



Port Kembla Gas Terminal

Environmental Management Strategy Early Enabling Works

Australian Industrial Energy

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→ The Power of Commitment



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Acronyms

Acronym / Definition	Description
ACM	Asbestos Containing Material
AHIP	Aboriginal Heritage Impact Permit
AIE	Australian Industrial Energy
AMSA	Australian Maritime Safety Authority
AQMP	Air Quality Management Plan
AS	Australian Standards
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soils Management Plan
BAM	Biodiversity Assessment Method
BaP	Benzo(a)Pyrene
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
BOS	Biodiversity Offsets Scheme
CPT	Cone Penetration Testing
CSSI	Critical State Significant Infrastructure
CTMP	Construction Traffic Management Plan
CWQMP	Construction Water Quality Management Plan
DEMP	Dredge and Excavation Management Plan
DICL	Ductile Iron Cement Lined
DPiE	Department of Planning, Industry and Environment – Water
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EMP	Environmental Management Plan
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPA	NSW Environmental Protection Authority
EPBC Act	<i>Environment Protection Biodiversity Conservation Act 1999</i> (Cmth)
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
FSRU	Floating Storage and Re-gasification Unit
GHD	GHD Pty Ltd
HUFP	Heritage Unexpected Finds Protocol
IMP	Incursion of Marine Pests
KPI	Key Performance Indicators
LNG	Liquefied Natural Gas
MARPOL	The International Convention for the Prevention of Pollution from Ships
MBD	Marine Berth Construction and Dredging
MSDS	Materials Safety Data Sheet
MNES	matters of national environmental significance

Acronym / Definition	Description
National System	National System for the Prevention and Management of Marine Pest Incursions
NGP	Pipeline Installation including tie-ins
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
ORF	Onshore Receiving Facilities
PANSW	Port Authority of NSW
PKCT	Port Kembla Coal Terminal
PKGT	Port Kembla Gas Terminal
PKHD	Port Kembla Height Datum
PMS	Pollution Monitoring System?
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Project	Port Kembla Gas Terminal Project
PVC	Polyvinyl Chloride
Roads Act	<i>Roads Act 1993 (NSW)</i>
RMS	Roads and Maritime
RWP	Remediation Works Plan
SEPP	State Environmental Planning Policy
SMPEP	Shipboard Marine Pollution Emergency Plan
SOPEP	Shipboard Oil Pollution Emergency Plan
SRD SEPP	State Environmental Planning Policy State and Regional Development
SWMS	Safe Work Method Statement
TEQ	Toxic Equivalence Quotient
TTE	Tertiary Treated Effluent
VTIC	Vessel Traffic Information Centre
UFP	Unexpected Finds Protocol
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001 (NSW)</i>
WM Act	<i>Water Management Act 2000 (NSW)</i>
WQMP	Water Quality Monitoring Program

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1. Introduction

1.1 Overview

This Environmental Management Strategy (EMS) has been developed to provide the overall strategic framework for environmental management for the Port Kembla Gas Terminal (PKGTT) Project (the Project). This EMS addresses the requirements of the Infrastructure Approval (SSI-9471), and fulfils the commitments made in the Port Kembla Gas Terminal Environmental Impact Statement (EIS).

This EMS was prepared by the SCSB JV on behalf of Australian Industrial Energy (AIE) to apply to construction activities associated with the Project. GHD Pty Ltd (GHD) has updated this EMS on behalf of AIE for the Early Enabling Works of the Marine Berth Construction and Dredging (MBD). This EMS does not cover Marine Berth Construction and Dredging or the construction of Onshore Receiving Facilities, or Pipeline Installation.

This EMS describes how Australian Industrial Energy (AIE) and the principal contractor, Liberty Industrial, proposes to manage and monitor environmental impacts during the implementation of the Early Enabling Works for the MBD.

1.2 Project background

AIE is developing the Project which involves the development of a liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong, NSW. The Project will be the first of its kind in NSW and will provide a simple and flexible solution to the State's gas supply challenges.

NSW currently imports more than 95 per cent of the natural gas it uses from other Eastern States. In recent years, gas supplies to the Australian east coast market have tightened, resulting in increased natural gas prices for both industrial and domestic users.

The Project provides an immediate solution to address the predicted shortages and will result in significant economic benefits for both the Illawarra region and NSW. The Project will have a capacity to deliver in excess of 100 petajoules of natural gas, equivalent to more than 70 per cent of NSW gas needs and provide between 10 to 12 days of natural gas storage in case of interstate supply interruption. LNG will be sourced from worldwide suppliers and transported by LNG carriers to the gas terminal at Port Kembla where it will be re-gasified for input into the NSW gas transmission network.

The Project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW) and Schedule 5 of the State Environmental Planning Policy State and Regional Development (SRD SEPP). The Project received Infrastructure Approval (SSI 9471) from the NSW Minister for Planning and Public Spaces on the 29th of April 2019.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable an LNG Carrier to berth alongside the Floating Storage and Re-gasification Unit (FSRU) and new infrastructure to connect the terminal to the existing gas network.

The development has progressed to the early works stage at Berth 101 in Port Kembla's Inner Harbour (the site or MBD Site Compound). The Early Enabling Works includes the demolition and removal of all existing surface infrastructure, including Berth 101, and disconnection and removal of all underground services. The Early Enabling Works phase is required to facilitate all future stages of development and to meet an obligation in the lease of the site to demolish existing wharf infrastructure by 29 September 2021.

1.3 Purpose and scope

The Infrastructure Approval (SSI 9471) requires the preparation, approval, and implementation of an EMS and subordinate Environmental Management Plans (EMP) for both the construction and operational phases of the Project. This EMS covers the Early Enabling Works phase only and will be updated prior to subsequent stages of construction and operation of the Project.

The overall purpose and objectives of the EMS are to:

- Ensure environmental management procedures are incorporated into a comprehensive framework to facilitate appropriate management throughout the life of the Project.
- Ensure that controls are properly implemented, regularly monitored, and audited to assess their effectiveness.
- Ensure processes for resourcing and implementing this plan are developed to provide certainty of delivery.
- Demonstrate compliance with statutory, legislative and consent conditions.
- Minimise impacts on the community and the environment.
- Ensure timely and efficient response to environmental incidents and complaints.
- Monitor, review, and report on environmental impacts of construction activities.

This EMS provides the framework for environmental management during the Early Enabling Works and should be read in conjunction with associated sub-plans, procedures and protocols.

This EMS describes how AIE and Liberty Industrial will ensure effective environmental management and compliance during the Early Enabling Works stage of the development and will be updated prior to progress to the main construction phases of the Project.

This EMS provides the strategic context for environmental management and is consistent with AS/NZS ISO 14001:2004.

2. Construction program

2.1 Introduction

The construction scope of work has been divided into the three main stages (with associated activities), as outlined in Table 2.1.

Commissioning and operational phases of the Project will follow the completion of construction and are predicted to commence in December 2022.

Table 2-1 Construction work packages and applicability to this EMS

Stage	Package	Proposed commencement	Activities	Applicability to this EMS
1	Early Enabling Works)	May 2021	Early Enabling Works. Demolition of Berth 101, removal of structures and land-based excavation works, and Cone Penetration Testing (CPT) in the Outer Harbour to inform Emplacement Cell design.	Applicable
2	Marine Berth Construction and Dredging (MDB)	November 2021	Quay wall construction.	Not applicable.
			Excavation/dredging.	Not applicable.
			Wharf facilities construction including mooring system, navigational aids, and associated works.	Not applicable.
	Onshore Receiving Facilities (ORF)		Construction of the ORF, which comprises of three areas: Wharf Topside Area; Utility Area; and Common Area. Installation of a small section of pipeline within the Berth 101 site boundary.	Not applicable.
3	Pipeline Installation including tie-ins (NGP)	March 2022	Construction of an 18" onshore natural gas pipeline approximately 6.3km in length from the Berth 101 site boundary to Tie-in Facility at Cringila.	Not applicable.

2.2 Early Enabling Works

2.2.1 Overview

The site of the Early Enabling Works is the former Port Kembla Coal Terminal (PKCT) Bulk Products Berth (Berth 101) located in Port Kembla Inner Harbour. The removal of existing structures and services is required to facilitate subsequent development stages of the Project. The scope of the Early Enabling Works will involve the following tasks:

- Excavation down to level of RL 2.5 metres Port Kembla Height Datum (PKHD) to allow removal of existing structures and services and facilitate construction of the quay wall.
- Demolition/removal of Berth 101 and aboveground structures.
- Demolition/removal of aboveground and underground services.
- Removal of existing stockpiles from site.
- Transport of spoil via road from the MBD Site Compound to the Emplacement Cell Construction Site.

- Platform excavation and stockpiling.
- Processing demolished materials (for re-use or recycling) by others.
- CPT in the Outer Harbour.

An outline of the tasks associated with the Early Enabling Works is provided in Section 2.2.2 through Section 2.2.8. The Early Enabling Works site includes the MBD Site Compound and the Emplacement Cell Construction Site, as shown in Figure 2.1.



Figure 2.1 Early Enabling Works overview

2.2.2 Excavation

Excavation is required to facilitate the removal of existing aboveground and underground structures and services within the MBD Site Compound to a level of RL 2.5 metres on PKHD.

The proposed excavation zone generally extends from Road No. 7 at the northern end of the West Stockyard to the South Ponds and across to Road No. 9 as shown by the yellow shaded area in Figure 2.2.



Figure 2.2 Proposed excavation zone within MBD Site Compound

It is proposed to segregate, manage, stockpile and transport excavated materials into the following categories:

- Fill materials and concrete suitable for re-use for wharf construction will be crushed on-site and stockpiled at the East Stockyard (refer to Figure 2.2).
- Excess materials suitable for placement in the Outer Harbour will be transported to the Emplacement Cell Construction Site (refer to Figure 2.1)
- Revetment rock armour will be stockpiled for reuse, if removed.
- Recyclable material such as steel, cables, etc. will be transported off site for recycling.

Waste materials that are unsuitable as fill or for recycling will be disposed off-site at an approved landfill facility.

2.2.3 Demolition/removal of structures

All structures, foundations, piling, paving, site services, etc. within the excavation zone require demolition and removal. The proposed structures for demolition are summarised in Table 2.2.

Table 2-2 Structures to be demolished/removed during Early Enabling Works

Structure	Works required
Tower T1	Remove any remaining miscellaneous steel work as necessary (e.g., handrails and guardrails)
Tower T2 and T3	Demolish headstock and cut-off any piles at RL+1.5 m PKHD.
Tower T1, T3, T4 and T6 Clean Out Pits/ Drains	Demolish any remaining miscellaneous steel work, the Clean Out Pit, and associated drains.
Conveyor C3	Demolish any pavement/gutter and cut-off any piling in the excavation zone
T3 Pond	Demolish any remaining miscellaneous steel work, the pit and associated drain.
Tower T5 gantries	Demolish the remaining footings and headstock and cut-off piles at RL +1.5m PKHD. The two southern gantries require complete removal of the headstock and piles.
Conveyor C5 Gantry Walls	Demolish the remaining West Stockyard walls (inverted precast concrete T sections).

Structure	Works required
Reclaim conveyors C6 and C7	Demolish all remaining parts including the reclaim hopper, paving and any foundations/piling/footings.
West shore clean out pit	Demolish any remaining miscellaneous steel work, the pit and associated drain.
West Stockyard Hardstand Area	Demolish and excavate the hardstand to RL + 2.5 m PKHD. The excavation of the hardstand shall extend to 3 m beyond the tie rod anchors (the hardstand area is constructed of 300 mm heavily bound base course (road building material), 340 mm lightly bound base course (80% blast furnace slag and 20% granulated blast furnace slag) and 200 mm of engineered fill.
Light Towers	Demolish the foundations and remove associated cabling. Demolish and remove all other light towers from the site.
Berth 101	<p>Berth 101 comprises a concrete deck supported by 568 concrete and timber piles, tie rods and dead man blocks. There is also a fendering system comprising timber piling, timber waling and rubber fenders, various utilities, and a sheet pile cut-off wall (approximately 175 m long) along the landside of the berth.</p> <p>Works required include cut and remove the concrete deck, remove tie rods, and anchor blocks. Removal of piles will be via a crane positioned on a barge immediately adjacent to the wharf structure. Silt curtains will be positioned surrounding the work area during the removal of piles. AIE has an obligation under its lease agreement with NSW Ports to demolish the Wharf at Berth 101 by 29 September 2021.</p>
Substation	<p>Undertake (asbestos containing materials)ACM inspections and testing of materials prior to demolition (as required). Where ACM is confirmed, remove, and dispose off-site by licensed contractor with clearance certificate.</p> <p>Demolish building and transformer bays including underground foundations and conduits. Remove and dispose of any remaining cables from Substation within the site.</p>
Mooring lines	Remove lines and blocks.
Sewer tanks	Two underground concrete sewer tanks are located on the south side of Tower TS8. Demolish the tanks following pump out and flushing.

2.2.4 Demolition/removal of services

Numerous services are currently located in the excavation zone and will be demolished and removed generally down to RL +1.5 metres PKHD as part of the excavation process. The services that will be demolished/removed are summarised in Table 2.3.

Table 2-3 Services to be demolished/removed during Early Enabling Works for the MBD

Structure	Works required
Bunker oil pipeline	<p>The existing bunker oil pipeline extends from storage facilities on the southern shore of Port Kembla, under The Cut to the oil berth at the northern breakwater. A 300 mm carbon steel pipeline extends underground (approximately 600 mm clear cover) along the western shore of the site to Berth 101. An above ground section then passes under Berth 101 and on to Berth 102 to the north.</p> <p>The pipeline sections, both underground and running under Berth 101 require removal with management and disposal of any residual hydrocarbons. It is proposed to cut the pipeline into transportable lengths and removed from site to an appropriate and approved location. Beyond the excavation zone, the pipeline will remain in-situ and will be capped at both ends with suitable identification.</p>
Domestic water pipeline	<p>An underground potable water supply pipeline currently runs underground on the eastern side of Tower TS8 to supply Berth 101 and a ductile iron cement lined (DICL) pipeline continues along the western shore of Berth 101 supplying the Port Authority of NSW (PANSW) meter compound at the south of the site.</p> <p>An abandoned pipeline formed from ACM runs parallel to the DICL pipeline. A licenced removal company shall be engaged to remove and transport the asbestos material in a safe manner to an approved disposal site. An asbestos clearance certificate shall be provided following removal.</p>

Structure	Works required
	All abandoned domestic water piping is to be removed within the excavation zone. Beyond the excavation zone, the pipeline shall remain in the ground and be capped at both ends.
Electricity supply	Electricity is supplied from the PKCT 11 kV South Substation and distributed in Substation B (south of Berth 101). These supplies include: An underground 11 kV electricity cable (approximately 900 mm cover) from Substation B to the PANSW pad-mounted transformer at the southern end of the site. Several 415 V cables from Substation B to Pumps 01 at the South Ponds, to Pumps 09 and 17 at drain pit sumps and to light poles across the site Control cabling for pumps, lights, and water spray nozzles. The substation building will be demolished with all cables in the excavation zone removed.
Telecommunications	The telecommunications cable extends from a pit near PKCT South Substation to a pit near the PANSW meter compound. The route of the cable is uncertain; however, it is understood to follow the western shore. During demolition works, the cable is required to be removed and disposed of. Any cable beyond the excavation zone, is to remain in-situ.
Tertiary treated effluent	Tertiary Treated Effluent (TTE) is supplied to PKCT for firefighting and dust suppression sprays. An interconnected ring main circles around both the East and West Stockyards supplying dust suppression sprays and fire hydrants. The pipelines and sprays serving the West Stockyard will be demolished and removed. The western incoming supply shall be capped near Tower TS7 and at the branch from West Stockyard to the PKCT truck wash. The spray system for the East Stockyard is not required and will be demolished. The TTE pipeline along the eastern side (Seawall Road) is to remain in-service. The TTE pipeline along Road No. 9 shall be capped on the western side of PANSW meter compound.

During demolition, stormwater from the site will be directed to Southern Pond. The overflow pipes at the Southern Pond are AIE's licensed discharge point into Port Kembla Harbour.

As the demolition work proceeds, the contractor will ensure stormwater runoff always flows to the Southern Pond in accordance with AIE's Environment Protection Licence (EPL) conditions.

