

Technical Memorandum

April 27, 2022

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Copy to	Rhys Armstrong, Lana Griffin (GHD)	Email	Catherine.lapuma@ghd.com
From	Catherine La Puma	Ref. No.	12559567
Subject	EES referral for the Geelong Hydrogen Hub – cultural heritage assessment		

1. Introduction

GHD Pty Ltd (GHD) is engaged by GeelongPort Pty Ltd (GeelongPort) to support the preparation of environmental referral documents in relation to the proposed development of the Geelong Hydrogen Hub at the Port of Geelong. GeelongPort is seeking to undertake the following referrals to the relevant agencies:

- Environmental Effects Statement (EES) referral to the Victorian Minister for Planning and the Department of Environment, Land, Water and Planning (DELWP) under the *Environment Effects Act 1978*
- *Environment Biodiversity and Conservation Act 1999* (EPBC) self-assessment, and potentially a referral under the same Act to the Commonwealth Department of Agriculture Water and Environment (DAWE)

This preliminary cultural heritage assessment (CHA) has been prepared by GHD for GeelongPort to support and inform the environmental referral documents. Legislative considerations for the project have been assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Planning and Environment Act 1987*, *Heritage Act 2017*, and the *Aboriginal Heritage Act 2006*.

The study area is located on the North Shore of Geelong, north-west of the suburb of Norlane, and immediately south of the Geelong Refinery (as shown in Figure 1). The study area is currently based on the concept layout only and does not reflect the final project area.

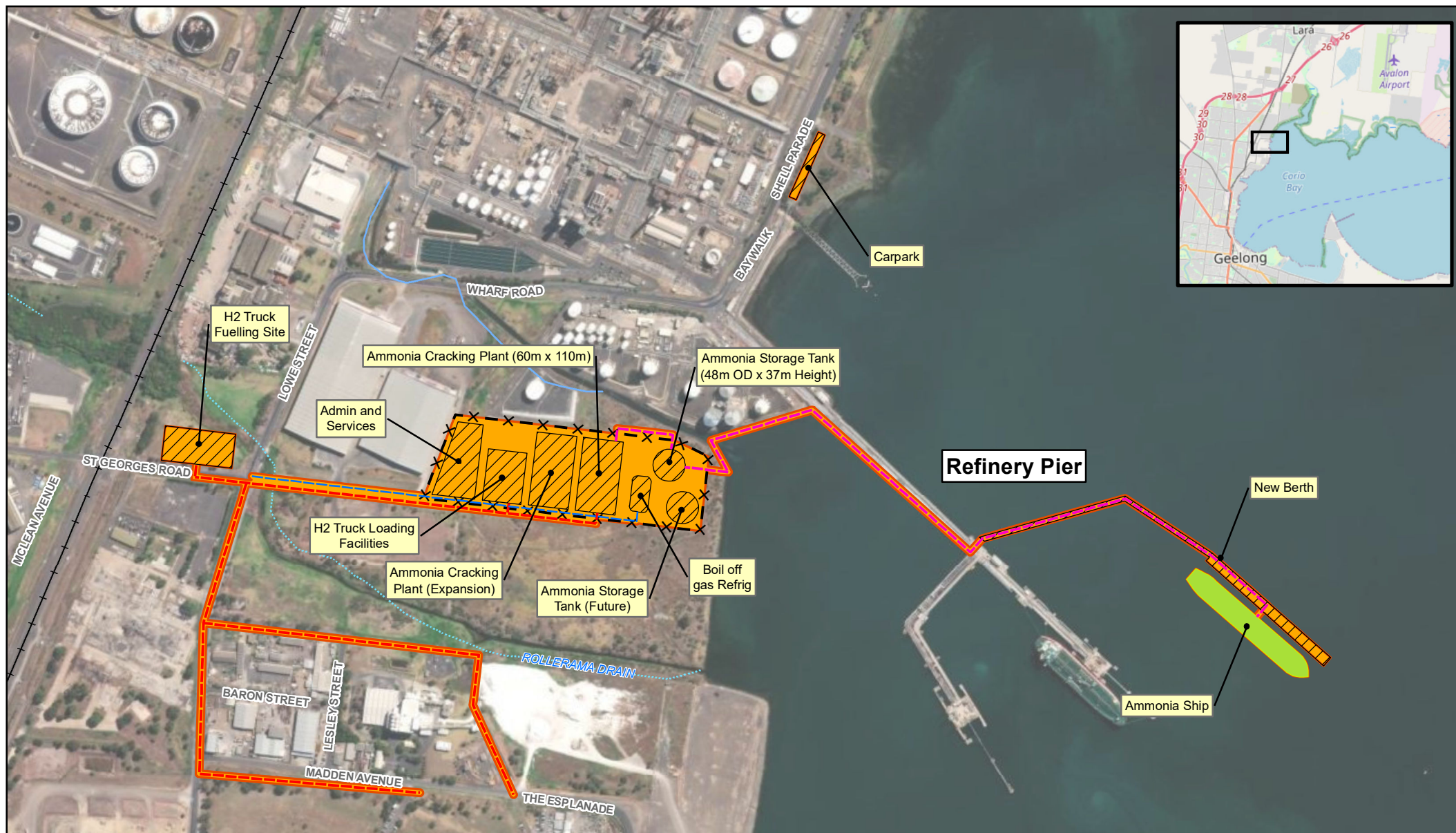
This heritage advice is subject to, and must be read in conjunction with, the limitations set out in Section 3 and the assumptions and qualifications contained throughout this document.

