloped land are located to the east and west of Springhill Road, with the bulk of these areas being the Horse Paddock and neighbouring Crown land to the north. These areas are located on the margins of the former Tom Thumb Lagoon (refer to Figure 8) and are likely to have potential for Aboriginal cultural material. Mature Fig trees also exist on Spring Hill to the west of Springhill Road and are known to be culturally significant to the local Aboriginal community.

The desktop assessment demonstrates that the bulk of the study area consists of a highly disturbed ad industrialised landscape. However, there is potential for Aboriginal cultural values within undeveloped areas of the study area, both tangible and intangible. Aboriginal cultural material is likely to be present on the crest of Spring Hill where natural soil survive, but may also be present in disturbed contexts. Cultural material is also likely to be present in close proximity to the margins of the former Tom Thumb Lagoon. Intangible cultural values may also be associated with Spring Hill as a meeting place and the mature Fig trees.



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Map Projection: Mercator Auxiliary Sphere
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Desktop Assessment Results

FIGURE 8

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Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community. Created by: asford

3. Visual inspection

A visual inspection of the study area was undertaken on the 22 August 2018 by GHD Senior Heritage Advisor Asher Ford, GHD Senior Ecologist Daniel Whaite and ILALC representative Steven Henry. The inspection methodology and results are discussed below.

3.1 Methodology

3.1.1 Aims of the survey

The aims of the field survey were to:

- Undertake a visual inspection of the study area targeting areas with potential for Aboriginal heritage values.
- Record any areas of potential archaeological deposits encountered during the field survey.
- Visually inspect the nature and extent of disturbance in other areas.

3.1.2 Inspection methodology

The visual inspection included pedestrian and vehicle survey, with vehicle survey being undertaken in operational port areas where pedestrian survey was a safety concern. Pedestrian transects included walked areas of both disturbed and undisturbed landforms. It is noted that these pedestrian surveys did not constitute a formal archaeological survey as defined by the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010). Due to dense vegetation, limited ground surface visibility, and limited access, not all areas of the proposed gas pipeline route were able to be surveyed.

3.2 Results

The study area was examined in three survey units (refer to Figure 9), predominately defined by access and history of disturbance. These survey units were:

- Port Kembla survey unit
- Port Kembla Steel Works survey unit
- Springhill Road survey unit

Results for each survey unit are discussed in Section 3.2.1 to 3.2.3.

3.2.1 Port Kembla

The proposed pipeline route in the Port Kembla survey unit starts at the Port Kembla Gas Terminal (Plate 9) before following private Road No. 1 north within the Port Kembla Gas Terminal (Plate 10) and then turning west onto Tom Thumb Road (Plate 11). Vehicle survey was undertaken in this area due to the operational port activities and possible safety concerns. The start of the pipeline route is located within reclaimed land on what was the former mouth of Tom Thumb Lagoon. Road No. 1 does not follow the original Port Kembla Road, which was located 300 m to the west. This section of the pipeline route crosses what would have previously been documented as the Wollongong race course prior to the Inner Harbour development (refer to Figure 7). Tom Thumb Road is largely located within the former Tom Thumb Lagoon on reclaimed land.

This section of the study area has been heavily modified by the dredging and land reclamation for the Inner Harbour, as well as construction of the Port Kembla Coal Terminal and General Cargo Handling Facility.

Land modification within this survey unit has been extensive and it is considered unlikely that archaeological deposits associated with Aboriginal cultural material would have survived. The potential for Aboriginal archaeological deposits is low.

Plate 9 Proposed pipeline route at Port Kembla Coal Terminal (GHD 2018)

Plate 10 Proposed pipeline route following Road No. 1 (GHD 2018)

Plate 11 Proposed pipeline route along Tom Thumb Road (GHD 2018)

3.2.2 Port Kembla steel works

The proposed pipeline route in the Port Kembla Steel Works survey unit follows the Tom Thumb Road northwest out of the port area (Plate 12) and then heads southwest along Springhill Road (Plate 13), before turning south along the Kembla railway line (refer to Plate 14 and Plate 15). The extent of the proposed pipeline route was surveyed on foot. The Tom Thumb Road sections are located on reclaimed land within the former Tom Thumb Lagoon. Sections of the proposed pipeline route located along the Springhill Road reserve and adjacent to the rail line are located on the former margins of Tom Thumb Lagoon, likely former marsh or Sheoak forest (refer to Plate 3).