2.2.5 Removal of stockpiles

Two large stockpiles, approximately 700 metres³ to 800 metres³ of mixed sandy gravel material are present in the south-western section of the MBD Site Compound. The stockpiles also contain inclusions of slag gravel, cobbles, concrete, and boulders. Both stockpiles will be removed as part of the Early Enabling Works and will be characterised (visual and sampling, as required) for re-use as part of the Project.

2.2.6 Transport of spoil from MBD Site Compound to Emplacement Cell Construction Site

Approximately 50,000 metres³ of spoil will need to be transported via road from the MBD Site Compound and stockpiled at the Emplacement Cell Construction Site.

The activities associated with this task will involve loading, road transportation via truck and trailer (approx. 30 tonne capacity), unloading, stockpiling, and management of the stockpiles.

Spoil will be characterised prior to transport based on the source location, the availability of any existing data and additional sampling and analysis, as required.

2.2.7 Processing of demolished materials (reuse and recycling)

Demolished materials which are suitable may be re-used in the works, subject to approval by AIE and the Auditor (refer to Section 3.5.1). Materials for re-use may include:

- Uncontaminated excavated material as fill.
- Crushed concrete as fill.

Excavation of a platform to stockpile up to 70,000 metres³ of material will be undertaken in the East Stockyard. Materials for re-use are to be stockpiled and stored in the East Stockyard until further stages of the works proceed. Materials suitable for recycling will be preserved during the demolition works and removed and stored on-site in the eastern stockyard as directed by AIE until collected or removed from site by appropriate contractors.

2.2.8 Cone Penetration Testing

CPT will be undertaken at 50 to 60 locations within the Outer Harbour to inform the design and alignment of the Emplacement Cell. CPT locations will target alignment of Emplacement Cell and proposed fill area. Works comprise of surveying the seabed level and geotechnical testing (including CPT) via a purpose-built CPT rig attached to a small jack barge, portable 15t CPT rig and jack up barge.

2.2.9 Traffic controlled work areas

The Early Enabling Works of the MBD will be confined to the MBD Site Compound and the Emplacement Cell Construction Site, as shown in Figure 2.1.

2.2.9.1 MBD Site Compound

Most of the Early Enabling Works will occur within the MBD Site Compound. The locations of offices, parking, sheds, a laydown area, and a stockpile area is shown in Figure 2.3.

Traffic generated by the Early Enabling Works will be controlled through the gate on Sea Wall Road. Heavy vehicle movements will be generated by the delivery of materials, equipment, and plant to the MBD Site Compound. In addition, heavy vehicle movements will be generated by transporting approximately 50,000 metres³ of spoil from the excavation zone in the MBD Site Compound to the Emplacement Cell Construction Site.

Light vehicle movements will be generated from construction workers accessing the MBD Site Compound. Parking will be provided for up to 150 workers on the MBD Site Compound (refer to Figure 2.3).

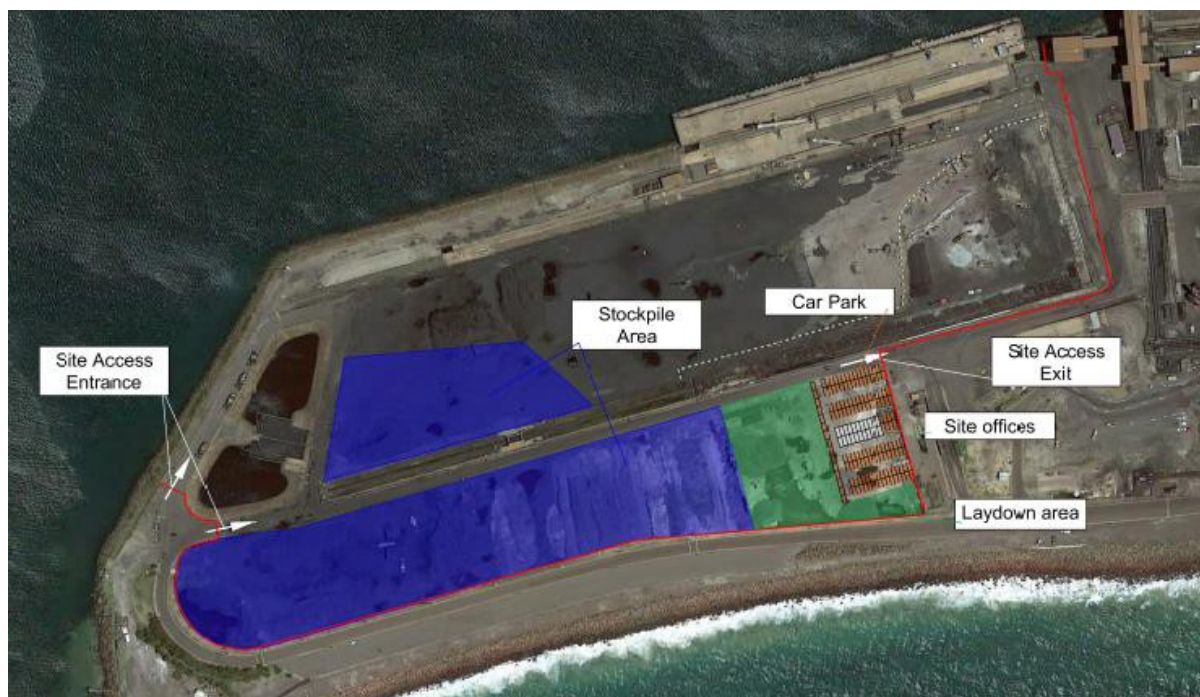


Figure 2.3 Layout of MBD Site Compound

2.2.9.2 Emplacement Cell Construction Site

As discussed above, heavy vehicle movements will be generated by transporting approximately 50,000 metres³ of spoil from the excavation zone in the MBD Site Compound to a stockpile area within the Emplacement Cell Construction Site (refer to Figure 2.4).



Figure 2.4 *Layout of Emplacement Cell Construction Site*

2.2.10 Vehicle movements generated during Early Enabling Works of MBD

Vehicle movements have been estimated based on materials required for Early Enabling Works, work force requirements, and transport of spoil from the MBD Site Compound to the Emplacement Cell Site. They are as follows:

- Light vehicles: 80 movements per day (based on up to 40 employees accessing MBD Site Compound).
- Heavy vehicles:
 - 10 movements per day (materials, plant, equipment needed at MBD Site Compound).
 - 112 movements per day (30-tonne trucks moving approximately 50,000 metres³ of spoil from MBD Site Compound to Emplacement Cell Construction Site).

2.2.11 Program for Early Enabling Works of MBD

Early Enabling Works for the MBD is anticipated to commence in April 2021. It is estimated to be completed in six months.

3. Statutory requirements

3.1 Introduction

The Project has been declared CSSI in accordance with Section 5.13 of the EP&A Act and Schedule 5 of the SRD SEPP. The Project received Infrastructure Approval (SSI 9471) from the Minister for Planning and Public Spaces on the 24th of April 2019.

Schedule 4 Condition 1 of the approval requires an EMS to be developed to the satisfaction of the NSW Planning Secretary. It must encompass the key requirements, as per Table 3.1.

Table 3-1 Approval conditions

EMS requirements	Reference
<p>Prior to the commencement of construction, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:</p> <ul style="list-style-type: none">– provide the strategic framework for environmental management of the development;– identify the statutory approvals that apply to the development– describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;– describe the procedures that would be implemented to:– keep the local community and relevant agencies informed about the development being carried out– receive, handle, respond to, and record complaints– resolve any disputes that may arise during the course of the development– respond to any non-compliance– respond to emergencies; and <p>include:</p> <ul style="list-style-type: none">– copies of any strategies, plans and programs approved under the conditions of this approval; and– a clear plan depicting all the monitoring to be carried out in relation to the development. <p>The Proponent must implement the approved Environmental Management Strategy for the development.</p>	<p>This Plan</p>

3.3 Relevant legislation

AIE and the principal contractor for the Early Enabling Works (Liberty Industrial) is committed to compliance with legislative requirements and industry standards throughout all its activities. The construction of the Project will be in accordance with statutory requirements listed in Table 3.2.

Table 3-2 Applicable legislation

Legislation	Project Relevance	Applicability
Federal		
<i>Environment Protection Biodiversity Conservation Act 1999</i> (EPBC Act)	<p>The EPBC Act is the Australian Government's central piece of environmental legislation that provides a legal framework to protect and manage environmental values considered to be of national environmental significance.</p> <p>The EPBC Act requires approval from the Commonwealth Minister for the Environment and Resources for actions that are likely to have a significant impact on listed matters of national environmental significance (MNES). It is the responsibility of the applicant proposing to undertake an action to initially consider whether the proposal is likely to have a significant impact on any MNES. If the applicant considers there is potential for significant impacts upon any matters protected under the EPBC Act, then a referral is required to be submitted to the Minister for the Environment and Energy. Developments considered likely to result in significant impacts are defined as "controlled actions" and require assessment and approval.</p>	<p>Consideration of potential impacts upon listed threatened species and communities and any other MNES potentially impacted by the Project has been undertaken as part of the EIS. No impacts have been identified that are considered likely to be significant and consequently a referral to the Commonwealth Minister for the Environment and Energy was not undertaken.</p>
<i>Biosecurity Act 2015</i>	<p>Part 3 of the <i>Biosecurity Act 2015</i> provides that any person who deals with a biosecurity matter ensures the risks are prevented, eliminated or minimised.</p>	<p>A Biosecurity Management Plan has been produced to reflect the general biosecurity duty. The plan specifies protocols and management actions that are appropriate to the credible risks that can arise from the intended construction activities.</p> <p>Implementation of the plan will effectively manage identified biosecurity risk including traffic movement (on water and land), importation of machinery and materials to site and proposed ground disturbance activities.</p>
State		
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)	<p>The Project has been classified as CSSI in accordance with Section 5.13 of the EP&A Act and Schedule 5 of the SRD SEPP.</p> <p>A detailed EIS was prepared as part of the approval process and the applicable mitigation measures to guide construction activities are included in this EMS.</p>	<p>Applicable subsidiary planning instruments considered as part of the EIS include:</p> <ul style="list-style-type: none"> – State Environmental Planning Policy (SEPP) State and Regional Development (SRD), 2011 – SEPP (Three Ports), 2013 – SEPP (Infrastructure) 2007 – SEPP (Coastal Management) 2018 – SEPP No. 33 – Hazardous and Offensive Development – SEPP No. 55 – Remediation of Land – Wollongong Local Environmental Plan 2009.
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	<p>The objectives of the POEO Act are to protect, restore and enhance the quality of the environment, in recognition of the need to maintain ecologically sustainable development.</p>	<p>AIE have submitted an application for an EPL, which will be obtained prior to commencement of the Early Enabling Works.</p>

Legislation	Project Relevance	Applicability
	The POEO Act provides an integrated system of licencing and contains a core list of activities requiring an EPL from the NSW Environment Protection Authority (EPA).	
<i>Biodiversity Conservation Act 2016</i> (BC Act)	The BC Act aims to conserve biodiversity at the bioregional and state scale and lists a number of threatened species, populations, and ecological communities to be considered when deciding if a project is likely to have a significant impact.	A detailed biodiversity assessment report was prepared as part of the EIS and the Project would be unlikely to have a significant impact on any threatened species, populations or ecological communities listed under the BC Act. Biodiversity offsets have been secured for unavoidable impacts (primarily during pipeline construction) through payment into the Biodiversity Conservation Trust. The Early Enabling Works are not expected to impact upon any biodiversity values.
<i>Pipelines Act 1967</i>	Under Section 11 of the <i>Pipelines Act 1967</i> , a licence is required to: <i>commence, or continue, the construction of a pipeline; alter or reconstruct a pipeline; or operate a pipeline.</i> Pipelines with a length of 10 kilometres or less are exempted from the above requirements and are instead, subject to SafeWork NSW oversight.	Not applicable - this Project has been exempted from the requirement to obtain a pipeline licence as the proposed pipeline is approximately 6 kilometres in length. Pipeline construction would commence after the Early Enabling Works.
NSW Work Health and Safety Regulations 2017	Under NSW Work Health and Safety Regulations 2017, pipeline owners must ensure that an activity, structure, equipment, or substance that is not part of the pipeline does not affect the hazardous chemicals or the pipeline in a way that increases risk	Not applicable - pipeline construction would commence after the Early Enabling Works.
Australian Standard (AS) AS2885	Pipeline national best practice standard for design and construction, welding, operation and maintenance, offshore submarine pipeline systems and field pressure testing.	Not applicable to Early Enabling Works.
<i>Roads Act 1993</i> (Roads Act)	Section 138 of the Roads Act requires applicants to obtain consent from the relevant road's authority for the erection of a structure, carrying out of work in or under a public road, digging up or disturbance to the surface of a public road.	The Early Enabling Works phase will not involve carrying out of work in or under a public road and Section 138 permits will not be required for this phase of work.
<i>Waste Avoidance and Resource Recovery Act 2001</i> (WARR Act)	The WARR Act promotes waste reduction and better use of resources. It includes provisions for waste strategies and programs, and for industry actions to reduce waste, including extended producer responsibility schemes and container deposit schemes.	A SMP has been produced to encompass the requirements of the WARR Act.
<i>Fisheries Management Act 1994</i> (FM Act)	The objectives of the FM Act are to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. Part 7 of the FM Act requires a permit for a number of activities, including those involving dredging and reclamation work and those involving harm to marine vegetation.	In accordance with Section 5.23 of the EP&A Act, a permit under Section 201, 205 or 219 of the FM Act is not required for approved SSI. However, a number of marine ecology and water quality mitigation measures have been committed to in the EIS and form part of sub-plans for the management of dredging and reclamation during subsequent stages of development.
<i>Water Management Act 2000</i> (WM Act)	The objects of the WM Act are to provide for the sustainable and integrated management of the water sources of the state for the benefit of both present and future generations. The regulator and policy maker for water resource	The Project will involve excavation within 40 metres of the shoreline and has the potential to intercept water within an aquifer during excavation or directional drilling. However, the Project is not anticipated to require

Legislation	Project Relevance	Applicability
	management is the NSW Department of Planning, Industry and Environment – Water (DPIE).	major dewatering of water from a water source and is not expected to trigger the need for a water use approval, water management works approval, or controlled activity approval under Sections 89, 90 or 91 of the WM Act as these approvals are not required for CSSI in accordance with Section 5.23 of the EP&A Act. A Construction Water Quality Management Plan (CWQMP) has been produced to cover off specific requirements of the WM Act.
<i>Heritage Act 1997</i>	The <i>Heritage Act 1997</i> is concerned with all aspects of heritage conservation ranging from basic protection against indiscriminate demolition of buildings and sites, to their restoration and enhancement. CSSI status of the Project means that approval under Part 4, or an excavation permit under Section 139 are not required.	No impacts to heritage are anticipated during the Early Enabling Works for the Project. Discovery protocols have been developed and will be incorporated into the site induction and implemented on site should any potential items of historic heritage be excavated or otherwise located during the intended work. A Heritage Unexpected Finds Protocol (HUFPP) has been produced to outline the processes to be implemented in the event any artefacts are encountered.
<i>National Parks and Wildlife Act 1974 (NPW Act)</i>	The NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the NPW Act, an Aboriginal object is defined as any deposit, object or material evidence relating to indigenous and non-European habitation, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction and includes Aboriginal remains. An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. An Aboriginal place may or may not contain physical Aboriginal objects.	An Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act is not required for approved CSSI in accordance with Section 5.23 of the EP&A Act. The design of the Project has been amended to avoid areas of archaeological potential. Discovery protocols have been developed and will be incorporated into the site induction and implemented on site should any potential items of Aboriginal heritage be excavated or otherwise located during the intended work. A HUFPP has been produced and approved to outline the processes to be implemented in the event any artefacts are encountered.

3.4 Permits and licences

This section identifies planning and environmental regulatory permits and licences applicable to the Project during the Early Enabling Works. AIE will secure the required permits and licences throughout the construction process prior to, during and after completion of works.

The Project has been declared and approved CSSI, and in accordance with Section 5.23 of the EP&A Act the following permits are not required for an approved CSSI:

- Permit to Dredge and Reclaim.
- AHIP.
- Excavation permit under Section 139 of the Heritage Act.
- Controlled Activity Permit under the WM Act.
- Water Licence under the WM Act.
- Permit under Section 201, 205 or 219 of the FM Act.

3.4.1 Environmental Protection Licence

AIE will be required to maintain an EPL under the POEO Act. The EPL will outline, amongst other limits:

- Water quality limits to be maintained during construction (including Early Enabling Works) of the Project.