2. Project overview

GeelongPort propose to develop a facility at Port of Geelong to import liquid ammonia, produce hydrogen and nitrogen by ammonia decomposition (or cracking over a catalyst), and distribute hydrogen to potential offtake users within the Port of Geelong as well as in wider Victoria. Use of hydrogen for these industrial processes will present a strong offset for gas production and consumption needs. The site layout highlights the key process buildings, pipeline routes and structures, and allows for future expansion or alternative applications for the ammonia/hydrogen (Figure 1). The proposed site for the facility comprises approximately 7.5 hectares of land that is wholly owned by GeelongPort. The key project components comprise:

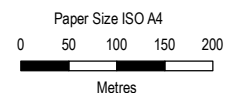
- New ammonia import berth as an extension of Refinery Pier in Corio Bay
- Transfer pipeline to an onshore storage facility
- Onshore storage facility for liquid ammonia (60m diameter storage tank(s))
- Catalytic cracking plant(s) to decompose ammonia into hydrogen and nitrogen
- Onshore distribution pipelines to potential industrial users either within the Port of Geelong or in adjacent industrial zones
- Vehicle refuelling facility (hydrogen)
- Carpark

An options assessment was undertaken for alternative berth layouts to accommodate future imports of ammonia. The preferred berth layout is located within the existing dredge pocket and therefore no capital dredging is required.

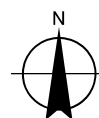


LEGEND

- Hydrogen Off Take Route Options
- Ammonia Import Pipeline
- Road and Power Utilities
- Building/area
- Ammonia Ship
- Fence
- Concept layout footprint



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



GeelongPort
GeelongPort Hydrogen Facility EES Referral

Conceptual site layout

Project No. 31-12559567
Revision No. 0
Date 26 Apr 2022

FIGURE 1

3. Limitations and assumptions

This preliminary CHA has been prepared by GHD for GeelongPort and may only be used and relied on by GeelongPort for the purpose agreed between GHD and GeelongPort as set out in this letter. GHD otherwise disclaims responsibility to any person other than GeelongPort arising in connection with this preliminary CHA. GHD also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by GHD in connection with preparing this letter were limited to those specifically detailed in the report and are subject to the scope limitations set out in the letter.

The opinions, conclusions and any recommendations in this letter are based on conditions encountered and information reviewed at the date of preparation of the preliminary CHA. GHD has no responsibility or obligation to update this letter to account for events or changes occurring subsequent to the date that the letter was prepared. The opinions, conclusions and any recommendations in this letter are based on assumptions made by GHD described in this preliminary CHA. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by GeelongPort 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 preliminary CHA which were caused by errors or omissions in that information. This preliminary desktop assessment is not exhaustive.

4. Review of Legislation

4.1 ***Environment Protection and Biodiversity Conservation Act 1999***

Commonwealth requirements in relation to environmental (including 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 Agriculture, Water and the Environment (DAWE). 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 09 September 2021. There are no heritage values registered on the WHL, NHL or CHL within the proposed study area at Geelong Port.

4.2 ***Planning and Environment Act 1987***

The *Planning and Environment Act 1987* is the primary legislation for planning the use, development, and management of land in Victoria through the creation and administration of planning schemes. The Act includes as an objective of planning in Victoria *to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value*. Planning Schemes provide for the management of items of local heritage significance through Heritage Overlays (HO).

A search of the online Greater Geelong Planning Scheme on 09 September 2021 did not identify any historic heritage places affected by a Heritage Overlay (HO) within the study area (see Figure 3). One place within the HO is located directly to the north of the study area, at 23 Lowe Street, CORIO VIC 3214 - Property No 282507, being the Former Corio Distillery Complex (Cheetham P/L) including former workers houses (HO1728). The description of the site states:

The Cheetham Salt site at 23A-35 Lowe Street is situated on about 22 acres and is comprised of at least 12 buildings of varying sizes and functions. An outline of some of these buildings is shown on the 1978 GWST Plain of Drainage. Early brick gate piers and gates (displaying the former Corio Distillery logo), together with an avenue of trees, forms the main entrance into the complex.

One of the main buildings is situated on the north-eastern section of the site. It is a three storey, unpainted brick and cement render, interwar Classical building characterised by its regular vertically oriented window bays (with recent tinted glazing and frames) and crowning cement rendered parapet which displays the title of the original company and occupier of the site, the Corio Distillery. Subtle protrusions and recessions on the main facade, together with the rectilinear geometry of the design, contribute to its imposing stripped Classical character.

Immediately south of the three storeyed structure is a long, reinforced concrete gabled and parapetted building (the south end is constructed of red brick). The roof is clad in lapped corrugated asbestos sheet with some zincalume. The building has rudimentary window openings with steel frames, and are located immediately below the parapets.

Other buildings on the site include a five storey, reinforced concrete, hipped and gabled malthouse with early horizontal rectangular windows (having steel frames?) and larger nine paned windows on the lower floors. A more recent addition extends to the side of this building. There are also other large, multi storey gable warehouse, spirithouse and stillhouse structures constructed of both reinforced concrete and unpainted red brick, together with small unpainted red brick and horizontal weatherboard structures with gable roofs. A landmark feature of the site is the early brick chimney stack.