The Tom Thumb and Springhill Road reserve areas have been heavily modified and appear to have been significantly built up with coal slag to create bunds (refer to Plate 12 and Plate 13). A considerable amount of built infrastructure and car parking was built in the western sections of the survey unit in the 1950s and 1960s. Much of this infrastructure has since been removed and replaced by the Inside Industry Vistor Centre on Bluescope land, with large industrial items also on display on what is now open space (refer to Plate 14 and Plate 15). Land surfaces have been heavily disturbed with significant amounts of rubble and subsoils visible on the surface.

Land surfaces within this survey unit have been heavily modified and the potential for Aboriginal archaeological deposits is low.

Plate 12 Tom Thumb Road reserve looking northwest at port entrance (GHD 2018)

Plate 13 Springhill Road reserve looking southwest along noise bunds (GHD 2018)

Plate 14 Looking southwest from the Inside Industry centre towards the Kembla railway line (GHD 2018)

Plate 15 Looking south along land to the east of the Kembla railway line (GHD 2018)

Plate 16 Looking north along eastern side of rail corridor (GHD 2018)

3.2.3 Springhill Road

The proposed pipeline route in the Springhill Road survey will utilise directional drilling for key road, rail and waterway crossings and to avoid previously undisturbed areas of biodiversity and heritage value. Crown land was unable to be accessed as part of the survey but directional drilling will provide for minimal disturbance. Directional drilling will occur at depths of more than two meters and is sufficient to avoid impacts to soils with potential for Aboriginal cultural material. An alternate pipeline route was surveyed to the south of the Crown land, crossing through the Horse Paddock. This route was discarded in favour of a more northern route.

Once crossing Crown land, the proposed pipeline route follows the western Springhill Road reserve south, before directional drilling under Allan's Creek and then turning east to cross Springhill Road again and connect to an existing gas main. The entire western Springhill Road section was subject to pedestrian survey.

Crown land north of the Horse Paddock was observed to be heavily vegetated, while the Horse Paddock has largely been cleared of mature vegetation (refer to Plate 17 and Plate 18). Despite some surface disturbance from pastoral and agricultural activities, these sections of the study area appear to retain natural soils. A number of surface exposures were inspected, however no surface Aboriginal cultural material was identified.

The northern slopes of Spring Hill to the west of Springhill Road were inspected (refer to Plate 19 and Plate 20) and observed to have been heavily disturbed by a combination of former industrial development on the mid and upper slopes and extensive drainage works on the lower slopes. The crest of Spring Hill has been partially modified, sections between Springhill Road and a reserve to the west, has been levelled and extended to the south to create an extended building pad (refer to Plate 20, Plate 21 and Plate 22).

Further to the west, in the reserve associated with mature Fig trees, the Spring Hill crest has not been subject to the same level of disturbance. Slopes around the Fig trees appear to be unmodified (Plate 23) and there is evidence of modern building rubble and rubbish on the surface, likely associated with former structures from the 1950s and 1960s as well as

contemporary recreational activities. While there has been some disturbance from the shelter construction and landscaping of the reserve, natural soil surfaces appear to be present south of the shelter and around the Fig trees. Potential impacts on the Fig trees has been avoided by siting the pipeline route up the centre of the existing transmission line easement.

The proposed pipeline route to the south of Springhill follows road reserve that has been heavily altered as part of landscaping, industrial or drainage construction activities (refer to Plate 24 and Plate 25). Land in close proximity to Allan's Creek in particular has been heavily altered, with the original winding course of the creek having been straightened as part of the original Inner Habour and industrial works in the 1950s.

The Springhill Road survey unit is the only area within the study area where Aboriginal cultural material may have survived industrial development. More specifically, the crest of Spring Hill is likely to have high potential for Aboriginal cultural material outside areas impacted by industrial development and the construction of Springhill Road (refer to Figure 9). Areas of potential on Spring Hill are likely to include intact and disturbed soil profiles, particularly within areas associated with former homesteads, which are unlikely to have completely removed natural soil profiles. The hillslopes of Spring Hill and former margins of Tom Thumb Lagoon are likely to have a moderate potential for Aboriginal archaeological deposits, with cultural material most likely to consist of stone artefacts or shell material. Potential for cultural material is likely to diminish as the distance from water increases.