- Air emission monitoring and limits to be maintained during construction (including Early Enabling Works) of the Project.
- Meteorological monitoring to be maintained during construction (including Early Enabling Works) of the Project.

In accordance with Section 5.24 of the EP&A Act, an EPL cannot be refused if it is necessary for carrying out an approved SSI project and is consistent with the development consent.

AIE have submitted an application for an EPL and have undertaken extensive liaison with the EPA. A draft licence has been prepared and will be issued following approval of this EMS and associated management plans for the Early Enabling Works.

3.4.2 RMS Road Permit

Section 138 of the Roads Act requires applicants to obtain consent from the relevant roads authority for the erection of a structure, or the carrying out of work in, on or over a public road, or the digging up or disturbance of the surface of a road.

The Early Enabling Works phase will not involve carrying out of work in or under a public road and Section 138 permits will not be required for this phase of work.

3.4.3 Maritime Safety Licence

Vessels operated as part of the Project would be subject to the provisions of the *Marine Safety Act 1998* including requirements to obtain marine safety licences. Pilotage would also be compulsory under Part 7 of the *Marine Safety Act* as Port Kembla is defined as a pilotage port.

3.4.4 Certificate of Local Knowledge

Barge operations will be controlled through a permit system under the control of the Harbour Master and Liberty Industrial will obtain Certificates of Local Knowledge for all Masters, as required by the Harbour Master and NSW Maritime Safety Regulation 2016.

3.4.5 Major Hazard Facility Licence

Prior to operations, a licence for a major hazard facility would be secured under Part 9.7 of the Work Health and Safety Regulation 2017, subject to consultation with SafeWork NSW. The application for a licence for a major hazard facility will include a safety case as stipulated in the EIS. Final safety case investigations will be undertaken concurrently during the Early Enabling Works and the construction phase of the Project.

3.4.6 Asbestos removal

Asbestos remediation will be required for the Early Enabling Works. A Notification of Removal of Asbestos to WorkSafe NSW (Class B) is required to be lodged with SafeWork NSW. The Notification will be lodged by the Class B licensed removalist and in accordance with the Remediation Works Plan (RWP) for the Project.

3.5 Project-specific approval

The PKGT was approved on 24th April 2019 by the NSW Minister for Planning and Public Spaces, under Section 5.19 of the EP&A Act. The Project has subsequently been modified twice in April 2020 and September 2020.

The Approval Conditions include the development of this EMS and a number of plans to guide environmental management throughout construction and operation of the Project.

The Port Kembla Gas Terminal has progressed to the Early Enabling Works stage of the development, which has an expected duration of approximately six months, as described in Section 2. This stage of the works is required to meet an obligation in the lease agreement with NSW Ports to demolish existing wharf infrastructure by September 2021 and to lay a clear platform to facilitate the future development stages of the Project.

In accordance with Schedule 4, Condition 3 of Infrastructure Approval (SSI 9471), AIE seeks approval for commencement of the Early Enabling Works component of the development and have updated management plans to be specifically reflective of this phase of the Project. These include:

- EMS.
- SMP including a
 - CWQMP
 - RWP
 - Erosion and Sediment Control Plan (ESCP)
 - Emergency Spill Plan (Appendix A), and
 - HUFP.
- Construction Traffic Management Plan (CTMP).
- Air Quality Management Plan (AQMP).

In parallel with this stage of the Project, detailed design is progressing for the subsequent stages including construction of the quay wall, emplacement cell, onshore receiving facilities and gas pipeline. A revised contracting strategy for subsequent construction stages is also progressing concurrently with the detailed design.

All management plans required by Infrastructure Approval (SSI 9471) for construction will be updated to be reflective of the revised design and contracting strategy. The plans will be prepared and undergo consultation in accordance with the relevant conditions of the Infrastructure Approval and will be submitted to DPIE for review and approval eight weeks prior to those stages of works commencing.

In addition, AIE and Liberty Industrial are committed to delivering the mitigation/management measures as identified in the EIS and Response to Submissions applicable to the Early Enabling Works, as summarised in Table 3.3.

Table 3-3 Construction phase mitigation/management measures and applicability to Early Enabling Works

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
Port navigation			
PN2	Port Navigation	The movement of barges will be coordinated by the Port Authority Vessel Traffic Information Centre (VTIC). Adherence with existing Port Kembla navigational protocols through close liaison and compliance to directions of the Harbour Master.	Applicable.
PN3	Port Navigation	Development of a Construction Marine Traffic Management Plan for submission to the Harbour Master.	Not applicable – Plan to be developed prior to MBD in Stage 2.
PN4	Port Navigation	Barge operation will be controlled through a permit system under the control of the Harbour Master (through the VTIC) and Masters will be required to obtain Certificates of Local Knowledge as required by the Harbour Master and NSW Marine Safety Regulation 2016.	Applicable .
PN5	Port Navigation	Permission of the Harbour Master will be sought for split hopper barges to be used at night. Construction will be coordinated so as to not impact other vessels and port navigation, with due regard to the port instructions and port protocols (PANSW, 2015).	Not applicable.
PN6	Port Navigation	Monitoring of the depth of deposited dredged material from the seabed in the disposal area to ensure that the barges transferring dredged material are not at risk of grounding.	Not applicable.
Contamination			
CO1	Contamination at Berth 101	<p>One or more of the following is proposed for assessing the potential risk to human health the two Benzo(a)Pyrene (BaP) Toxic Equivalence Quotient (TEQ) hotspots identified at GHB09 and GBH26:</p> <p>Development of a human health risk assessment for BaP (TEQ), to further refine the potential risk posed by these contaminants to future construction workers. Given the short duration of the works relative to the standard exposure assumptions in a commercial/industrial scenario, it is likely that derived site-specific target levels for BaP (TEQ) would be higher than adopted for this assessment.</p> <p>Additional investigation to delineate the vertical and lateral extent of BaP (TEQ). The investigation would involve step out borehole locations which will target materials at depths between 4 m and 5 m, to assess if the contamination is isolated or widespread.</p> <p>The source of BaP (TEQ) at GHB09 and GBH26 was not identified nor was their apparent evidence of this contamination present at the time of sampling. The contamination may be a characteristic of the fill material, meaning it could be randomly distributed throughout the fill matrix. Therefore, in addition to further investigation, bioavailability testing is also recommended so that the risk to human health is better understood and appropriate safety control measures can be adopted during construction. The laboratory is presently maintaining these samples pending further analysis.</p>	Applicable – addressed as part of RWP forming part of the SMP.
CO2	Contamination at Berth 101	<p>Removal of any remnant ACM fragments from the ground surface. The removal should be undertaken by a licenced removalist in accordance with relevant SafeWork NSW codes of practice.</p> <p>Following removal, a licenced asbestos assessor should inspect the site and provide a clearance certificate confirming removal of asbestos.</p>	Applicable – addressed as part of RWP forming part of the SMP.

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
CO3	Contamination at Berth 101	Inclusion of an Unexpected Finds Protocol (UFP) for contamination in the EMS for the work associated with construction activities.	Applicable – UFP included as part of the SMP.
CO4	Berth 101; Proposed pipeline alignment; dredging area and disposal area.	Preparation of an Acid Sulfate Soil Management Plan (ASSMP) by a consultant experienced in the identification and management of ASS. This will also include appropriate treatment and/or management of Acid Sulfate Soils (ASS). The ASSMP will be developed in line with the requirements of the Acid Sulfate Soils Management Advisory Committee Guidelines (ASSMAC, August 1998 and as updated). The ASSMP will be prepared to identify, manage and treat the ASS encountered during excavation and dredging to minimise the production of acid leachate.	Not applicable – Depth of excavation will not disturb ASS during Early Enabling Works
CO5	Proposed pipeline alignment	Preparation and implementation of an EMS to include an UFP to effectively manage the potential contamination issues identified from both a human health and environmental perspective. This would include the assessment of materials to be disturbed across the site to inform appropriate management strategies.	Not applicable
CO6	Proposed pipeline alignment	Assessment and classification of all material to be disposed of offsite as per NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste and Part 4: Acid Sulphate Soils prior to off-site disposal.	Not applicable
CO7	Proposed pipeline alignment	If the proposed pipeline alignment is likely to intersect groundwater, assessment of groundwater quality in those sections should also be carried out to inform construction management of potential contamination issues	Not applicable
CO8	Dredging area and disposal area in the Outer Harbour	A Dredge and Excavation Management Plan (DEMP) will be prepared prior to the dredging of Berth 101, outlining the contamination management measures, including: surface water monitoring, which will be implemented during the course of the works to minimise potential impacts to the receiving waters use of a turbidity curtain to restrict the generation of turbidity plumes and localise any water quality issues	Not applicable
Water resources			
W5	Water Quality	Preparation of a EMS including specific DEMP to provide a framework for the environmental management of construction activities to minimise the environmental risks to a level that is as low as practically possible for this Project.	Not applicable
W6	Water Quality	Design and implementation of a Water Quality Monitoring Program (WQMP) to ensure construction works do not cause exceedance of the marine water quality criterion of background plus 50 mg/L of suspended sediment, in accordance with EPL for similar activities within Port Kembla such as the Berth 103 Stage 2 Dredging & Spoil Disposal EPL20563). Continuous turbidity monitoring would be undertaken using a series of monitoring buoys to provide impact and background data (turbidity (NTU), pH, temperature). Prior to commencement of the dredging works, buoys would be deployed for an agreed period of time to confirm background conditions in the vicinity of the monitoring points. Data would be logged and transmitted to an onshore recording station where it would be processed to allow automated comparison of median turbidity levels to a series of green, amber and red trigger levels. When exceeded, an alarm would be triggered, automated email and SMS alerts sent to the Environmental Representative and agreed procedures implemented.	Applicable – Water Monitoring Program included in CWQMP for Early Enabling Works

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
		<p>Such procedures include hand-held monitoring to verify readings, reduction in the rate of dredging, relocation of dredging activities or cessation of turbidity generating works until turbidity readings reach acceptable levels.</p> <p>Daily visual observations would be undertaken during dredging operations to monitor the potential release of oil or grease.</p> <p>Collection of water samples and laboratory analysis for an agreed set of contaminants would be undertaken on a weekly basis during dredging operations.</p> <p>The WQMP would include regular reporting, evaluation and revision where required to ensure the Project objectives and approval conditions are achieved.</p>	
W7	Water Quality	<p>Silt curtains would be installed prior to commencement of the works in order to minimise the spread of any sediments entrained within the water column during dredging and disposal operations.</p> <p>Silt curtains are available in a range of designs and would be provided by the successful Contractor. It is envisaged that the silt curtain would comprise a geocomposite material consisting of a non-woven geotextile sewn to a woven geotextile, which would provide the required filtering capacity and rigidity respectively. Vessel access would be via gated or overlapped curtains or through installation of a bubble curtain. The top of the curtain would be supported by a floating boom, whilst the lower portion of the curtain would be weighted with appropriate ballasting (e.g., bars or chains) to ensure that the full length of the curtain is maintained at all times. The curtain would be anchored or fixed to existing structures as necessary</p>	Applicable – Silt curtains installed prior to pile removal as part of demolition of Berth 101
W8	Water Quality	Subaqueous sediment removal would be undertaken using a backhoe dredge. The use of mechanical dredging (rather than hydraulic dredging) ensures that sediments are removed, transported and placed as close to their insitu density as possible. Thereby minimising the suspension and mobilisation of sediments at the dredge and disposal sites. Method statements would be prepared by the contractor to ensure that loading of dredged materials into the hopper barges is undertaken in a manner that reduces spillage and avoids overfilling barges.	Not applicable
W9	Water Quality	A perimeter bund would be constructed within the Outer Harbour placement area to ensure long term stability of dredged materials and to minimise sediment migration during placement.	Not applicable
W10	Water Quality	A site-specific ESCP will be prepared as part of the EMS to provide control of all land-based excavation and stockpiling requirements. All erosion and sediment control measures shall be designed, implemented and maintained in accordance with 'Managing Urban Stormwater: Soil and Construction Volume 1' (Landcom 2004) ('the Blue Book').	Applicable
W11	Water quality, chemical and fuel impacts on flora and fauna	A site-specific emergency spill plan will be developed and will include spill management measures in accordance with relevant EPA guidelines. The plan will address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including Roads and Maritime (RMS) and EPA officers).	Applicable – refer to Appendix A.
	Water quality, chemical and fuel impacts on flora and fauna	An emergency spill kit will be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Applicable – refer to Appendix A.