The Lowe Street frontage is characterised by two surviving, single storey, rendered, interwar Bungalows. Both houses have dominant recessed hipped tiled roofs, with wide eaves and exposed rafters, unpainted brick chimneys and timber framed double hung windows arranged singularly and in horizontal banks. One house has a minor gable that projects towards the street frontage, while the other has a projecting hip roof. This building also has a central, intact, flat roofed porch, that is supported by early rendered brick piers with painted brick soldier course cappings.

The statement of significance provided within the Victoria Heritage Database Report states:

The Cheetham Salt complex (former Corio Distillery) at 23A-35 Lowe Street is aesthetically significant at a REGIONAL level. Although altered in some parts, the complex demonstrates several original design qualities of the interwar period. These qualities include the unpainted red brick and cement render stripped Classical building, several interwar reinforced concrete hipped and gabled, multi-storey warehouse, still house, malthouse and other outbuildings, small scale brick and horizontal weatherboard buildings, early red brick chimney stack and the two surviving, rendered interwar Bungalow houses with hipped tiled roofs, timber framed double hung windows, flat roofed project porches supported by rendered brick piers with painted brick soldier course cappings, as well as wide eaves and exposed

rafters, and unpainted brick chimneys. The substantial Norfolk pine tree, avenue of trees and brick entrance piers and gates also contribute to the aesthetic significance of the place.

The Cheetham Salt complex (formerly the Corio Distillery) at 23A-35 Lowe Street is historically significant at a STATE level. It is associated with the development of a distillery works for the Distillers' Corporation Pty Ltd, as a major contributor to employment and economic development in Geelong and more broadly, to Victoria. The complex has associations with Messrs Hare and Hare, consulting architects for its design and construction.

Overall, the Cheetham Salt complex (formerly the Corio Distillery) at 23A-35 Lowe Street is of STATE significance.

Recommendation: It is recommended that a Conservation Management Plan be carried out on the site to determine a more detailed significance of the complex, to ensure that appropriate future development is undertaken with respect to the significant fabric.

No recommendations are provided as to the usage of the surrounding landscape, and therefore the heritage listing does not impact on the proposed works.

The study area is zoned PZ/PUZ1/IN2Z.

4.3 *Heritage Act 2017*

The *Heritage Act 2017* is the principal legislation covering the assessment, management and protection of non-Aboriginal heritage in Victoria. Heritage Victoria (HV) regulates heritage assessment and approvals and administers the Act. HV maintains the Victorian Heritage Register (VHR), which lists items of State significance, and the Victorian Heritage Inventory (VHI), which lists items with significant historic archaeological heritage values.

A search of the VicPlan website was undertaken on 09 September 2021. No VHR or VHI places are located within the study area (see Figure 3). Kings Wharf, located 200 m to the east of the optional hydrogen delivery routes to offsite customers, and outside of any proposed impacts, is the closest listing on the VHI (VHI Number H7721-0132).

No known wrecks are located in the vicinity of the proposed works, however Duncan (2004) notes that the Shell Refinery, located to the north and west of the study area, is the previous location of the North Shore Seaplane Base (see Figure 2). They state that little/no remains are anticipated of the seaplane base itself, however there are probably remains of the seaplane ramp under the reserve land opposite the shell refinery or underwater (Duncan 2004). This location is not listed nor recommended for listing on the VAHR and does not have any direct ramifications on the project.



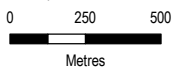
Figure 2 Location of the previous North Shore Seaplane Base, which may be associated with remains of a seaplane ramp under the reserve land opposite the shell refinery or underwater (Duncan 2004)



LEGEND

- Concept layout footprint
- 1km buffer
- Victoria Heritage Register
- Victoria Heritage Inventory
- Heritage Overlay

Paper Size ISO A4



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



GeelongPort
GeelongPort Hydrogen Facility EES Referral

Location of the study area in relation to
HO locations and VHR/VHI places

Project No. 31-12559567
Revision No. 0
Date 27 Apr 2022

FIGURE 3

4.4 National Trust Register

The National Trust Register (which does not provide legal status to registered sites) was additionally accessed on 13 September 2021. No registered places are located within the study area.

4.5 Aboriginal Heritage Act 2006

The *Aboriginal Heritage Act 2006* and Aboriginal Heritage Regulations 2018 (the Regulations) stipulate the requirements for the assessment, management, and protection of Aboriginal heritage in Victoria. Requirements for assessment and approvals linked with the Victorian planning system are regulated by First Peoples – State Relations (FP-SR), previously known as Aboriginal Victoria (AV). FP-SR maintains the Victorian Aboriginal Heritage Register (VAHR), which lists sites containing both tangible and intangible Aboriginal cultural heritage values.

Under the *Aboriginal Heritage Act 2006*, Cultural Heritage Management Plans (CHMPs) are the primary mechanism to assess and manage potential harm to Aboriginal heritage. Under Regulation 7 of the Regulations, a Cultural Heritage Management Plan (CHMP) is required if:

- a. *All or part of the activity is in an area of cultural heritage sensitivity; and*
- b. *All or part of the activity is a high impact activity*

4.5.1 Cultural heritage sensitivity

The proposed study area is located within areas of Aboriginal Cultural Heritage Sensitivity (CHS) associated with Coastal Land, Coastal Crown Land, and also three registered Aboriginal places (VAHR 7721-0969, 7721-1347 and 7721-1229), located in proximity to the H2 Truck Fuelling Site, and the carpark.