The reserve which incorporates the mature Fig trees at Spring Hill is a known meeting place for the contemporary Aboriginal community in the Illawarra and is regularly used for social events (personal comms, Steven Henry). A shelter has been constructed to facilitate recreational activities and the reserve also includes memorials for deceased Aboriginal community members. While the Fig trees themselves hold important cultural values, the reserve is of wider social importance to the Aboriginal community as a place for social gatherings and remembrance.

Plate 17 Looking north in northeast corner of Horse Paddock (GHD 2018)

Plate 18 Looking south across the Horse Paddock towards Spring Hill (GHD 2018)

Plate 19 Looking north from the northern mid slopes of Spring Hill (GHD 2018)

Plate 20 Looking north from the top of Spring Hill (GHD 2018)

Plate 21 Looking south from the top of Spring Hill (GHD 2018)

Plate 22 Looking north at the crest of Spring Hill from the southern upper slopes (GHD 2018)

Plate 23 Shelter under Fig trees at Spring Hill (GHD 2018)

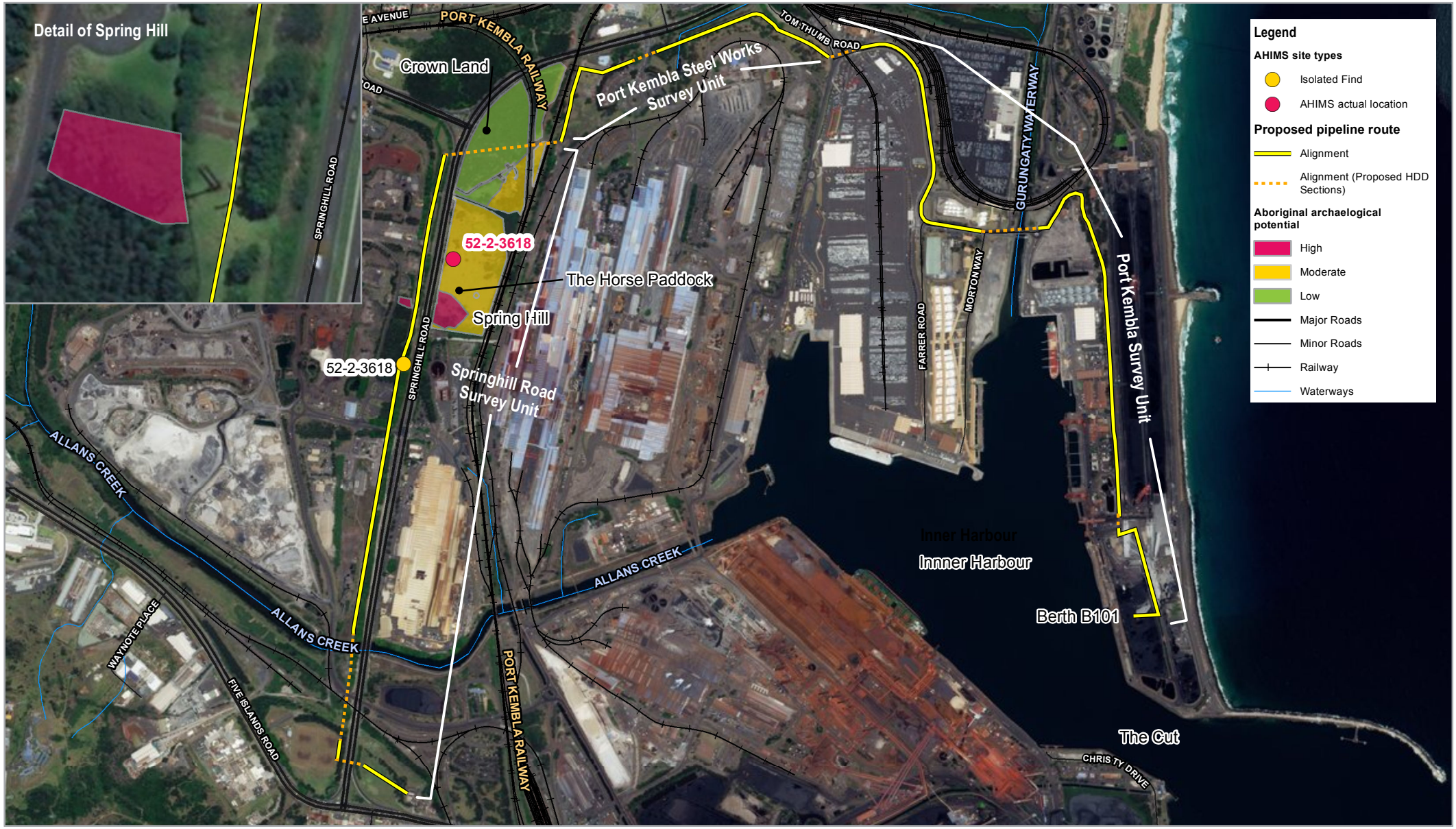
Plate 24 Looking north along western road reserve at entrance to Spring Hill industrial estate (GHD 2018)