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
W12	Water quality, chemical and fuel impacts on flora and fauna	An emergency spill kit will be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Applicable— refer to Appendix A.
W13	Water quality, chemical and fuel impacts on flora and fauna	Machinery will be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff will be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	Applicable— refer to Appendix A.
Marine ecology			
ME1	Biofouling and benthic community disturbance	Works to remove the current quay wall and piles will commence after a visual inspection for protected mobile fauna (e.g., Syngnathids). If present, these will be relocated to adjacent habitats, outside the zone of influence by the proposed works, where feasible. Dredging will be carried out using mechanical backhoe dredge, split barges and supporting tug vessels, as opposed to suction-style dredging, to minimise the potential mobilisation of sediments within the Inner Harbour. Disposal of the dredged material will be limited to the Outer Harbour disposal area within the perimeter bund.	Applicable
ME2	Water quality and marine ecology impacts from resuspension of sediments	<p>The following controls should be implemented prior to dredge activities:</p> <p>Physical controls such as installation of silt curtains prior to commencement of construction works would be adequate in minimising the spread of any sediments within the water column at the dredging and disposal locations.</p> <p>Dredging techniques that minimise sediment resuspension during excavation and disposal (such as using mechanical methods over hydraulic methods) should be implemented throughout the Project. Barge loads will also be controlled such that overflow of barge loads is avoided.</p> <p>Screening technologies will be implemented to ensure that any contaminated sediments are disposed of responsibly. Contaminated dredge material will be placed such that it will be capped by uncontaminated material in accordance with a dredge management plan.</p> <p>Implementation of a water quality monitoring program to ensure construction works do not exceed the Project's agreed marine water quality criteria.</p> <p>Daily visual observations of any potential toxic dinoflagellate blooms within the Inner Harbour.</p>	Not applicable
ME3	Impact of artificial noise emissions on marine fauna	Implementation of a water temperature monitoring program to document natural variations in water temperature and the extent of temperature differences and dispersion pathways of the cold water discharge plume.	Not applicable
ME4	Impact of artificial noise emissions on marine fauna	<p>During piling activities, the following standard operational procedures are to be implemented (DPTI, 2012):</p> <p>Pre-start procedure – The presence of marine mammals should be visually monitored by a suitably trained crew member for at least 30 minutes before the commencement of the soft start procedure. Particular focus should be put on the shut-down zone, but the observation zone should be inspected as well, for the full extent where visibility allows. Observations should be made from the piling rig or a better vantage point if possible.</p> <p>Soft start procedure – If marine mammals have not been sighted within or are not likely to enter the shut down zone during the pre-start procedure, the soft start procedure will commence in which the piling impact energy is gradually increased over a 10-minute period.</p>	Not applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
	Impact of artificial noise emissions on marine fauna	<p>The soft start procedure should also be used after long breaks of more than 30 minutes in piling activity. Visual observations of marine mammals within the safety zones should be maintained by trained crew throughout soft starts. The soft start procedure will alert marine mammals to the presence of the piling rig and enable animals to move away to distances where injury is unlikely.</p> <p>Normal operation procedure – If marine mammals have not been sighted within or are not likely to enter the shut down or observation zone during the soft start procedure, piling will start at full impact energy. Trained crew will continuously undertake visual observations during piling activities and shut-down periods.</p> <p>After long breaks in piling activity or when visual observations ceased or were hampered by poor visibility, the pre-start procedure should be used. Night-time or low visibility operations may proceed provided that no more than three shut-downs occurred during the preceding 24 hour period.</p> <p>Stand-by operations procedure – If a marine mammal is sighted within the observation zone during the soft start or normal operation procedures, the operator of the piling rig should be placed on stand-by to shut-down the piling rig. An additional trained crew member should continuously monitor the marine mammal in sight.</p> <p>Shut-down procedure – If a marine mammal is sighted within or about to enter the shutdown zone, the piling activity should be stopped immediately. If a shut-down procedure occurred and marine mammals have been observed to move outside the shut-down zone, or 30 minutes have lapsed since the last marine mammal sighting, then piling activities should recommence using the soft start procedure. If marine mammals are detected within the shut- down zone during poor visibility, operations should stop until visibility improves.</p>	Not applicable
ME5	Impact of artificial noise emissions on marine fauna	Vessel and heavy machinery should be maintained in accordance with the manufacturer specifications to reduce noise emissions.	Applicable
ME6	Impact of artificial noise emissions on marine fauna	<p>The interaction of all vessels with cetaceans and pinnipeds will be compliant with Part 8 of the EPBC Regulations (2000). The Australian Guidelines for Whale and Dolphin Watching (DoEE, 2017) for sea-faring activities will be implemented across the entire Project.</p> <p>This includes the implementation of the following guidelines:</p> <p>Caution zone (300 m either side of whales and 150 m either side of dolphins) –vessels must operate at no wake speed in this zone.</p> <p>Caution zone - must not be entered when calf (whale or dolphin) is present.</p> <p>No approach zone (100 m either side of whales and 50 m either side of dolphins) – vessels should not enter this zone and should not wait in front of the direction of travel or an animal or pod, or follow directly behind.</p> <p>If there is a need to stop, reduce speed gradually. Do not encourage bow riding. If animals are bow riding, do not change course or speed suddenly</p>	Applicable
ME7	The impact of artificial light emissions	Light spill from the nearshore vessel operations will be minimised where possible using directional lighting.	Applicable
ME8	The impact of artificial light emissions	Lighting on vessel decks or the berth construction area will be managed to reduce direct light spill onto marine waters or surrounding landscape, unless such actions do not comply with site safety or navigation and vessel safety standards	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
		(Australian Maritime Safety Authority (AMSA) Marine Orders Part 30: Prevention of Collisions; AMSA Marine Orders Part 21: Safety of Navigation and Emergency Procedures).	
ME9	Pest introduction and proliferation	<p>Locally sourced vessels (within NSW waters) to complete the construction works. Where possible International vessels to empty ballast water in accordance with the latest version of the Australian Ballast Water Management Requirements (DAWR, 2017).</p> <p>If an Incursion of Marine Pests (IMP) is identified or suspected, then the contractor is obliged to immediately (within 24 hours) notify the NSW Department of Primary Industries Aquatic Biosecurity Unit hotline on (02) 4916 3877. Project activities are to adhere to the National System for the Prevention and Management of Marine Pest Incursions (National System) and NSW requirements for IMP identification and management.</p>	Applicable
ME10	Accidental release of solid waste	<p>Appropriate waste containment facilities will be included on site and managed to avoid overflow or accidental release to the environment. No waste materials will be disposed of overboard of vessels, all non-biodegradable and hazardous wastes will be collected, stored, processed and disposed of in accordance with the vessel's Garbage Management Plan as required under Regulation 9 of The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V.</p> <p>All marine vessels will be operated and maintained in accordance with NSW regulations and best practice.</p> <p>Hazardous wastes will be separated, labelled and retained in storage onboard within secondary containment (e.g., bin located in a bund).</p> <p>All recyclable and general wastes to be collected in labelled, covered bins (and compacted where possible) for appropriate disposal at a regulated waste facility.</p> <p>Solid non-biodegradable and hazardous wastes will be collected and disposed of onshore at a suitable waste facility.</p>	Applicable
ME11	Accidental release of hydrocarbons, chemicals and other liquid waste	<p>All liquid waste to be stored for discharge to an appropriate onshore facility. Chemicals and hydrocarbons will be packaged, marked, labelled and stowed in accordance with MARPOL Annex I, II and III regulations. These include provisions for all chemicals environmentally hazardous) and hydrocarbons to be stored in closed, secure and appropriately banded areas. A Materials Safety Data Sheet (MSDS) will be available for chemicals and hydrocarbons in locations nearby to where the chemicals / wastes are stored. Vessel operators will have an up-to-date Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP). All shipboard chemical and hydrocarbon spills will be managed in accordance with these plans by trained and competent crew. Any contaminated material collected will be contained for appropriate onshore disposal. Any equipment or machinery with the potential to leak oil will be enclosed in continuous bunding or will have drip trays in place where appropriate. Following rainfall events, banded areas on open decks of the vessels or within any construction laydown areas will be cleared of rainwater. All hoses for pumping and transfers will be maintained and checked as per the PMS.</p>	Applicable
ME12	Damaged fuel tank associated with vessel or plant collision	<p>Visual observations will be maintained by watch keepers on all vessels and plant/moving machinery. All vessels must comply with relevant marine navigation and safety standards. Marine diesel oil compliant with MARPOL Annex VI Regulation 14.2 (i.e., sulphur content of less than 3.50% m/m) is the only diesel engine fuel to be used by the vessels. Oil spill responses will be executed in accordance with the vessel's SOPEP, as required under MARPOL. Emergency spill</p>	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
		response procedures would be developed and implemented when required.	
Heritage			
H1	Unexpected finds	The construction workforce would be given a heritage induction and supporting material enabling them to identify materials of potential heritage value and explaining how to respond.	Applicable
H2	Unexpected finds	A protocol to be followed in the event of an unexpected find would be developed and would include clear lines of communication and stop work procedures to be followed.	Applicable
Terrestrial biodiversity			
TB1	Offset obligations	In accordance with the offset rules established by the Biodiversity Conservation Regulation 2017 there are various means by which the offset obligations can be met. The following is recommended: Secure and retire appropriate credits from stewardship site/s that fit within the trading rules of the BOS (Biodiversity Offsets Scheme) in accordance with the 'like-for-like' report generated by the BAM (Biodiversity Assessment Method) calculator. If the required credits are unavailable, source credits in accordance with the 'variation report' generated by the BAM calculator. Only consider a payment to the Biodiversity Conservation Fund if a suitable number and type of biodiversity credits cannot be secured from third parties.	Applicable – Offset credits have been retired by payment into the Biodiversity Conservation Trust
TB2	Loss of native vegetation and fauna habitat	Staff will be inducted and informed of the limits of clearing and the areas of vegetation to be retained.	Not applicable
TB3	Fauna protection	A trained ecologist is to be present for construction activities that may impact frog habitat which includes dewatering / removal of detention basins and trenching immediately adjacent to Typha drainage line (west of Springhill Road). Temporary frog-proof fencing should be installed around drill sites, road side drains and detention ponds near the project site to prevent frogs from being injured or killed by equipment. The trench is to be covered at night to prevent fauna from falling in. An inspection is to be conducted each morning to check the trench for frogs. Any frogs identified will only be handled by an ecologist or wildlife rescue representative. Any Green and Golden Bell Frogs or other resident frogs are to be handled in accordance with the Chytrid fungus hygiene protocols (DECC 2008c) and released into the most appropriate nearby habitat area.	Applicable for demolition of detention basins on-site
TB4	Spread of weeds	Priority weed control measures will be implemented as part of the EMS to prevent their spread in the study area.	Applicable
TB5	Spread of weeds	Declared priority weeds will be managed according to requirements of the NSW Biosecurity Act 2015. Soil material and stripped groundcover vegetation with the potential to contain priority weeds will not be removed from the project site. Soil disturbance will be avoided as much as possible to minimise the potential for spreading weeds.	Applicable
TB6	Sedimentation	A site-specific ESCP will be prepared as part of the EMS. All erosion and sediment control measures shall be designed, implemented and maintained in accordance with relevant sections of 'Managing Urban Stormwater: Soil and Construction Volume 1' (Landcom 2004) ('the Blue Book')	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
		(particularly Section 2.2) and 'Managing Urban Stormwater: Soil and Construction Volume 2A – Installation of Services' (DECC 2008b). The erosion and sediment control plan will include stockpiles, stormwater runoff, trees, site boundaries, site access and storage areas.	
TB7	Sedimentation	Areas disturbed during the works will be rehabilitated, including stabilising disturbed soils to resist erosion and weed invasion via establishment of a suitable turf species such as a native Couch or repaving roads and sealed surfaces. Stabilisation activities will be carried out progressively to limit the time disturbed areas are exposed to erosion processes. Activities with a risk of soil erosion such as earthworks will not be undertaken immediately before or during high rainfall or wind events.	Applicable
TB8	Water quality, chemical and fuel impacts on flora and fauna	A site-specific Emergency Spill Plan will be developed and will include spill management measures in accordance relevant EPA guidelines. The plan will address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including RMS and EPA officers).	Applicable – refer to Appendix A.
TB9	Water quality, chemical and fuel impacts on flora and fauna	An emergency spill kit will be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Applicable – refer to Appendix A.
TB10	Water quality, chemical and fuel impacts on flora and fauna	Any herbicides used for weed control will be applied to the manufacturer's specifications and as outlined in the manufacturer's MSDS.	Applicable
TB11	Water quality, chemical and fuel impacts on flora and fauna	Machinery will be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff will be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	Applicable – refer to Appendix A.
TB12	Pathogen spread and establishment	Vehicle wash down facilities will be provided should evidence of pathogens or fungus such as Phytophthora or Chytrid be found.	Applicable
Traffic and access			
T1	General	A CTMP has been prepared prior to the commencement of works with site induction for construction personnel being undertaken to outline the requirements of the CTMP. The aim of the CTMP is to maintain the safety of all workers and road users within the vicinity site including but not limited to: Site access routes. Construction parking arrangement. Traffic management. Pedestrian and bicycle rider management. Roadside hazards.	Applicable
T2	Traffic management	A traffic control plan would be developed in accordance with the NSW RMS Services Traffic control at work sites and AS1742.3 – Traffic control devices for works on roads.	Applicable
T2	Traffic volumes	Traffic management planning would seek to minimise traffic movements where possible during the morning and afternoon peak hours.	Applicable
T3	Traffic volumes	Construction workers would be encouraged to carpool or utilise public transport where practicable.	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
Noise and vibration			
NV1	Management of airborne noise through site inductions	Provide site inductions to all employees, contractors and subcontractors. The induction must at least include: All relevant project specific and standard noise and vibration mitigation measures Relevant licence and approval conditions Permissible hours of work Any limitations on noise generating activities with special audible characteristics Location of nearest sensitive receivers Construction employee parking areas Designated loading/unloading areas and procedures Site opening/closing times (including deliveries) Environmental incident procedures	Applicable
NV2	Airborne noise from transport	Plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site.	Applicable
NV3	Management of sensitive receivers from airborne noise	Notify the affected receivers detailing the construction activities, time periods over which they would occur and the duration of works. Provide contact details to the affected receivers. If noise complaints are received, they should be recorded and attended. Noise monitoring should be conducted to assess compliance with the predicted construction noise levels.	Applicable
NV4	Airborne noise and general construction methods	Quieter construction methods should be used where feasible.	Applicable
NV5	Airborne noise from pipeline construction	Minimise pipeline construction activities near sensitive receivers during more sensitive time periods (evening, night).	Not applicable
NV6	Airborne noise from equipment	Turn off equipment after use.	Applicable
NV7	Airborne noise from behavioural practices	No swearing or unnecessary shouting or loud stereos/radios on site. No dropping of materials from height, throwing of metal items and slamming of doors. No excessive revving of plant and vehicle engines. Controlled release of compressed air.	Applicable
NV8	Updating the EMS	The EMS must be regularly updated to account for changes in noise and vibration management issues and strategies.	Applicable
NV9	Airborne noise from use and siting of plant	Simultaneous operation of noisy plant within discernible range of a sensitive receiver is to be avoided. The offset distance between noisy plant and adjacent sensitive receivers is to be maximised. Plant used intermittently to be throttled down or shut down. Noise-emitting plant to be directed away from sensitive receivers.	Applicable
NV10	Airborne noise from vehicles	Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work, including delivery vehicles.	Applicable
NV11	Airborne noise from delivery of	Loading and unloading of materials/deliveries is to occur as far as possible from sensitive receivers.	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
	goods to construction sites		
	Airborne noise from delivery of goods to construction sites	Select site access points and roads as far as possible away from sensitive receivers. Dedicated loading/unloading areas to be shielded if close to sensitive receivers. Delivery vehicles to be fitted with straps rather than chains for unloading, wherever possible.	Applicable
NV12	Airborne noise from mobile plant	Where possible reduce noise from mobile plant through additional fittings including residential grade mufflers.	Applicable
NV13	Airborne noise from prefabrication of materials	Where practicable, pre-fabricate and/or prepare materials off-site to reduce noise with special audible characteristics occurring on-site. Materials can then be delivered to site for installation.	Applicable
NV14	Airborne noise from stationary noise sources	Stationary noise sources, such as pumps, should be enclosed or shielded whilst ensuring that the occupational health and safety of workers is maintained. Appendix F of AS 2436:1981 lists materials suitable for shielding	Applicable
NV15	Noisy activity impacts on sensitive receivers	Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable) and consideration of site topography when situating plant.	Applicable
NV16	Impacts from underwater noise	It is recommended that a 109-metre observation zone be established around the underwater piling zone. The 109-metre observation zone would permit up to 30 minutes of continuous piling. Larger observation zones can permit longer durations of piling.	Not applicable
NV17	Impacts from underwater noise	The Underwater Piling Noise Guidelines (2012) recommends the following standard management and mitigation procedures with respect to underwater piling operations: Avoid conducting piling activities during times when marine mammals are likely to be breeding, calving, feeding, migrating or resting in biologically important habitats located within the potential noise impact footprint. Use low noise piling methods, instead of impact piling, where possible. Presence of marine mammals should be visually monitored by a suitably trained crew member for at least 30 minutes before the commencement of the piling procedure. If no marine mammals are nearby, a soft-start piling procedure should be used. This involves gradually increasing the piling impact energy over a 10-minute time period. Visual observations of marine mammals within the safety zone should be maintained by trained crew throughout the start period. If a marine mammal is sighted within the observation zone during the soft start of normal operation procedures, the operator of the piling rig should be placed on stand-by to shut down the piling rig. A record of procedures employed during the operations should be maintained by the piling contractor	Not applicable
Air quality			
AQ1	Fugitive dust emissions	Water material prior to it being loaded for on-site haulage, where appropriate.	Applicable
AQ2	Fugitive dust emissions	Aim to minimise the size of storage piles where possible.	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
AQ3	Fugitive dust emissions	Limit cleared areas of land and clear only when necessary to reduce fugitive dust emissions.	Applicable
AQ4	Vehicle emissions	Control on-site traffic by designating specific routes for haulage and access and limiting vehicle speeds to below 25 km/hr.	Applicable
AQ5	Fugitive dust emissions	All trucks hauling material will be covered on the way to the site and maintain a reasonable amount of vertical space between the top of the load and top of the trailer.	Applicable
AQ6	Fugitive dust emissions	Operations conducted in areas of low moisture content material should be suspended during high wind speed events or water sprays should be used.	Applicable
Landscape and visual			
LV4	Visual – construction works	Temporary boardings, barriers, traffic management and signage would be removed when no longer required.	Applicable
LV5	Visual - construction works	Materials and machinery would be stored neatly during construction works.	Applicable
LV6	Visual - construction works	Roads providing access to the site and work areas would be maintained free of dust and mud as far as reasonably practicable.	Applicable
LV7	Visual - construction works	Ensure temporary lighting required during the construction period is sited and designed to avoid light spill into the surrounding area.	Applicable
Social and economic matters			
S1	Investment and employment	A contracting and procurement strategy focusing on maximising local content will be prepared to support local employment and business opportunities during construction. During operation, the Project should seek to work with interested local parties to support new qualification/certification pathways for some of the specialised roles on the FSRU.	Applicable
S2	Other impacts	Stakeholder engagement would be carried out prior to and during construction with key stakeholders and the community to provide information about the project activities and provide a feedback mechanism for residents.	Applicable
Waste management			
W1	Construction waste	Develop and implement a waste management plan for construction that integrates all statutory requirements for waste in NSW and includes: Systems to sort and track the actual types and quantities of waste generated. Measures for separating waste based on classification of management options including colour coded bins. Options for offsite reuse, reprocessing, recycling and energy recovery of waste.	Applicable
G1	Greenhouse gas emissions	All plant and equipment used during the construction works shall be regularly maintained to comply with the relevant exhaust emission guidelines.	Applicable
G2	Greenhouse gas emissions	Sustainable procurement practices will be adopted where feasible.	Applicable
G3	Greenhouse gas emissions	The following measures will be considered by contractor(s): Construction materials sourced locally where possible.	Applicable

EIS ID	Issue	Mitigation/management measure	Applicability to Early Enabling Works
		<p>Construction materials that have minimal embodied energy be selected.</p> <p>Use of Polyvinyl Chloride (PVC) plastic minimised.</p> <p>Construction materials that are low maintenance and durable.</p> <p>Plant and equipment will be switched off when not in constant use and not left idling.</p> <p>Plant and equipment brought onsite will be regularly serviced and energy efficient vehicles or equipment will be selected where available.</p> <p>Any plant and equipment that is not working efficiently (i.e. emitting excessive smoke) will be removed from site and replaced as soon as possible.</p> <p>Construction works will be planned to ensure minimal movement of plant and equipment, including barges.</p>	

3.5.1 Contaminated site auditor

A NSW EPA accredited Site Auditor is required to consult on the preparation of sub-plans including:

- Emplacement Cell Report.
- SMP – specific to the dredging and excavation of Marine Berth Dredging MBD spoil that will be placed in the emplacement cell, segregation and testing of materials.
- DEMP.
- WQMP – specific to dredging and placement works. Monitoring of site surface water will be addressed separately within the ESCP.