The associated regulations are defined as follows:

Regulation 25 Registered cultural heritage places

- (1) *A registered cultural heritage place is an area of cultural heritage sensitivity*
- (2) *Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.*
- (3) *If part of the land within 50 metres of a registered cultural heritage place has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

Regulation 30 Coastal Crown land

- (1) *Subject to subregulation (2), coastal Crown land is an area of cultural heritage sensitivity.*
- (2) *If part of an area of coastal Crown land has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

Regulation 31 Coastal land

- (1) *Subject to subregulation (2), land within 200 metres of the high water mark of the coastal waters of Victoria or any sea within the limits of Victoria is an area of cultural heritage sensitivity.*
- (2) *If part of the land specified in subregulation (1) has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.*

The areas of CHS within and adjoining the study area are shown in Figure 4. Note that the polygon that runs along the Esplanade, north to Wharf Road and along Shell Pde is also listed as Coastal Land.

4.5.2 High impact activity

The proposed works at the Geelong study area are classified as a high impact activity under Regulation 46 (1)(b)(xii), Regulation 46 (1)(b)(xxvii)(C) and Regulation 58 (1).

Regulation 46 Buildings and works for specified uses

(1) The construction of a building or the construction or carrying out of works on land is a high impact activity if the construction of the building or the construction or carrying out of the works

—

- a. Would result in significant ground disturbance; and*
- b. Is for, or associated with the use of the land for any one or more of the following purposes—*

xii. An industry

xxvii. A utility installation, other than a telecommunications facility, if —

- C. The works are a linear project with a length exceeding 100 m (other than the construction of an overhead power line or a pipeline with a pipe diameter not exceeding 150 mm)*

Regulation 58 Use of land

(1) The use of land for a purpose specified in regulation 46(1)(b) is a high impact activity if a statutory authorisation is required to change the use of the land for that purpose.

The proposed works at Geelong include an import pipeline running from the proposed new ship berth (an extension of the existing refinery jetty to the north east of the existing berth - along the south west side of jetty, running west along the southern border of Quantem Terminal tank farm, across Shell Creek and head south following the shore line to the proposed ammonia tank location. For a tanker offloading duration of 24 hours, an ammonia import pipeline size of 28 inches would be required based on a typical ammonia liquid velocity of 1.8 m/s (this could be reduced to a 20 inch import line with a relaxed criteria of 3.5 m/s). Therefore, the proposed activity is defined within the Regulations as a high impact activity under Regulation 46 (1)(b)(xxvii)(C).

4.5.3 Significant ground disturbance

Under Regulations 25, 30, and 31, an exception applies if the area in question ‘*has been subject to significant ground disturbance [then] that part is not an area of cultural heritage sensitivity*’. This is explicitly excluding the location of a registered Aboriginal place, which remains an area of CHS regardless of significant ground disturbance; only the land within 50 m of the place is removed as an area of CHS if subject to significant ground disturbance.’

Significant ground disturbance (SGD) is defined by the Regulations as:

...disturbance of —

(a) the topsoil or surface rock layer of the ground; or

(b) a waterway —

by machinery in the course of grading, excavating, digging, dredging or deep ripping, but does not include ploughing other than deep ripping.

If areas of CHS within the study area have been subject to SGD then they would no longer be classified as an area of CHS and would not trigger a requirement for a mandatory CHMP.

4.5.4 Mandatory CHMP requirements

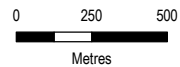
A mandatory CHMP is required when a high impact activity is planned within an area of CHS. The current proposed works at Geelong Port are located within multiple areas of CHS and are considered to be a high impact activity under the Aboriginal Heritage Regulations 2018. As such, a mandatory CHMP would be triggered unless the areas of CHS that intersect with the proposed works can be shown to be entirely within an area subject to SGD. A large proportion of the study area is located within a former municipal landfill site, however this does not cover the entirety of the area of CHS. Further on ground investigations would be needed to determine whether significant ground disturbance has occurred within all areas of CHS associated with this project.



LEGEND

- Concept layout footprint
- 1km buffer
- AAV Cultural Sensitivity

Paper Size ISO A4



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



GeelongPort
GeelongPort Hydrogen Facility EES Referral
Areas of Cultural Heritage Sensitivity
(including registered places) associated
with the proposed works

Project No. **31-12559567**
Revision No. **0**
Date **27 Apr 2022**

FIGURE 4

5. Cultural Heritage Assessment

5.1 Contemporary land use history

5.1.1 Aerial imagery

Aerial imagery between 1947 and the current day demonstrates the changing landscape within the study area, including large scale alterations within the section where the ammonia storage tanks, cracking facility, and associated administration and services are proposed to be located. The 1947 and 1966 aerial have this section of the study area completely stripped of vegetation and showing a natural shoreline, gradually being modified. The 1970 aerial shows some large-scale changes to this shoreline, which by 1974 has dramatically receded, demonstrating significant inundation occurrences.