Plate 25 Looking north along western road reserve, just north of Allan's Creek (GHD 2018)

3.3 Visual inspection summary

A visual inspection was able to be undertaken of the majority of the study area, with some restrictions in port areas and access to Crown land sections. The majority of the study area has been heavily modified, with little to no potential for Aboriginal archaeological deposits to survive within the Port Kembla survey unit and the Port Kembla Steel Works survey unit.

Pockets of undeveloped or disturbed land with known and potential Aboriginal intangible heritage values and archaeological deposits are located within the Springhill Road survey unit. More specifically these areas for potential include Spring Hill to the east and west of Springhill Road (refer to Figure 9). The hillslopes of Spring Hill and former margins of Tom Thumb Lagoon are also likely to have a moderate potential for Aboriginal archaeological deposits. The crest of Spring Hill is likely to have high potential for Aboriginal archaeological deposits outside areas already impacted by industrial development and the construction of Springhill Road.



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Visual Inspection Results

FIGURE 9

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4. Due diligence process

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) includes a generic due diligence process to assist individuals and organisations when carrying out activities that may harm Aboriginal objects (refer to Figure 10). This process has been used in order to:

1. Identify whether or not Aboriginal objects are, or are likely to be, present in the study area;
2. Determine whether or not the proposed activities are likely to harm Aboriginal objects (if present); and
3. Determine whether further investigations are required.

The results of the due diligence process are discussed below.

Step 1. Will the activity disturb the ground surface?

Yes, the proposed works will include trenching, directional drilling and other construction works that will disturb the ground surface.

Step 2a. Search the AHIMS database and use any other sources of information of which you are already aware

A search of the AHIMS database identified one Aboriginal site, BSS-OS-1 (52-2-3618), within close proximity of the study area, near the proposed pipeline route. The site card description and mapping for 52-2-3618 indicates that the site is located on the eastern side of Springhill Road, north of Spring Hill. 52-2-3618 will not be impacted by the proposed works.

Step 2b. Activities in areas where landscape features indicate the presence of Aboriginal objects

The majority of the study area has been heavily modified, with little to no potential for Aboriginal archaeological deposits to survive. However, pockets of undeveloped or disturbed land with known and potential Aboriginal intangible heritage values and Aboriginal cultural material are located on the crest of Spring Hill to the east and west of Springhill Road. The hillslopes of Spring Hill and former margins of Tom Thumb Lagoon are also likely to have a moderate potential for Aboriginal archaeological deposits.

Step 3. Can you avoid harm to the object or disturbance of the landscape feature?

Yes, the pipeline will be constructed using trenching and directional drilling methodologies. The proposed pipeline route has been modified to avoid the identified Aboriginal site, 52-2-3618, and areas of potential for Aboriginal cultural material. Where the pipeline route cannot avoid areas of potential for Aboriginal cultural material, the pipeline will be constructed using directional drilling techniques. Directional drilling will occur at depths of more than two metres and is sufficient to avoid potential impacts to soils with the potential for Aboriginal cultural material. While the gas pipeline will cross Spring Hill, the route is restricted to areas already subject to significant disturbance from industrial development. Fig trees, which are of documented cultural importance, have also been avoided through siting the pipeline in the centre of the existing transmission line easement.

Harm to Aboriginal objects and sensitive landscape features can be avoided and the due diligence process advised that works can proceed with caution. Contingency plans for the

discovery of unanticipated Aboriginal cultural material or ancestral remains should be included in the Construction Management Plan.