The Site Auditor nominated for the Project is Melissa Porter of Senversa Environmental. At the completion of dredging, excavation and disposal works, the Auditor will be required to issue a Section A Site Audit Statement confirming the suitability of the site for its intended use.

The following sub-plans have been reviewed by an accredited site auditor for the Early Enabling Works of the MBD:

- Spoil Management Plan.
- Construction Water Quality Management Plan.

3.5.2 Emplacement Cell auditor

A suitably qualified and experienced person will audit the construction of the emplacement cell at the completion of each stage, including:

- Dredging and relocation of existing spoil within the disposal area.
- Construction of the bunds within and around the disposal area
- Emplacement of dredged and excavated spoil in the disposal area; and
- Emplacement cell capping

The audit of the emplacement cell is not applicable to the Early Enabling Works of the MBD.

3.5.3 Port Authority of NSW and NSW Ports

The PANSW and NSW Ports have reviewed the following documents:

- SMP.
- WQMP.

NSW Ports has reviewed the CTMP.

3.5.4 RMS and Wollongong City Council

RMS and Wollongong City Council will be required to review the CTMP for Stage 2 and Stage 3 of the Project.

4. Environmental management framework

AIE strives for excellence through its commitment to leading practice in environmental management and performance. Implementation of this EMS assists in minimising the environmental impacts of construction-related activities by facilitating continual improvement in environmental performance.

This strategy outlines the minimum standard to ensure the AIE manages these aspects and impacts in a manner that is planned, controlled, monitored, recorded and audited, using a management system that drives continual improvement.

4.1 Environmental Management Systems

AIE is a relatively new company established specifically for the delivery of the Port Kembla Gas Terminal. AIE is in the process of developing a range of systems consistent with the requirements of ISO 14001 Environmental Management Systems, ISO 18001/45001 for Occupational Health and Safety and ISO 9001 for Quality Management Systems and will consider seeking certification in the future

Liberty Industrial as principal contractor is certified under ISO 14001 Environmental Management Systems, ISO 18001/45001 for Occupational Health and Safety and ISO 9001 for Quality Management Systems.

4.2 Environmental policy

AIE is committed to pursuing industry best practice in environmental performance. This is demonstrated through the AIE's Environment Policy presented in Appendix B.

5. Roles and responsibilities

All personnel working for the AIE and Liberty Industrial are responsible for:

- Reporting all environmental incidents to their supervisor.
- Carrying out work duties at all times in an environmentally sensitive and responsible manner.

In addition, specific responsibilities are assigned to key personnel, as presented Table 5.1 :

Table 5-1 *Roles and responsibilities*

Project Role	Responsibility
AIE Project Director	<ul style="list-style-type: none"> – Responsible for the overall funding and direction of civil and environmental works associated with the Early Enabling Works. – Ensuring provision of adequate resources to achieve the environmental objectives for the project including ensuring sufficient resourcing for the Environmental Team, Engineering and Construction Teams.
AIE Construction Manager	<ul style="list-style-type: none"> – Proactively stewards the effective implementation of the Early Enabling works in accordance with requirements of the Infrastructure Approval (SSI9471), Environmental Strategy and all related sub-plans – Demonstrate proactive support for environmental requirements
AIE HS&E Manager	<ul style="list-style-type: none"> – Implementation and updates of all Health, Safety and Environmental Management Strategies and sub-plans – Ongoing liaison and engagement with government agencies and point of escalation for any environmental incidents – Identifying environmental issues as they arise and proposing solutions – Environmental Reporting
Liberty Industrial Project Manager	<ul style="list-style-type: none"> – On-site Project management and control. – Decision-making authority relating to environmental performance of the construction program – Authority over Project construction and site activities in accordance with the EMS. – Ensure relevant training is provided to all Project staff prior to commencing individual activities. – Reports to AIE Construction Manager on environmental matters. – Ensures appropriate Contractor resources are allocated to implement the environmental requirements. – Responsible for planning and scheduling of construction, and to ensure operations are conducted in accordance with statutory requirements and the EMS. – Monitors performance against environmental Key Performance Indicators (KPI's). – Ensures that all environmental objectives associated with the Project are achieved. – Day-to-day decision-making authority relating to environmental performance of construction activities and direct site activities and construction. – To provide resources to ensure environmental compliance and continuous improvement. – Ensure all personnel are aware of any changes to EMS and improved procedures. – Ensure this EMS is implemented for the duration of the Early Enabling Works.
Liberty Industrial Construction Foreman	<ul style="list-style-type: none"> – Implement requirements contained in the EMS and Sub-Plans, work procedures and standard drawings. – Maintaining open and transparent communication with other Project discipline managers and other areas of the Project.

Project Role	Responsibility
	<ul style="list-style-type: none"> – Reporting of hazards and incidents and implementing any rectification measures. – Ensures appropriate contractor resources are allocated. – Orders STOP WORK for any environmental breaches and reports incidents to the Project Manager. – Ensure this EMS is implemented for the duration of the Early Enabling Works.
Liberty Industrial Environmental Representative	<ul style="list-style-type: none"> – Delivers environmentally focussed toolbox talks. – Provides environmental advice, assistance, and direction to Project Manager to ensure construction activities are conducted in accordance with regulatory legislation and this EMS. – Develop strong working relationships with the AIE team and Consultants. – Ensure environmental risks are appropriately identified, communicated, and effectively managed. – The Environmental Rep can order Stop Work for any unacceptable environmental risk or breach of conditions. – Ensure communication of relevant environmental information to Project personnel. – Provide specialist advice and input as required – Ensure construction manager, superintendents and field supervisors fully understand the environmental constraints and how construction practices must ensure any such constraints are considered and mitigated against during construction. – Orders STOP WORK for any environmental breaches and immediately reports incidents to Liberty Industrial Project Manager and AIE HS&E Manager.
AIE Environmental Representative	<ul style="list-style-type: none"> – Develop strong working relationships with the Demolition Team and Consultants. – Ensure environmental risks are appropriately identified, communicated, and effectively managed. – Instruct and advise management team on compliance issues. – Provide specialist advice and input as required. – Co-ordinate internal audits of the EMS. – Conduct audit review as required. – Reports on the performance of the EMS and recommends changes or improvements to Project Manager. – Orders STOP WORK for any environmental breaches and immediately reports incidents to the AIE Construction Manager and AIE HS&E Manager. – Conducts investigation and response to environmental complaints and inquiries, where required – .
Subcontractors and construction personnel	<ul style="list-style-type: none"> – Undertake an environmental induction prior to accessing to site. – Comply with legislative requirements. – Participate in weekly inspections and audits. – Follow environmental procedures. – Report all environmental incidents and hazards. – Introduce environmental topics to prestart meetings. – Ensure that all relevant permits and clearances are in place prior to commencing work.

6. Community consultation

6.1 Overview

AIE is committed to keeping the local community and relevant agencies informed about the development of the Project. The principal community objectives are, therefore, to:

- Continue to maintain open communication with the community.
- Minimise environmental impacts.
- Be proactive in addressing any concerns that the community may express.

AIE will build upon the stakeholder and community engagement phase undertaken during project development including multiple group or one on one briefings. A project website (www.ausindenergy.com) has been developed and provides comprehensive, clear and accessible information that is updated on a regular basis.

As well as the local Port Kembla and broader community of the Wollongong region, extensive engagement was also undertaken with a range of other interested key stakeholders, such as local commerce organisations, the Port Authority and local and state government.

Consultation with key stakeholders and the wider community on the project will continue throughout the Early Enabling Works and subsequent construction phases. Table 6.1 below provides details of the key methods of engagement to be provided on an on-going basis.

These measures will ensure the stakeholders, including the wider community, remain informed of the project's progress.

Table 6-1 Ongoing community consultation tools

Engagement tool	Description
Community Information Line	1800 789 177 community enquiries number established for the Project
Company Website	Provides extensive FAQs, fact sheets, and project updates. Also provides clear information on alternative ways to seek information: email, 1800 telephone number and/or subscription service..
Website Enquiries	info@ausindenergy.com established for community enquiries.
Subscriber updates	A range of individuals / organisations have recorded their interest in receiving regular email updates on Project developments through the Subscriber feature on the AIE website. These subscribers will receive regular updates around key Project milestones.
Community newsletter	Community newsletters will be prepared, published and distributed (hardcopy & electronic) to provide an update on key milestones for the Project
In-person group briefings	Briefing of local business and community groups such as Illawarra Business Chamber & Regional Advisory Council, i3net, Australian Industry Group, Port Kembla Chamber of Commerce, Community Neighbourhood Forums 5 & 7
CCC briefings	e.g., Port Kembla Harbour Environment Group
1:1 meetings/telephone /discussions/email exchanges	Daily activity, as required
Media engagement	On-going responsiveness to media enquiries, as well as proactive distribution of key Project developments to local, state and national media

6.2 Complaints and disputes

All complaints, where a third party has identified a construction activity as being unsatisfactory or unacceptable, will be dealt with promptly and efficiently in accordance with the complaint and dispute response flow chart shown in Figure 6.1 and in accordance with AIE's Stakeholder Engagement Plan.

AIE will operate a free 24-hour Community Information Line (1800 789 177) where members of the community can leave details about an inquiry they may have regarding construction activities and this message will be passed on to site personnel and/or the Stakeholder Engagement Team, as appropriate.

Initial responses to complaints will be provided within 24 hours of the complaint being received. As part of the response, a review of the activity will be undertaken. If required and possible, immediate changes will be made to reduce any impact on the community. In some cases, the issues cannot be resolved immediately, and ongoing actions might be required to resolve the issue.

All complaints will be recorded in a Complaints and Disputes Register. The following information will be recorded for each complaint:

1. The date and time of the complaint.
2. The method by which the complaint was made.
3. Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
4. The nature of the complaint.
5. The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant.
6. If no action was taken by the licensee, the reasons why no action was taken.

The Complaints and Disputes Register will be maintained by the Project's HS&E Manager or delegate, and will detail what the issue was, initial response provided, how and when the issue was resolved, and by whom.

Where resolving a complaint with a third party is protracted or develops into a dispute, the AIE HS&E Manager shall escalate proactively to Senior Project Leadership (e.g., AIE Project Manager and/or Project Director) to assist with resolution. AIE will work proactively with the complainant to resolve the dispute including having face to face meetings, site familiarisation sessions and agreeing on actions to resolve the dispute. All communications and agreed actions shall be documented.

Corrective actions and other recommendations including, where applicable, modifications to practices and procedures shall be made and closed out under the direction of the AIE Project Manager. The outcomes from incident investigations will be discussed at daily pre-starts and toolbox talks and will be adopted into work practices or induction programs, as appropriate.

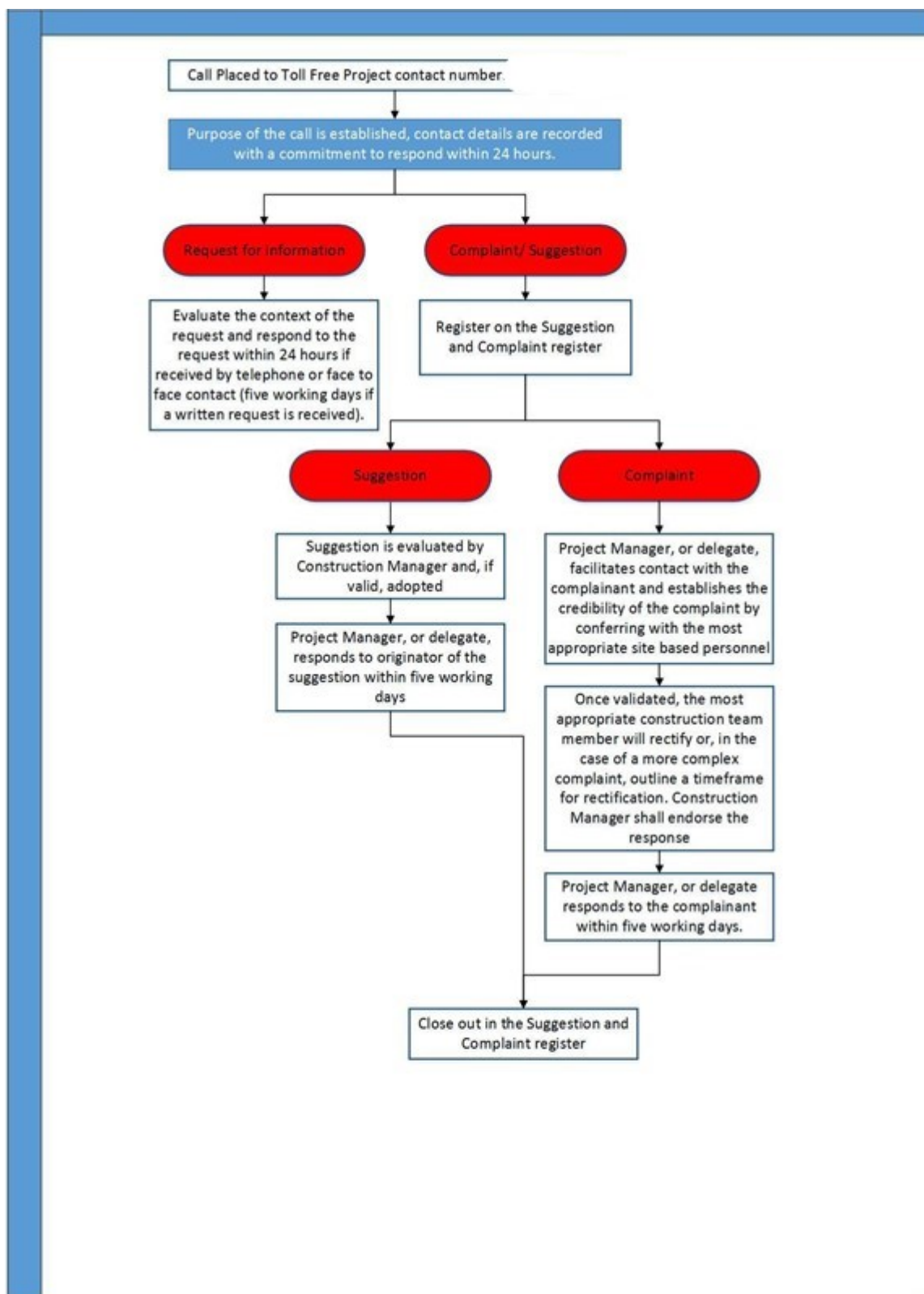


Figure 6.1 Complaint and dispute response flow chart

7. Monitoring, auditing, reporting and review

During construction there will be continuous review of the construction area. Individuals and work crews will be required to demonstrate that the requirements of the EMS are being adhered to. Each supervisor will be required to record daily and weekly activities on pre-prepared checklists addressing relevant requirements.

All reports, reviews, and audits will be maintained by the AIE HS&E Manager and made available to the appropriate Managers (AIE and Liberty Industrial) and regulatory authorities, as required. Audit results will be used to review management techniques to ensure compliance with the EMS.

7.1 Monitoring

The following monitoring will be carried out in relation to the Early Enabling Works:

- Water quality verification and monitoring. This will include:
 - Use of automated water quality monitoring buoys deployed in five locations in Port Kembla Harbour that will measure contaminants of concern plus physical parameters including turbidity, temperature, pH, salinity, and dissolved oxygen (refer to Figure 7.1).
 - Visual inspections that will monitor for the presence of sediment plumes, oil and grease, and Dinoflagellate blooms within the Inner Harbour.
 - Aerial inspections that will monitor for the presence of sediment plumes and silt curtain condition and position.
- Air quality verification and monitoring. This will include:
 - Ambient dust monitoring via real-time sampling and high volume air samples at five locations – two in the MBD Site Compound and three located in the Emplacement Cell Construction Site (refer to Figure 7.1).
 - Ambient dust monitoring via visual inspections.