Plate 1 1947 Aerial photograph of the central portion of the study area (DELWP, 2021)



Plate 2 **1970 Aerial photograph of the central portion of the study area (LANDATA, 2021)**



Plate 3 **1974 Aerial photograph of the central portion of the study area (LANDATA, 2021)**



Plate 4 **1978 Aerial photograph of the central portion of the study area (LANDATA, 2021)**

By 1978 the area of land has been reclaimed and is at the same elevation seen in modern day aerial photographs.

The reclaiming of land was associated with the usage of the location as municipal land fill, with operation occurring until approximately 1979 when it was closed to further waste reception and capped (AGC Woodward-Clyde 1997). It is presumed that the site is underlain by quaternary estuarine and coastal sediments and then by the Moorabool Viaduct Formation. Landfill gas was noted in 1997 as still being generated, and recommendations were that the protective cap should not be penetrated. Besides this changing shoreline, limited disturbance is noted within the current project area, except for the construction of a modified drain in the south. The location of the proposed H2 Truck Fuelling site is noted within the environmental audit as being *'an area of flat, fallow land which apart from possibly a residential building since demolished has only ever been used for grazing'* (ibid). Drilling via hand auger demonstrated carbonaceous fine grain sands and silty clays overlying oxidized fluviatile silty clays at 0.3 m - 0.5 m (likely the Moorabool Viaduct Formation) (ibid). The northern proposed location is noted as being contaminated through industrial usage, as is the area associated with the Shell refinery (to a lesser degree) (ibid).

5.2 Archaeological context

5.2.1 Aboriginal heritage database search

The Aboriginal Cultural Heritage Register and Information System (ACHRIS) was accessed on 16 September 2021. There are no known Aboriginal cultural heritage places recorded within the study area, however, a number of Aboriginal places have been recorded within 2.0 km of the study area. These are summarised in Table 1.

Table 1 Summary of registered Aboriginal places within 2 km radius of the study area

Name and VAHR number	Aboriginal Place type	Landform	Description
MOORPANYAL PARK MIDDEN (VAHR 7721-0409)	Shell Midden	Escarpment	VAHR 7721-0409 is registered as a shell midden of approximately 100 m x 20 m in size. It is noted as having fair preservation, and comprising of coastal/marine species (<i>Subnina</i> , <i>Brachidontes</i> , <i>Abalones</i> , and <i>Limpets</i>) with fine grained chipped stone tools made of quartz, silcrete and flint/chert. The site is apparently in situ, within sandy sediments on a small cliff top.
CALCUTTA BAY 1 (VAHR 7721-0757)	Shell Midden	Unknown Coastal	VAHR 7721-0757 is registered as a shell midden of 5 m x 1.6 m, exposed during the excavation of a new walking track. It is noted as being in a poor condition and comprising of a thin lens of <i>Ostrea angasi</i> (oyster) shell.
CALCUTTA BAY 2 (VAHR 7721-0758)	Shell Midden	Beach	VAHR 7721-0758 is registered as a shell midden of approximately 15 m x 1.6 m, exposed during earthworks for a new walking track. It is noted as being in poor condition and comprising a thin lens of <i>Mytilus</i> sp and <i>Ostrea</i> sp. Shell, alongside some charcoal. The average depth below surface is noted as 50 cm, and average thickness as 20 cm.
CALCUTTA BAY 3 (VAHR 7721-0759)	Shell Midden	Flat	VAHR 7721-0759 is registered as a shell midden of 20 m x 1.6 m, exposed during earthworks for a new walking track. It is noted as being in poor condition, and comprising a thin lens of <i>Mytilus</i> sp.
CALCUTTA BAY 4 (VAHR 7721-0760)	Shell Midden	Beach	VAHR 7721-0760 is registered as a shell midden of 17 m x 1.6 m, exposed during earthworks for a new walking track. It is noted as being in poor condition, and comprising a thin lens of <i>Austrochochlea</i> sp., <i>Mytilus</i> sp and <i>Ostrea</i> sp. The average depth below surface is noted as 50 cm, and average thickness as 20 cm.
NORTHERN WATER PLANT 1 (VAHR 7721-0969)	Artefact Scatter	Flat	VAHR 7721-0969 was located during complex assessment for CHMP 10985. The site consists of a quartzite flake, located at 100 mm - 150 mm depth, within 'weak silt soil'. No additional artefacts were located through radial testing.
NORTHERN WATER PLANT 2 (VAHR 7721-0970)	Artefact Scatter	Flat	VAHR 7721-0970 was located during complex assessment within a railway reserve for CHMP 10985. The site consists of a quartz flake, located at 100 mm depth, within sandy silt deposits. No additional artefacts were located through radial testing.