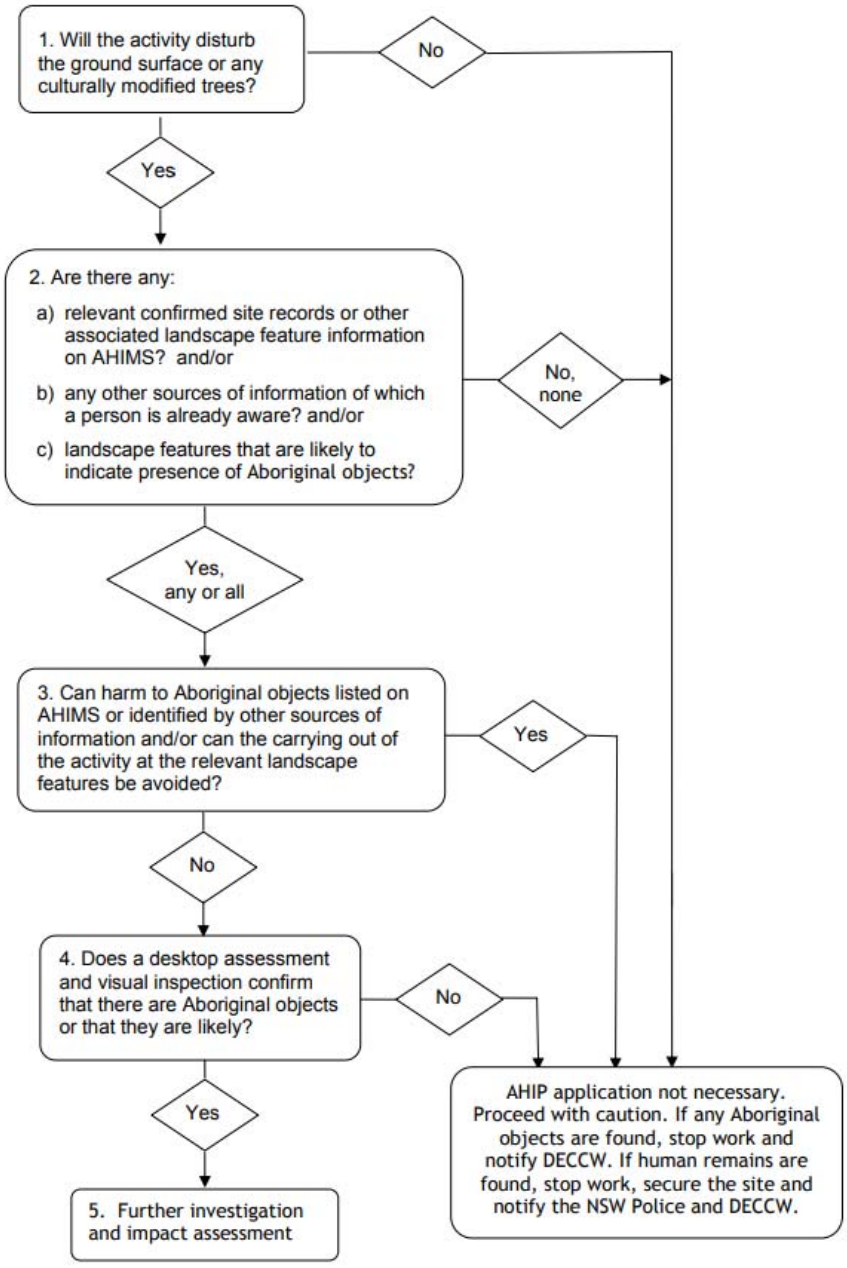

Figure 10 The Generic due diligence process (DECCW 2010)

5. Recommendations

This section of the report summaries findings and makes recommendations to ensure legislative compliance and management of heritage risk.

Recommendation 1: Induction

Whilst considered low risk, Aboriginal cultural material or ancestral remains may be unexpectedly encountered during construction and a heritage induction should be included into the general induction package for all individuals undertaking or supervising ground disturbing works. Information in the heritage induction should include descriptions of potential Aboriginal heritage cultural materials within the study area that will allow for the visual identification of these items.

Recommendation 2: Contingency plan

Ensure the inclusion of a contingency plan for the discovery of unanticipated Aboriginal cultural material or ancestral remains as part of the Construction Management Plan. The Plan should outline clear notification and stop work processes in the case of Aboriginal cultural material or ancestral remains.

Recommendation 3: Further investigations

The proposed pipeline route has been designed to avoid areas of potential for Aboriginal heritage impacts, and no further investigation is recommended. If there is a change in the pipeline route, and these identified areas cannot be avoided, then further investigation is recommended to identify the nature, extent and significance of potential Aboriginal heritage in these areas will be required. Any such investigation should be undertaken in accordance with relevant guidelines for Aboriginal archaeological investigation and in consultation with OEH.

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