Details of the water and air quality verification and monitoring are provided in the accompanying Construction Water Quality Monitoring Plan and Air Quality Management Plan,

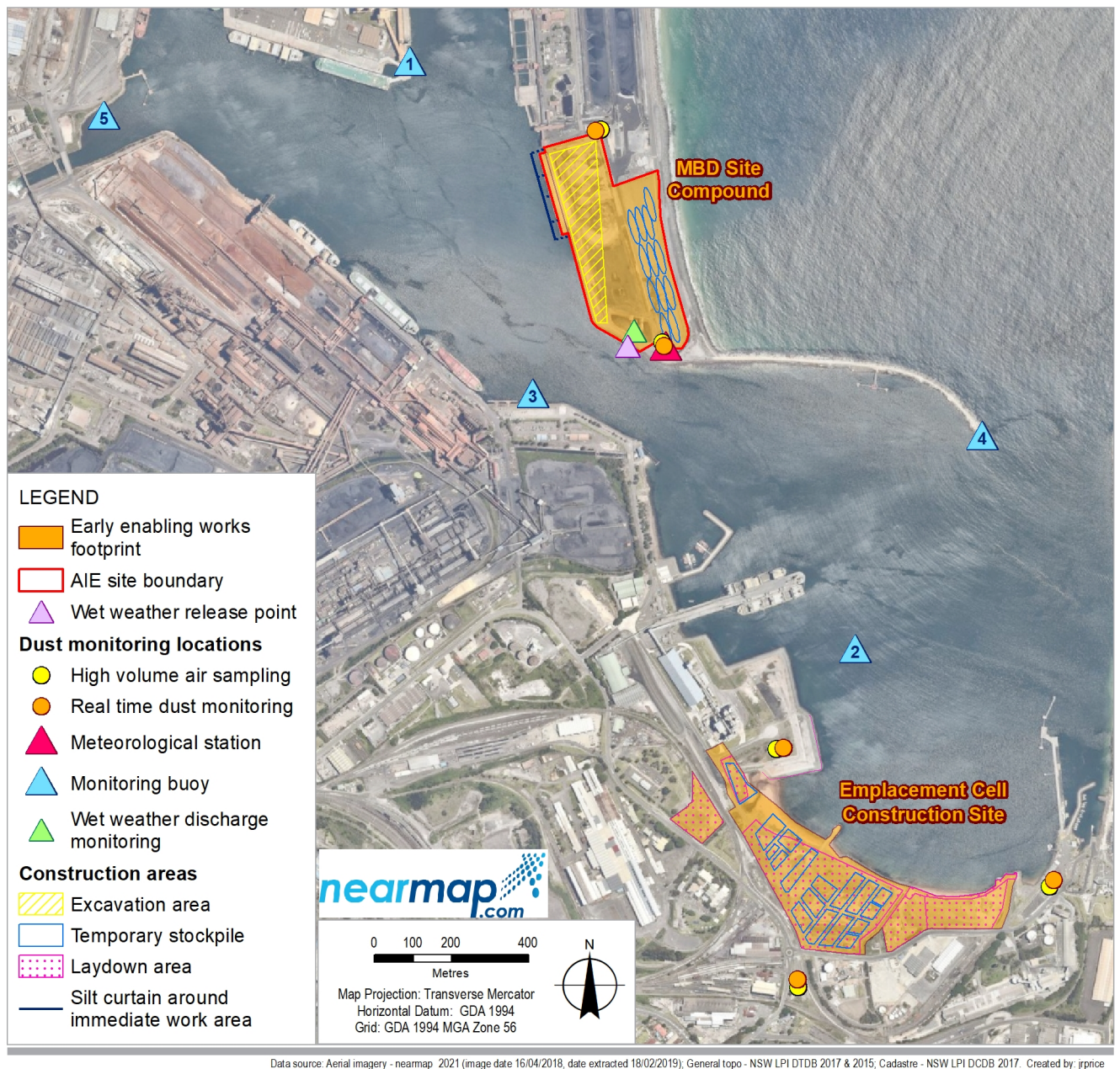


Figure 7.1 Air and water quality monitoring locations - Early Enabling Works

7.2 Reporting

Reporting requirements include:

- Communication, consultation and training outcomes.
- Daily Inspection checklists.
- Reporting on monitoring, environmental compliance, incidents and corrective actions.
- Records and logs of construction and operational activities.
- Internal incident reports.
- Monitoring data.
- Status reporting of various registers required by contract or approval conditions.

7.3 Daily inspections

The Liberty Industrial Environmental Representative will conduct daily inspections of construction activities to ensure compliance with the EMS and all subordinate plans.

All areas for improvement will be added to a corrective action register. Daily inspection reports will be circulated to the AIE Construction Manager and on-site team.

Key environmental risks and issues will be discussed daily at pre-start team meetings and toolbox talks.

7.4 Corrective actions

The Liberty Industrial Environmental Representative will maintain a corrective action register, this register will be populated with any corrective actions identified through the course of daily inspections, other internal and external inspections, audits and incidents reports.

Corrective actions will be assessed by the Liberty Industrial Environmental Representative and prioritised based on evaluated level of risk. High priority items will be closed out as soon as possible while all other items will be endeavoured to be closed out within seven days.

7.5 Continuous improvement

Areas for improvement identified during daily inspections will be addressed by the environment team at daily pre-start meetings with the appropriate construction supervisor and crew to prevent their ongoing occurrence.

At the discretion of the environment team, they also form the basis for more formalised toolbox talks which will be conducted on a weekly basis. Addressing non-conformance and areas for improvement with the construction crews in this forum is aimed at continuously improving the environmental performance of the Project and driving environmental awareness on-site.

7.6 Emergency response

All environmental emergencies will be managed in accordance with processes documented in the Emergency Spill Plan (Appendix A).

7.7 Audits

The AIE Environmental Representative will undertake a series of targeted internal audits of environmental controls used during the Early Enabling Works to review compliance with the requirements of the various Environmental Management Plans.. An audit schedule will be developed and implemented using a risk-based auditing approach at a minimum of quarterly intervals.

7.8 Incident reporting and non-compliance

Incidents are defined as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. The consequences of such incidents may result in material environmental harm, damage or asset loss. 'Near misses' are extraordinary events that could have reasonably resulted in an incident.

All incidents including those involving Liberty Industrial, its subcontractors, and visitors that occur during the Early Enabling Works will be managed in accordance with AIE's Incident Reporting and Investigation Procedure. All environmental incidents and near misses must be immediately reported to the AIE Project Manager and AIE HS&E Manager. These may include, but are not limited to:

- Loss of containment incidents or releases of liquids, solids, or gas.
- Any dangerous goods or hazardous substance spills to waters and over 20 litres in volume to ground (less than 20 litres to be recorded and managed as a corrective action).
- Complaints received from regulatory authorities.

- Regulatory breaches – fines, prosecutions, improvement notices, breaches of licence conditions.
- All incidents of third-party property damage or loss.
- Any loss or damage to native vegetation outside approved work areas or flora and fauna of significance.
- Incidents involving impact or potential damage to cultural heritage significant areas.
- Loss of sediment downstream in a watercourse or other sensitive areas.

The AIE HS&E Manager will be responsible for regulatory notification of all notifiable environmental incidents. All environmental incidents will be reported immediately to DPIE in writing (to compliance@planning.nsw.gov.au) immediately after AIE becomes aware of the incident, as per Schedule 4 Condition 5 of the Infrastructure Approval (SSI 9471). The notification must identify the development, including the application number, and set out the location and nature of the incident.

In the event of a notifiable non-compliance incident arising, Liberty Industrial will notify the AIE HS&E Manager immediately to allow the AIE HS&E Manager to notify DPIE in writing (to compliance@planning.nsw.gov.au) within 7 days of AIE becoming aware of the non-compliance, as per Schedule 4 Condition 6 of the Infrastructure Approval (SSI 9471). The notification must identify the development, including the application number, set out the condition of approval that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.

7.9 Record management

Records and registers specified in the management plans for the Project shall be maintained. Records to be kept include:

- Environmental Monitoring checklist.
- Daily Environment Report.
- Fauna Register.
- Internal Audit Reports.
- Incident Reports and Register.
- Fuel Consumption Report.
- Toolbox Talk Records.
- Induction Presentation and Register.
- Environmental Activities Safe Work Method Statement (SWMS).
- Corrective Actions Register.
- Waste Register.
- Training Register/Matrix.
- Complaints and Disputes Register.
- Water Quality Register.

7.10 KPI'S

The Liberty Industrial Environmental Representative will report monthly on the KPI's listed in Table 7.1. Failure to meet a KPI will initiate a "near miss" investigation. Actions will be developed and tracked to completion to address the identified causes of the KPI non-compliance. KPI's will be submitted and reviewed monthly throughout the Early Enabling Works to the AIE HS&E Manager.

Table 7-1 *Environmental KPIs*

KPI	Target
Number of notifiable incidents as per Section 7.8	0
Waste generated treated or disposed of in Project approved facilities.	100%
Daily Environmental Inspection completed each day	100%
Environment reporting (Reports to be provided without any delay)	100%.
No work stoppage originated from AIE environmental inspections	0
No work stoppage originated from subsidiary documentation approval.	0
Induction and training of new crew members	100%
Weekly environment themed toolbox presented	100%
All high-risk Corrective Action Requests closed out within 7 working days	100%

KPI's will be monitored by the AIE HS&E Manager and reported in the Management Report presented to the AIE Project Director.

7.11 Review and revision of EMS

This EMS will be reviewed and updated, as required, to ensure the objectives of the applicable approval conditions contained within Infrastructure Approval (SSI 9471) are being met throughout the Early Enabling Works. Events which may result in the EMS requiring revision include (but are not limited to) those listed in Condition 3, Schedule 4 of Infrastructure Approval (SSI 9471):

- Following the submission of an incident report as per Condition 5, Schedule 4 (refer to Section 7.8).
- Following the undertaking of an audit (refer to Section 7.7).
- Following approval of any modification to the conditions of approval outlined in Infrastructure Approval (SSI 9471).
- At the direction of the Planning Secretary as per Condition 4 of Schedule 2.

Within 3 months of any of the above-listed events occurring, unless otherwise agreed with the Planning Secretary, AIE must review, and if necessary, revise the EMS to the satisfaction of the Planning Secretary.

7.12 Reporting commitments

Regular reports on compliance and other matters will be provided during the construction phase of the Project. This will include reporting to the DPIE in accordance with Schedule 4, Conditions 7 and 8 of the Infrastructure Approval (SSI 9471), with specific reference to the Compliance Reporting Post Approval Requirements (2020).

In addition, DPIE will be notified in writing of the date of commencement of each of the relevant phases of the Project in accordance with Schedule 2, Condition 8 of the Infrastructure Approval (SSI 9471).

The Project will also be undertaken in accordance with an EPL. In general, some of the key reporting requirements include:

- The provision of monitoring data as required under the EPL every 14 working days on the AIE website.
- Environmental Incident Report(s), as required by DPIE and the EPA.
- Annual returns as required by the EPL.

In addition to the EPL reporting requirements above, a summary of monthly data will be published on the AIE website, noting any exceedance of EPL and other trigger values (as detailed under the individual management plans) and the subsequent investigation and response. AIE will also report to the relevant regulator in the event of a non-compliance with the EPL or Infrastructure Approval (refer to Section 7.8), or in the event of a notifiable incident under the POEO Act.

7.13 Access to information

AIE will make the following information publicly available on the PKGT website, as per Schedule 4, Condition 12 of the Infrastructure Approval (SSI 9471):

- The PKGT EIS.
- Current statutory approvals for the Project.
- Approved strategies, plans or programs required under the conditions of Infrastructure Approval (SSI 9471).
- A comprehensive summary of the monitoring results of the development, reported in accordance with the specification of any conditions, or any approved plans and programs relating to Infrastructure Approval (SSI 9471).
- A summary of complaints (updated monthly).
- Any independent environmental audit, and responses to the recommendations in any audit.
- Any other matter required by the Planning Secretary.

This information will be kept up to date by AIE.

References

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Infrastructure Approval SSI 9471 dated 24th April 2019.

ISO 14001:2015 *Environmental Management Systems.*

ISO 18001/45001:2009 *Occupational Health and Safety and ISO 9001 for Quality Management Systems.*

Landcome (2004) *Managing Urban Stormwater: Soil and Construction Volume 1.*

NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste and Part 4: Acid Sulphate Soils prior to off-site disposal.*

Appendices

Appendix A

Emergency Spill Plan



Port Kembla Gas Terminal

Emergency Spill Plan Early Enabling Works

Australian Industrial Energy

27 May 2021

→ The Power of Commitment



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Acronyms

Term	Definition
ACM	Asbestos containing material
AIE	Australian Industrial Energy
CPT	Cone Penetration Testing
CSSI	Critical State Significant Infrastructure
DICL	ductile iron cement lined
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environmental Protection Licence
FSRU	Floating storage and re-gasification unit
KPIs	Key Performance Indicators
LNG	liquefied natural gas
NGP	Pipeline Installation including tie-ins
ORF	Onshore Receiving Facilities
PANSW	Port Authority of NSW
PKCT	Port Kembla Coal Terminal
PKGT EIS	Port Kembla Gas Terminal Environmental Impact Statement
PKGT	Port Kembla Gas Terminal
PKHD	Port Kembla Height Datum
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
SRD SEPP	State Environmental Planning Policy State and Regional Development
TTE	Tertiary Treated Effluent

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1. Introduction

1.1 Overview

This Emergency Spill Plan for the Early Enabling Works phase of the Marine Berth Construction and Dredging (MBD) package of work has been developed as a sub-plan to the Port Kembla Gas Terminal Project (the Project) Environmental Management Strategy (EMS).

This Emergency Spill Plan was prepared by the SCSB JV on behalf of Australian Industrial Energy (AIE) to apply to construction activities associated with the Project. GHD Pty Ltd (GHD) has updated this Emergency Spill Plan on behalf of AIE for application to the Early Enabling Works of the MBD. This Emergency Spill Plan does not cover works associated with Marine Berth Construction and Dredging or the construction of Onshore Receiving Facilities, or Pipeline Installation.

This Emergency Spill Plan interfaces with the other associated sub-plans, which together describe the proposed overall management system for the Project. This Emergency Spill Plan addresses the requirements of the Project Infrastructure Approval (SSI 9471) and has been prepared in consultation with the NSW Environment Protection Authority (EPA).

1.2 Background

Australian Industrial Energy (AIE) is developing the Project which involves the development of a liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong, NSW. The Project will be the first of its kind in NSW and will provide a simple and flexible solution to the state's gas supply challenges.

NSW currently imports more than 95% of the natural gas it uses from other eastern states. In recent years, gas supplies to the Australian east coast market have tightened, resulting in increased natural gas prices for both industrial and domestic users.

The Project provides an immediate solution to address the predicted shortages and will result in significant economic benefits for both the Illawarra region and NSW. The Project will have a capacity to deliver more than 100 petajoules of natural gas, equivalent to more than 70% of NSW gas needs and will provide between 10 to 12 days of natural gas storage in case of interstate supply interruption. LNG will be sourced from worldwide suppliers and transported by LNG carriers to the gas terminal at Port Kembla where it will be re-gasified for input into the NSW gas transmission network.

The Project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW) and Schedule 5 of the State Environmental Planning Policy State and Regional Development (SRD SEPP). The Project received Infrastructure Approval from the Minister for Planning and Public Spaces on the 29th of April 2019.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable an LNG Carrier to berth alongside the Floating Storage and Re-gasification Unit (FSRU) and new infrastructure to connect the terminal to the existing gas network.

The development has progressed to the early works stage at Berth 101 (the site or MBD Site Compound), which includes the demolition and removal of all existing surface infrastructure, and disconnection and removal of all underground services. The Early Enabling Works phase is required to facilitate all future stages of development and to meet an obligation in the lease of the site to demolish existing wharf infrastructure by 29 September 2021.