Name and VAHR number	Aboriginal Place type	Landform	Description
NORTHERN WATER PLANT (VAHR 7721-0971)	Artefact Scatter	Flat	VAHR 7721-0971 was located during complex assessment within a sports park for CHMP 10985. The site consists of a silcrete flake, located at 70 mm - 100 mm depth, within sandy deposits. No additional artefacts were located through radial testing.
Shell Parade Midden 1 (VAHR 7721-1229)	Shell Midden	Eroded bluff adjacent to rocky beach platform	VAHR 7721-1229 is registered as a shell midden of unknown size. It is noted as being in poor condition, and comprising a single layer of <i>Polinices</i> , <i>Katylsia</i> , <i>Mactra</i> , <i>Paphies</i> and <i>Turbo</i> . The CHMP site description notes that it has been previously assessed as non-cultural in nature, representing a former bay floor that formed during higher sea levels.
Shell Parade Midden 2 (VAHR 7721-1347)	Shell Midden	Rocky shore	VAHR 7721-1347 is registered as a shell midden of unknown size. It is noted as being in poor condition, and comprising a single layer of Abalone, <i>Turbo</i> and <i>Ostrea</i> . The site card has the site being recorded under CHMP 12322, however it is not mentioned within that document, therefore no further details are available.
61 The Esplanade Midden (7721-1390)	Shell Midden	Headland	VAHR 7721-1390 is registered as a shell midden of unknown size. It is noted as being in poor condition, and comprised of <i>Cabestana</i> , <i>Ostrea</i> and <i>Anadara</i> . It has an average thickness of 0.5 m, and is located at an average depth of 0.15 m.

5.2.2 Summary of previous Aboriginal heritage reporting

A search of ACHRIS demonstrated a number of archaeological reports associated with a 2km radius of the study area. The reports most relevant to the current study area are presented below.

Tardis Enterprises Pty Ltd. 2003. *Lascelles Wharf Rail Link, Geelong: Cultural Heritage Assessment*. Report to Keelogg Brown & Root Pty Ltd.

This (pre-Act) cultural heritage investigation was for an activity overlapping the current study area. The activity described within is the proposed Lascelles Wharf Rail Link Track. The zones discussed within the report are depicted within Figure 5 (below).

The report notes that, by the late 1870s, Zone 1 had been reserved for public purposes, with a drainage channel built through the allotment at some point. Zone 2 was bought by John Curry by the late 1870s, and today consists largely of an industrial plant and wide roadside reserve. Zones 3 and 4 were subject to significant tidal variations and were originally reserved for public purposes but later only a narrow coastal strip was retained. The remainder was set aside for the construction of the Lascelles Wharf complex, which involved major land reclamation works including the introduction of land fill over much of the allotment, resulting in substantial modification to the original shoreline, which is no longer subject to tidal variations. The Esplanade Road was also built during this period.

The assessment included an archaeological survey of the study area, including a representative of the Wathaurong Aboriginal Co-op (who are a different organisation to the Wadawurrung Traditional Owners Aboriginal Corporation – the current Registered Aboriginal Party for the study area). The survey identified that the proposed rail link will impact soils that are largely introduced and significantly disturbed. The report concludes that the study area has low potential for previously disturbed Aboriginal midden material below areas of fill, and very low potential for minor and previously disturbed historic archaeological material.

Visibility was limited within Zones 1 and 3, with zones 2 and 4 devoid of vegetation, allowing for 100% visibility. Zone 4 was noted as consisting mostly of reclaimed land. Recommendations include the monitoring of excavations below the level of introduced fill located within Zone 3 (comprising of the coastal section of the study area).

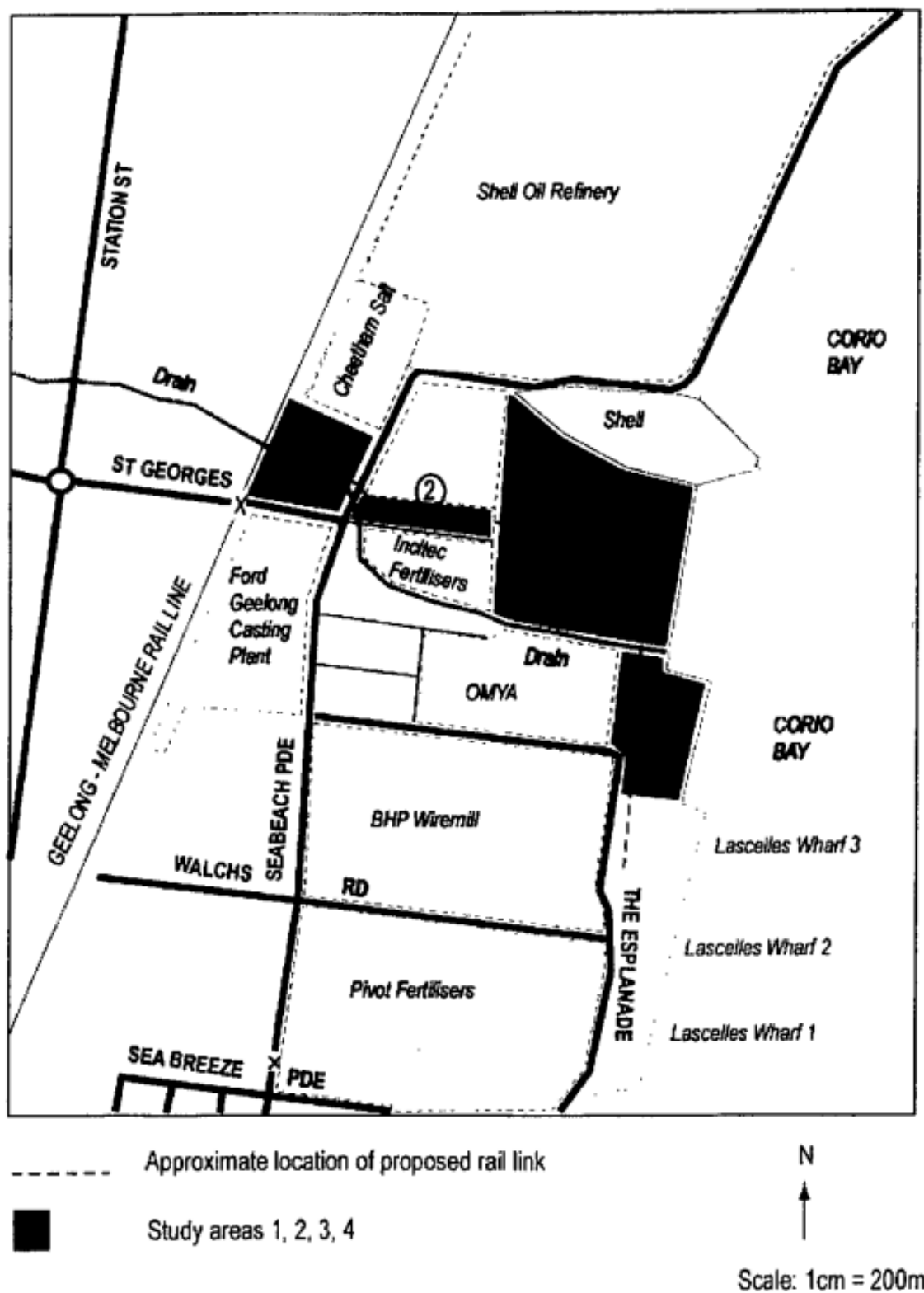


Figure 5 Zones discussed within Tardis 2003 (p.34), to be read from left to right.

Terraculture 2003. Victrack Optic Fibre Cable Project Aboriginal SEMP. Report to Vic Track.

This (pre-Act) cultural heritage investigation was for an activity situated to the west of the current proposed works area. The activity described within was the laying of fibre optic cable within four railway reserves, including the Melbourne to Geelong reserve. The SEMP notes that some sites may have survived in places where all of the land within the railway reserves has not been completely developed and where there are sites of environmental significance (biosites), and that it is possible that Aboriginal stone artefacts will be found in fill at some locations (stating that this is most likely on the Melbourne-Geelong railway and on portions of the railway reserves which cross the western volcanic plains on the Ballarat and Bendigo lines). This finding is especially pertinent in terms of the western section of the current study area, which is in close proximity to the Geelong railway line.

The SEMP notes that an archaeological survey was undertaken as part of the assessment, with nine Aboriginal places located on the Geelong line, including isolated artefacts, and surface artefact scatters (one of which includes a bank exposure). Management recommendations include site avoidance, salvage, and monitoring.

Andrew Long & Associates 2009. Northern Water Plant, Corio Cultural Heritage Management Plan 10985. Report prepared for Barwon Water

CHMP 10985 was undertaken for an activity area situated to the west of the current proposed works area. The activity described within was a recycled water treatment plant, as well as the installation of approximately 6 km of sewer pipelines (100 mm - 375 mm in diameter). Complex assessment was undertaken, resulting in the identification of three subsurface Aboriginal cultural heritage places (7721-0969, 7721-0970, and 7721-0971), each comprising a single stone artefact.

Harm was avoided to VAHR 7721-0969 and 7721-0971, with harm approved for VAHR 7721-0970, which was to be impacted by construction related activities. VAHR 7721-0969 is located immediately to the west of the current study area, with the area of CHS associated with the site remaining in place.

ERM 2012. Cultural Heritage Management Plan for Environmental Remediation Works at Shell Geelong Refinery, Corio Bay Foreshore. CHMP 12322. Report prepared for Shell refining (Australia).

CHMP 12322 was undertaken for an activity area situated to the north of the current proposed works area. The activity described within included the installation of a passive groundwater interception trench and associated monitoring wells, recovery of hydrocarbons from existing monitoring wells to remove hydrocarbon from the subsurface within the activity area, as well as landscaping features such as the installation of a gate, fence and boulders to control vehicular access, existing access track maintenance and signage and revegetation works to discourage potential exposure to remnant hydrocarbon; all of which were part of Shell's 'Clean Up plan' to manage and remediate the hydrocarbon remaining within the subsurface of the activity area.

The CHMP was voluntary in nature, and included desktop, standard and complex assessment, resulting in the identification of a single Aboriginal heritage place – VAHR 7721-1229. The shell deposit is stratified and contains several shellfish species including: *turbo sp*, *zeacumantus sp*. (mud whelk), *polinices sp* and a bivalve species that is either *katelaysia sp*, *Macra sp.*, *Donax deltoids* (pipi) or *Paphies sp* (wedge clam). No artefacts or associated cultural material was identified within this deposit, which is located in close proximity to the northern extent of the current study area. The site card for VAHR 7721-1347 identifies that the site was registered as part of this CHMP, however no details regarding the site are presented in the report, therefore no further information is available.

The CHMP included fencing requirements to ensure VAHR 7721-1229 was not impacted during the proposed works.

ERM 2013. Cultural Heritage Management Plan for Environmental Remediation Works at Shell Geelong Refinery, Corio Bay Foreshore. CHMP 12579. Report prepared for Shell Refining (Australia).