1.3 Purpose

This Emergency Spill Plan has been prepared in accordance with the Port Kembla Gas Terminal Environmental Impact Statement (PKGT EIS) and associated Infrastructure Approval (SSI 9471) and describes how Liberty Industrial propose to manage their response to incidents during Early Enabling Works for the MBD that may result in contamination of soils, groundwater and/or surface waters. Specifically, this plan includes requirements to:

- Ensure Liberty Industrial implement industry best practice for the Early Enabling Works.
- Comply with the requirements of the EIS; Environmental Protection Licence (pending) and Infrastructure Approval (SSI 947).

AIE and Liberty Industrial acknowledge that effective spill management in the vicinity of the Early Enabling Works is paramount to the successful delivery of the construction phase of the Project.

This Emergency Spill Plan is applicable to all staff, employees, subcontractors, and any statutory service authorities undertaking works including, but not limited to, excavation works, transportation, or handling of fill throughout the duration of the Early Enabling Works for the MBD. The Emergency Spill Plan implementation and on-going development will be managed by the Project team, as outlined in Section 3.

2. Project overview

2.1 Site description

The site of the Project is situated at Port Kembla within the Illawarra region of NSW, about 80 kilometres south of Sydney. Port Kembla is mainly characterised by the existing import and export terminal and multiple other business, cargo, logistics, bulk goods, and heavy industrial facilities in the vicinity.

Port Kembla is situated about two kilometres south of the centre of Wollongong. Other localities surrounding Port Kembla and the Project site include Mangerton, Mount St. Thomas, and Figtree to the north-west; Unanderra to the west; Berkeley to the south-west; and Cringila, Lake Heights, Warrawong, and the residential region of Port Kembla to the south.

The zoned land use in the region includes special use and industrial use at Port Kembla and a mix of primarily residential and commercial uses in the surrounding localities. Major infrastructure in the region of Port Kembla includes the Princes Highway, which is a major state and regional highway connecting Sydney and Wollongong and regional areas further south. The Princes Highway provides access to Port Kembla through turnoffs at Masters Road, Five Islands Road and Northcliffe Drive and is broadly utilised including by heavy vehicles from the port.

The South Coast railway line runs along the periphery of Port Kembla including the stations Port Kembla, Port Kembla North, Cringila and Lysaghts. The rail line services commuters and is also used to transport bulk solid goods such as coal, grain, copper, and steel from Port Kembla. The environmental features of Port Kembla and the surrounding region are limited given the extensive industrial, commercial, and residential development. Waterways in the region include the Gurungaty Waterway, Allans Creek, American Creek and Byarong Creek. Green space includes JJ Kelly Park and Wollongong Golf Club to the north and a larger open area to the south west.

The Project will be predominantly located within land zoned for dedicated port and industrial use. Berth and wharf facilities and the FSRU would be situated at Berth 101 at the Inner Harbour while the gas pipeline would extend around the periphery of port operations from Berth 101 to a tie-in point at Cringila.

A site overview is provided as Figure 2.1.



Figure 2.1 Site overview

2.2 Project construction scope of work

The Project construction scope of work has been divided into the three main packages (with associated activities), as outlined in Table 2.1. This Emergency Spill Plan applies only to the Early Enabling Works associated with the MBD.

Table 2.1 Project construction scope of work

Stage	Package	Proposed commencement	Activities	Applicability to Emergency Spill Plan
1	Early Enabling Works	May 2021	Early Enabling Works. Demolition of Berth 101, removal of structures and land-based excavation works and Cone Penetration Testing (CPT) in the Outer Harbour to inform Emplacement Cell design.	Applicable.
2	Marine Berth Construction and Dredging (MBD)	November 2021	Quay wall construction.	Not applicable.
			Excavation/dredging.	Not applicable.
			Wharf facilities construction including mooring system, navigational aids, and associated works.	Not applicable.
	Onshore Receiving Facilities (ORF)		Construction of the ORF, which comprises of three areas: Wharf Topside Area; Utility Area; and Common Area. Installation of a small section of pipeline within the Berth 101 site boundary.*	Not applicable.
3	Pipeline Installation including tie-ins (NGP)	March 2022	Construction of an 18" onshore natural gas pipeline approximately 6.3km in length from the Berth 101 site boundary to Tie-in Facility at Cringila.	Not applicable.

2.3 Early enabling works for MBD

The site of the early enabling works is the former Port Kembla Coal Terminal (PKCT) Bulk Products Berth. The removal of existing structures and services is required to facilitate subsequent development stages of the Project. The scope of the Early Enabling Works will involve the following tasks:

- Excavation down to level of RL +2.5 metres Port Kembla Height Datum (PKHD) to allow removal of existing structures and services and facilitate construction of the quay wall.
- Demolition/removal of Berth 101 and aboveground structures.
- Demolition/removal of aboveground and underground services.
- Removal of existing stockpiles from site.
- Transport of spoil via road from the MBD Site Compound to the Emplacement Cell Construction Site.
- Platform excavation and stockpiling.
- Processing demolished materials (for re-use or recycling) by others.
- CPT in the Outer Harbour.

An outline of the tasks associated with the Early Enabling Works is provided in Section 2.3.1 through Section 2.3.5. The Early Enabling Works are shown graphically in Figure 2.2.

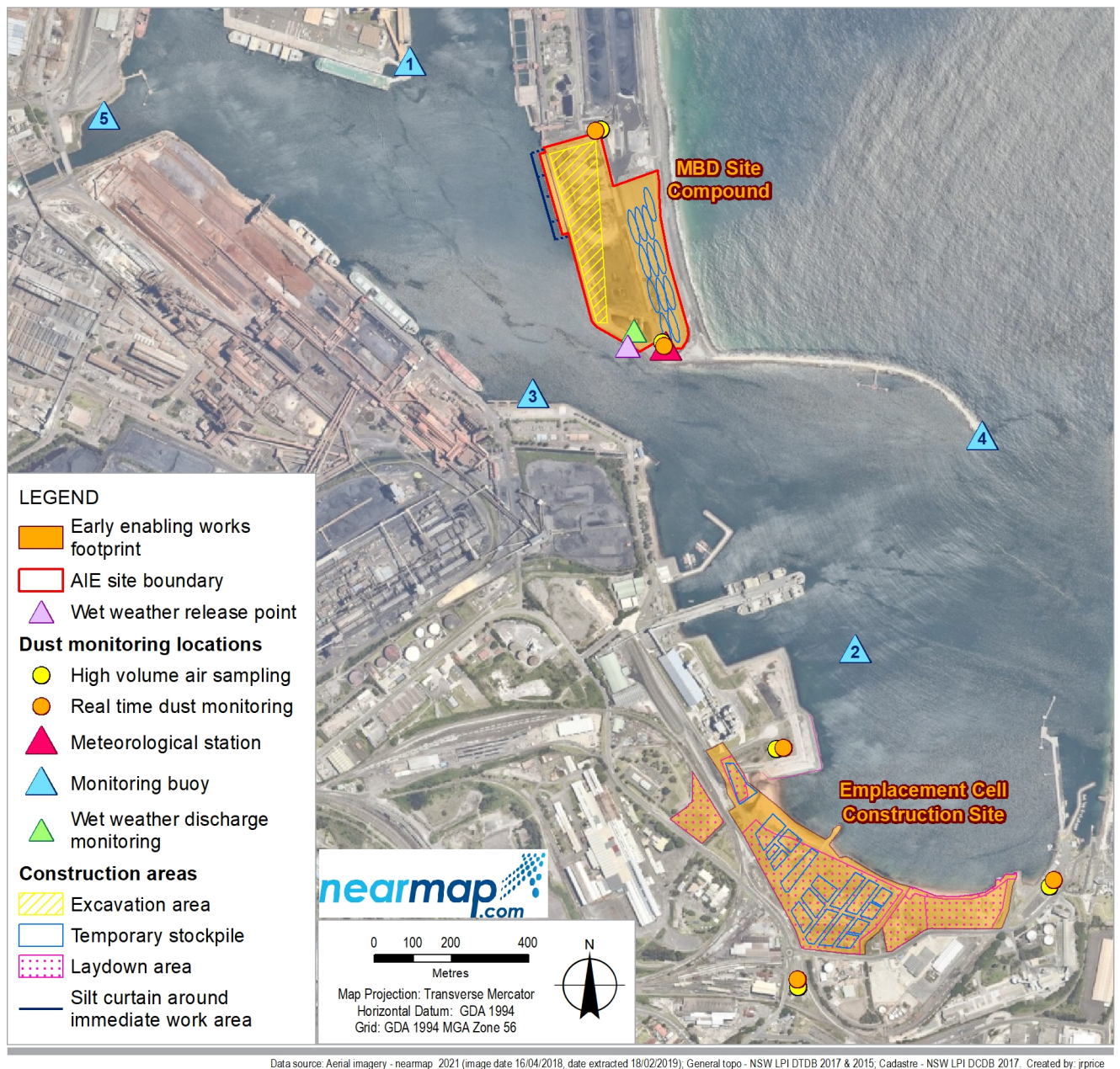


Figure 2.2 Early Enabling Works for MBD

2.3.1 Excavation

Excavation is required to facilitate the removal of existing aboveground and underground structures and services within the MBD Site Compound to a level of RL +2.5 metres on PKHD.

The proposed excavation zone generally extends from Road No. 7 at the northern end of the West Stockyard to the South Ponds and across to Road No. 9 as shown by the yellow shaded area in Figure 2.3.



Figure 2.3 Proposed excavation zone within MBD Site Compound

It is proposed to segregate, manage, stockpile and transport excavated materials into the following categories:

- Fill materials and concrete suitable for re-use for wharf construction will be crushed on-site and stockpiled in the East Stockyard (refer to Figure 2.3).
- Excess materials suitable for placement in the Outer Harbour will be transported to the Emplacement Cell Construction Site (refer to Figure 2.2 and Figure 2.4).
- Revetment rock armour will be stockpiled for reuse, if removed.
- Recyclable material such as steel, cables, etc. will be transported off site for recycling.
- Waste materials that are unsuitable as fill or for recycling will be disposed off-site at an approved landfill facility.



2.3.1.1 Demolition/removal of structures

All structures, foundations, piling, paving, site services, etc. within the excavation zone require demolition and removal. The proposed structures for demolition are summarised in Table 2.2.

Table 2.2 Structures to be demolished/removed during Early Enabling Works for MBD

Structure	Works required
Tower T1	Remove any remaining miscellaneous steel work as necessary (e.g., handrails and guardrails)
Tower T2 and T3	Demolish headstock and cut-off any piles at RL+1.5 m PKHD.
Tower T1, T3, T4 and T6 Clean Out Pits/ Drains	Demolish any remaining miscellaneous steel work, the Clean Out Pit, and associated drains.
Conveyor C3	Demolish any pavement/gutter and cut-off any piling in the excavation zone
T3 Pond	Demolish any remaining miscellaneous steel work, the pit and associated drain.
Tower T5 gantries	Demolish the remaining footings and headstock and cut-off piles at RL +1.5m PKHD. The two southern gantries require complete removal of the headstock and piles.
Conveyor C5 Gantry Walls	Demolish the remaining West Stockyard walls (inverted precast concrete T sections).
Reclaim conveyors C6 and C7	Demolish all remaining parts including the reclaim hopper, paving and any foundations/piling/footings.
West shore clean out pit	Demolish any remaining miscellaneous steel work, the pit and associated drain.
West Stockyard Hardstand Area	Demolish and excavate the hardstand to RL + 2.5 m PKHD. The excavation of the hardstand shall extend to 3 m beyond the tie rod anchors (the hardstand area is constructed of 300 mm heavily bound base course (road building material), 340 mm lightly bound base course (80% blast furnace slag and 20% granulated blast furnace slag) and 200 mm of engineered fill.
Light Towers	Demolish the foundations and remove associated cabling. Demolish and remove all other light towers from the site.
Berth 101	Berth 101 comprises a concrete deck supported by 568 concrete and timber piles, tie rods and dead man blocks. There is also a fendering system comprising timber piling, timber waling and rubber fenders, various utilities, and a sheet pile cut-off wall (approximately 175 m long) along the landside of the berth. Works required include cut and remove the concrete deck, remove tie rods, and anchor blocks. Removal of piles will be via a crane positioned on a barge immediately adjacent to the wharf structure. Silt curtains will be positioned surrounding the work area during the removal of piles. AIE has an obligation under its lease agreement to demolish the Wharf at Berth 101 by 29 September 2021.
Substation	Undertake asbestos containing material (ACM) inspections and testing of materials prior to demolition (as required). Where ACM is confirmed, remove and dispose off-site by licensed contractor with clearance certificate. Demolish building and transformer bays including underground foundations and conduits. Remove and dispose of any remaining cables from Substation within the site.
Mooring lines	Remove lines and blocks.
Sewer tanks	Two underground concrete sewer tanks are located on the south side of Tower TS8. Demolish the tanks following pump out and flushing.

2.3.1.2 Demolition/removal of services

Numerous services are currently located in the excavation zone and will be demolished and removed generally down to RL +1.5 metres PKHD as part of the excavation process. The services that will be demolished/removed are summarised in Table 2.3.

Table 2.3 Services to be demolished/removed during Early Enabling Works for MBD

Structure	Works required
Bunker oil pipeline	<p>The existing bunker oil pipeline extends from storage facilities on the southern shore of Port Kembla, under The Cut to the oil berth at the northern breakwater. A 300 mm carbon steel pipeline extends underground (approximately 600 mm clear cover) along the western shore of the site to Berth 101. An above ground section then passes under Berth 101 and on to Berth 102 to the north.</p> <p>The pipeline sections, both underground and running under Berth 101 require removal with management and disposal of any residual hydrocarbons. It is proposed to cut the pipeline into transportable lengths and removed from site to an appropriate and approved location. Beyond the excavation zone, the pipeline will remain in-situ and will be capped at both ends with suitable identification.</p>
Domestic water pipeline	<p>An underground potable water supply pipeline currently runs underground on the eastern side of Tower TS8 to supply Berth 101 and a ductile iron cement lined (DICL) pipeline continues along the western shore of Berth 101 supplying the Port Authority of NSW (PANSW) meter compound at the south of the site.</p> <p>An abandoned pipeline formed from ACM runs parallel to the DICL pipeline. A licenced removal company shall be engaged to remove and transport the asbestos material in a safe manner to an approved disposal site. An asbestos clearance certificate shall be provided following removal.</p> <p>All abandoned domestic water piping is to be removed within the excavation zone. Beyond the excavation zone, the pipeline shall remain in the ground and be capped at both ends.</p>
Electricity supply	<p>Electricity is supplied from the PKCT 11 kV South Substation and distributed in Substation B (south of Berth 101). These supplies include:</p> <p>An underground 11 kV electricity cable (approximately 900 mm cover) from Substation B to the PANSW pad-mounted transformer at the southern end of the site.</p> <p>Several 415 V cables from Substation B to Pumps 01 at the South Ponds, to Pumps 09 and 17 at drain pit sumps and to light poles across the site</p> <p>Control cabling for pumps, lights, and water spray nozzles.</p> <p>The substation building will be demolished with all cables in the excavation zone removed.</p>
Telecommunications	<p>The telecommunications cable extends from a pit near PKCT South Substation to a pit near the PANSW meter compound. The route of the cable is uncertain, however, it is understood to follow the western shore. During demolition works, the cable is required to be removed and disposed of. Any cable beyond the excavation zone, is to remain in-situ.</p>
Tertiary treated effluent	<p>Tertiary Treated Effluent (TTE) is supplied to PKCT for firefighting and dust suppression sprays. An interconnected ring main circles around both the East and West Stockyards supplying dust suppression sprays and fire hydrants.</p> <p>The pipelines and sprays serving the West Stockyard will be demolished and removed. The western incoming supply shall be capped near Tower TS7 and at the branch from West Stockyard to the PKCT truck wash.</p> <p>The spray system for the East Stockyard is not required and will be demolished. The TTE pipeline along the eastern side (Seawall Road) is to remain in-service. The TTE pipeline along Road No. 9 shall be capped on the western side of PANSW meter compound.</p>

During demolition, stormwater from the site will be directed to Southern Pond. The overflow pipes at the Southern Pond are AIE's licensed discharge point into Port Kembla Harbour.

As the demolition work proceeds, the contractor will ensure stormwater runoff always flows to the Southern Pond in accordance with AIE's EPL conditions.

2.3.2 Removal of stockpiles

Two large stockpiles, approximately 700 metres³ to 800 metres³ of mixed sandy gravel material are present in the south-western section of the MBD Site Compound. The stockpiles also contain inclusions of slag gravel, cobbles, concrete, and boulders. Both stockpiles will be removed as part of the Early Enabling Works and will be characterised (visual and sampling, as required) for re-use.