CHMP 12579 was undertaken for an activity area situated to the north of the current proposed works area (overlapping CHMP 12322 detailed above). The activity described within included the use of two passive groundwater containment trenches and associated monitoring wells, the recovery of hydrocarbons from existing monitoring wells, and landscaping features such as a gate, fence, boulders, existing access track maintenance, signage and revegetation works; all of which were part of Shell's 'Clean Up plan' to manage and remediate the hydrocarbon remaining within the subsurface of the activity area. The CHMP was voluntary in nature, and designed to build on the information presented within CHMP 12322, in a way that would allow for subsurface excavations as part of the proposed works. The CHMP consisted solely of desktop assessment, reviewing the standard and complex assessment undertaken as part of CHMP 12322.

The reports detailed above demonstrate that Aboriginal cultural heritage is at times found in disturbed locations in close proximity to the current study area, and while the risk to Aboriginal cultural heritage from the proposed works is low, it is not negligible.

5.2.3 Summary of Aboriginal heritage risk

Tardis (2003) identified that the area of land north of St Georges Road and west of Seabeach Parade (currently marked as a possible H2 Truck Fuelling site, northern extent) was considered to be highly disturbed and of low potential to contain Aboriginal cultural heritage. Complex assessment at the same location undertaken by Andrew Long & Associates (2009), for CHMP 10985, located Aboriginal cultural heritage in the form of a single artefact registered as VAHR 7721-0969. Harm to VAHR 7721-0969 was avoided as part of the CHMP conditions, and the location of the site remains as an area of CHS.

The proposed works do not intersect with the site location of VAHR 7721-0969, but do intersect with the 50 m buffer, which forms an area of CHS. Aerial imagery does not provide evidence that the 50 m buffer surrounding this locality has been subject to SGD, therefore the area of CHS associated with this site remains. A similar case is seen for the areas of CHS associated with VAHR 7721-1347 and 7721-1229, which are identified within ERM 2012 and ERM 2013 as not being subject to SGD. Further on ground investigations would be required to demonstrate whether there have been deviations from this status.

The definition of significant ground disturbance does not include the importation of materials, but instead focuses on more destructive activities such as grading, excavating, digging, dredging and deep ripping.

While the shoreline within the area marked to include most of the current proposed infrastructure (including admin and services, H2 Truck Loading Facilities, Ammonia cracking area/expansion area, ammonia storage tanks, boil off gas refrigeration and utilities/ ammonia route/hydrogen off take route) has been substantially modified, it has not been subject to significant ground disturbance, therefore this area of CHS also remains.

A mandatory CHMP will therefore need to be undertaken for the proposed works. The Registered Aboriginal Party for the study area is the Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC), who will need to be consulted throughout the CHMP process. WTOAC will likely be the evaluators of the CHMP.

6. Conclusions

This preliminary cultural heritage assessment (CHA) concludes that:

- Multiple areas of CHS are located within the study area
- Three Aboriginal cultural heritage places are located outside of the study area, with their 50 m buffers intersecting with the study area and forming areas of CHS. No Aboriginal cultural heritage places are located within the study area.
- The proposed works constitute a High Impact Activity under Regulation 46 (1)(b)(xii), Regulation 46 (1)(b)(xxvii)(C) and Regulation 58 (1)
- While parts of the study area have likely been subject to SGD, it cannot be stated that SGD has occurred through all areas of CHS associated with the proposed works

A CHMP would therefore need to be prepared in conjunction with the WTOAC, who will likely evaluate the document.

6.1 Summary of Legislative Implications

This section of the report summarises the findings of this document to ensure the proposal's legislative compliance and to manage heritage risk.

Table 2 Legislative Heritage considerations for GeelongPort proposed works, Geelong.

Act	Requirements
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act 1999)	No referrals or approvals are required under the EPBC Act for heritage matters. Please note that this does not include referral or approval requirements under the EPBC Act for any other matters of National Environmental Significance.
<i>Planning and Environment Act 1987</i>	Approvals for heritage matters are not required under the <i>Planning and Environment Act 1987</i> . The proposed works do not impact or alter an area with a known heritage planning restriction.
<i>Heritage Act 2017</i>	Approvals are not currently required under the <i>Heritage Act 2017</i> . No historical structures of State or local significance have been identified in the study area. No further historical heritage investigations are recommended to be undertaken.
<i>Aboriginal Heritage Act 2006</i>	<p>A mandatory CHMP is <i>likely</i> to be required under the <i>Aboriginal Heritage Act 2006</i> and the Aboriginal Heritage Regulations 2018. The proposed study area is located within areas of CHS associated with Regulation 25, Regulation 30, and Regulation 31. The works are classified as a high impact activity and under Regulation 46 (1)(b)(xii), Regulation 46 (1)(b)(xxvii)(C) and Regulation 58 (1).</p> <p>SGD does not appear to remove all areas of CHS that intersect with the study area. Further on ground assessment would be required to further investigate this matter.</p> <p><u>Assessment of risk to Aboriginal cultural heritage material</u></p> <p>Due to the history of ground disturbance within the study area, the risk to Aboriginal cultural heritage is considered to be low. Consultation with WTOAC would identify to what stage any CHMP would need to be undertaken to.</p>

Please feel free to contact me on **(03) 8651 9234** or via **catherine.lapuma@ghd.com** if you have any questions in regard to the advice contained in this letter.

Regards

Catherine La Puma
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7. References

AGC Woodward-Clyde Pty Limited 1997. Environmental Audit Report Port of Geelong Volume 1 of 2. Unpublished report prepared for the Department of Treasury and Finance.

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