2.3.3 Transport of spoil from MBD Site Compound to Emplacement Cell Construction Site

Approximately 50,000 metres³ of spoil will need to be transported via road from the MBD Site Compound and stockpiled at the Emplacement Cell Construction Site.

The activities associated with this task will involve loading, road transportation via truck and trailer (approx. 30 tonne capacity), unloading, stockpiling, and management of the stockpiles.

Spoil will be characterised prior to transport based on the source location, the availability of any existing data and additional sampling and analysis, as required.

2.3.4 Processing of demolished materials (reuse and recycling)

Demolished materials which are suitable may be re-used in the works, subject to approval by AIE and the Auditor. Materials for re-use may include:

- Uncontaminated excavated material as fill.
- Crushed concrete as fill.

Excavation of a platform to stockpile up to 70,000 metres³ of material will be undertaken in the East Stockyard.

Materials for re-use will be stockpiled and stored in the East Stockyard until further stages of the works proceed.

Materials suitable for recycling will be preserved during the demolition works and removed and stored on-site in the eastern stockyard as directed by AIE until collected or removed from site by appropriate contractors.

2.3.5 Cone Penetration Testing

Cone Penetration Testing (CPT) will be undertaken at 50 to 60 locations within the Outer Harbour to inform the design and alignment of the Emplacement Cell. CPT locations will target alignment of Emplacement Cell and proposed fill area. Works comprise of surveying the seabed level and geotechnical testing (including CPT) via a purpose-built CPT rig attached to a small jack barge, portable 15t CPT rig and jack up barge.

2.4 Program for Early Enabling Works of MBD

Early Enabling Works for the MBD is anticipated to commence in May 2021. It is estimated to be completed in six months.

3. Roles and responsibilities

The Project team is responsible for all activities associated with the Early Enabling Works, including the implementation and maintenance of the various spill mitigation/management measures. The Project team is outlined in the Organisational Chart in the Covering EMS. Relevant roles and responsibilities for the Emergency Spill Plan are outlined in Table 3.1.

Table 3.1 Roles and responsibilities

Project Role	Responsibility
AIE Project Director	<ul style="list-style-type: none"> – Responsible for the overall funding and direction of the Early Enabling Works. – Ensuring provision of adequate resources to achieve the environmental objectives for the project including ensuring sufficient resourcing for the Environmental Team, Engineering and Construction Teams.
AIE Construction Manager	<ul style="list-style-type: none"> – Proactively stewards the effective implementation of the Early Enabling works in accordance with requirements of the Infrastructure Approval (SSI9471), Environmental Strategy and all related sub-plans – Demonstrate proactive support for environmental requirements
AIE HS&E Manager	<ul style="list-style-type: none"> – Implementation and updates of all Health, Safety and Environmental Management Strategies and sub-plans – Ongoing liaison and engagement with government agencies and point of escalation for any environmental incidents – Identifying environmental issues as they arise and proposing solutions – Environmental Reporting
Liberty Industrial Project Manager	<ul style="list-style-type: none"> – On-site Project management and control. – Decision-making authority relating to environmental performance of the construction program – Authority over Project construction and site activities in accordance with the EMS. – Ensure relevant training is provided to all Project staff prior to commencing individual activities. – Reports to AIE Construction Manager on environmental matters. – Ensures appropriate Contractor resources are allocated to implement the environmental requirements. – Responsible for planning and scheduling of construction, and to ensure operations are conducted in accordance with statutory requirements and the EMS. – Monitors performance against environmental Key Performance Indicators (KPI's). – Ensures that all environmental objectives associated with the Project are achieved. – Day-to-day decision-making authority relating to environmental performance of construction activities and direct site activities and construction. – To provide resources to ensure environmental compliance and continuous improvement. – Ensure all personnel are aware of any changes to EMS, Emergency Spill Plan and improved procedures. – Ensure this Emergency Spill Plan is implemented for the duration of the Early Enabling Works.
Liberty Industrial Construction Foreman	<ul style="list-style-type: none"> – Implement requirements contained in the EMS and Sub-Plans, work procedures and standard drawings. – Maintaining open and transparent communication with other Project discipline managers and other areas of the Project. – Reporting of hazards and incidents and implementing any rectification measures. – Ensures appropriate contractor resources are allocated. – Orders STOP WORK for any environmental breaches and reports incidents to the Project Manager. – Ensure this Emergency Spill Plan is implemented for the duration of the Early Enabling Works.

Project Role	Responsibility
Liberty Industrial Environmental Representative	<ul style="list-style-type: none"> – Delivers environmentally focussed toolbox talks. – Provides environmental advice, assistance, and direction to Project Manager to ensure construction activities are conducted in accordance with regulatory legislation and this Emergency Spill Plan. – Develop strong working relationships with the AIE team and Consultants. – Ensure environmental risks are appropriately identified, communicated, and effectively managed. – The Environmental Rep can order Stop Work for any unacceptable environmental risk or breach of conditions. – Ensure communication of relevant environmental information to Project personnel. – Provide specialist advice and input as required – Ensure construction manager, superintendents and field supervisors fully understand the environmental constraints and how construction practices must ensure any such constraints are considered and mitigated against during construction. – Orders STOP WORK for any environmental breaches and immediately reports incidents to Liberty Industrial Project Manager and AIE HSE Manager.
AIE Environmental Representative	<ul style="list-style-type: none"> – Develop strong working relationships with the Demolition Team and Consultants. – Ensure environmental risks are appropriately identified, communicated, and effectively managed. – Instruct and advise management team on compliance issues. – Provide specialist advice and input as required. – Co-ordinate internal audits of the Emergency Spill Plan. – Conduct audit review as required. – Reports on the performance of the Emergency Spill Plan and recommends changes or improvements to Project Manager. – Orders STOP WORK for any environmental breaches and immediately reports incidents to the AIE Construction Manager and AIE HSE Manager. – Conducts investigation and response to environmental complaints and inquiries, where required – .
Subcontractors and construction personnel	<ul style="list-style-type: none"> – Undertake an environmental induction prior to accessing to site. – Comply with legislative requirements. – Participate in weekly inspections and audits. – Follow environmental procedures. – Report all environmental incidents and hazards. – Introduce environmental topics to prestart meetings. – Ensure that all relevant permits and clearances are in place prior to commencing work.

4. Legislative requirements

The legislative and regulation requirements applicable to the Early Enabling Works for the MBD are listed in Table 4.1.

Table 4.1 *Applicable Legislation and Regulations*

Legislation and Regulation	Description	Applicability
State		
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	<p>The objectives of the POEO Act are to protect and enhance the environment of NSW with regard to the need for ecologically sustainable development. The Act provides mechanisms to reduce risks to human health and the degradation of the environment, including pollution prevention and cleaner production.</p> <p>Environment protection notices are outlined in Chapter 4, including details regarding clean-up notices for suspected pollution incidents occurring. Part 5.1 outlines classification of offences, including water pollution, leak and spills, and land pollution.</p> <p>The POEO also outlines the Scheduled Activities that require an EPL in order to be carried out.</p>	<p>Where an EPL applies, spill and pollution requirements (including criteria) may be specified by the licence.</p> <p>Activities undertaken onsite must not contribute to environmental degradation and must not exceed the standards. If an incident does occur it must be notified to the regulatory authority, the NSW EPA under Part 5.7. In the event a clean-up notice is issued it must be complied with.</p>
<i>Protection of the Environment Operations (Waste) Regulation 2014</i> (POEO Waste Regulation)	<p>The POEO Waste Regulation provides regulations for the storage, management and transport of waste. The POEO Waste Regulation repealed the 2005 Waste Regulation, amending the thresholds for EPLs and waste levy system.</p>	<p>The Waste Levy Guidelines outline the requirements for waste management for various activities. Guideline 3 is applicable to demolition and excavation waste streams.</p>
<i>Contaminated Land Management Act 1997</i> (CLM Act)	<p>The CLM Act establishes the process for investigating and remediating land the NSW EPA considers to be significantly contaminated. The Act also manages contaminated land with regard to ecologically sustainable development</p>	<p>Part 4 outlines the requirements for site audits made as a requirement of development consent for a project. Section 5 outlines the requirements of the Infrastructure Approvals related to the Projects site audit conditions.</p> <p>There is a duty for landowners to, and persons who have responsibility for contamination to, notify the EPA under Section 60 of the CLM Act. Notification must be undertaken as soon as practicable after the owner becomes aware of contamination.</p>

5. Planning requirements

The planning requirements and the corresponding emergency spill management measures applicable to the Early Enabling Works for the MBD are listed in Table 5.1. Management measures and spill protocol are detailed in Section 7 .

The planning requirements include the conditions set out in Infrastructure Approval SSI 9471 dated 24th April 2019 and the mitigation/management measures outlined in the PKGT EIS.

Table 5.1 Approval conditions

Requirement	Reference	Responsibility	Evidence	Applicability to this Emergency Spill Plan
Infrastructure Approval conditions				
Environmental Management Strategy Prior to the commencement of construction, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must: (a) provide the strategic framework for environmental management of the development (b) identify the statutory approvals that apply to the development (c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development (d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the development being carried out receive, handle, respond to, and record complaints resolve any disputes that may arise during the course of the development; 	Schedule 4, Condition 1	AIE HS&E Manager	– Refer to EMS	Applicable
<ul style="list-style-type: none"> respond to any non-compliance respond to emergencies; and 			– Section 8.2	Applicable
			– Section 7	
(e) include: <ul style="list-style-type: none"> copies of any strategies, plans and programs approved under the conditions of this approval; and a clear plan depicting all the monitoring to be carried out in relation to the development. 			– Refer to EMS	Applicable
Incident Notification The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Proponent becomes aware of an incident on site. The notification must identify the development, including the application number, and set out the location and nature of the incident.	Schedule 4, Condition 5	<ul style="list-style-type: none"> AIE HS&E Manager Liberty Industrial Project Management Liberty Industrial Environment Rep 	– Section 8.1	Applicable

Requirement	Reference	Responsibility	Evidence	Applicability to this Emergency Spill Plan
		– Construction Foreman		
Non-compliance Notification The Department must be notified in writing to compliance@planning.nsw.gov.au within 7 days after the Proponent becomes aware of any non-compliance. The notification must identify the development, including the application number, set out the condition of approval that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.	Schedule 4, Condition 6	– AIE HS&E Manager – Liberty Industrial Project Management – Liberty Industrial Environment Rep – Construction Foreman	– Section 8.2	Applicable
EIS Management Measures				
A site specific emergency spill plan will be developed, and will include spill management measures in accordance relevant EPA guidelines. The plan will address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including Roads and Maritime and EPA officers)	Condition W11 - Water quality, chemical and fuel impacts on flora and fauna	– AIE HS&E Manager	– This plan	Applicable
An emergency spill kit will be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Condition W12 - Water quality, chemical and fuel impacts on flora and fauna	– AIE HS&E Manager – Liberty Industrial Project Manager – Liberty Industrial Environment Rep – Construction Foreman – Construction Personnel	– Section 3 – Section 6 – Section 7	Applicable
Machinery will be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff will be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	Condition W13 - Water quality, chemical and fuel impacts on flora and fauna	– Liberty Industrial Environment Rep – Construction Foreman – Construction Personnel	– Section 3 – Section 6 – Section 7	Applicable

6. Environmental aspects and impacts

Environmental aspects and possible environmental impacts associated with the Early Enabling Works of the MBD are listed in Table 6.1.

Table 6.1 *Environmental aspects and possible impacts*

Activity	Aspects	Possible environmental impacts
Storage, handling and use of hazardous substances and dangerous goods	Spillage of hazardous chemicals (i.e., fuel line break, refuelling spills)	<ul style="list-style-type: none">– Spillage of hazardous chemicals may result in:<ul style="list-style-type: none">• Soil and water pollution• Affect flora/ fauna or human health• Affect visual amenity• Compliance issues, resulting in prosecution• Increased costs for remediation• Community concerns

7. Land based spill response plan

The correct sequence of response actions that will be implemented in the event of a spill are detailed in Table 7.1.

Table 7.1 *Spill response action sequences*

	Step	Action
1	Safety and detection	Assess safety of situation for yourself and others If you cannot identify the substance, evacuate immediately and follow Step 4 If there is a risk of fire or explosion, evacuate immediately and follow Step 4 Shut off ignition sources(s) if safe to do so
2	Trace source	Put on appropriate PPE Trace the source of the spill Determine if spill is continuing
3	Stop or control	Stop or control the leakage by shutting the valves, plugging holes, moving mobile equipment – only if it is safe to do so
4	Emergency notification	Refer to Incident and Emergency Response Management Plan for contact details – these will be prominently displayed around the site compound and office
5	Secure area	Divert traffic and people away from the immediate area Evacuate if necessary
6	Contain	Contain the leakage using temporary bunds, booms, spill material etc.
7	Recover protocol	Recover any free liquid into purpose-built tankers if possible Recover absorbent materials i.e., Booms
8	Clean Up	Clean up the spill by pumping, absorbing, chemically treating Never spread or dilute spills with degreases, detergents or water
9	Dispose	Dispose of all spill product in accordance with the EMS Contaminated soil should be removed to an appropriate facility following consultation with the environmental representative
10	Report	Report the incident to your supervisor who will then notify the environmental representative The AIE HS&E Manager will notify the appropriate agencies and groups
11	Replace used equipment	Any equipment or materials consumed in the clean-up operation should be replaced as soon as possible
12	Monitor	Monitor the spill site to validate clean up and impact on the environment

8. Reporting and notification

8.1 Incident notification

Incidents are defined as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a noncompliance. The consequences of such incidents may result in material environmental harm, damage or asset loss.

All incidents including those involving Liberty Industrial, its subcontractors, and visitors that occur during the Early Enabling Works will be managed in accordance with AIE's Incident Reporting and Investigation Procedure. All environmental incidents and near misses must be immediately reported to the AIE Project Manager and AIE HS&E Manager, particularly:

- Loss of containment incidents or releases of liquids, solids, or gas.
- Any Dangerous goods or hazardous substance spills to waters and over 20 litres in volume to ground (less than 20 litres to be recorded and managed as a corrective action).
- Complaints received from regulatory authorities.
- Regulatory breaches – fines, prosecutions, improvement notices, breaches of licence conditions.
- All incidents of third-party property damage or loss.
- Any loss or damage to native vegetation outside approved work areas or flora and fauna of significance.
- Incidents involving impact or potential damage to Aboriginal or Historic Heritage significant areas.
- Loss of sediment downstream in a watercourse or other sensitive areas.

The Liberty Industrial Environmental Representative will notify AIE as soon as possible and in a timeframe that allows them to meet their regulatory reporting deadlines for notifiable incidents (refer to Section 8.2).

The Liberty Industrial Project Manager is responsible for the initial reporting of non-compliances with the EMS or relevant legislation to the AIE Project Manager and AIE HS&E Manager.

8.2 Non-compliance and notifiable incidents

In the event of a notifiable non-compliance incident arising, Liberty Industrial will notify AIE immediately to allow AIE to notify DPIE in writing (to compliance@planning.nsw.gov.au) within 7 days of AIE becoming aware of the non-compliance, as per Schedule 4 Condition 6 of Infrastructure Approval (SSI 9471).

All environmental incidents will be reported immediately to DPIE in writing (to compliance@planning.nsw.gov.au) immediately after AIE becomes aware of the incident, as per Schedule 4 Condition 5 of Infrastructure Approval (SSI 9471).

The written notification will identify the development, including the application number, set out the condition of approval that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.



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Appendix B

AIE's Environment Policy



Health, Safety and Environment Policy

Australian Industrial Energy (AIE) cares about the wellbeing of our people, the community, and our impact on the environment. We are committed to conducting our business in a way that minimises harm to the health and safety of people and has no unforeseen impact on the environments in which we operate

Our values underpin the way in which we meet this commitment.

Safety remains front of mind for AIE. If our workplace is not safe, we should not operate. We recognise that risk is present in every task we do. We will take the time to identify and understand these risks and manage them safely and responsibly. Our mantra is "Look out for your mates and yourself" Plan for their wellbeing, and for yours.

AIE **Empowers** and expects all people in the workplace, regardless of role, to "Stop and Step Back" if they see an unsafe workplace situation. We continue only when satisfied we can do so safely and responsibly.

All people working on AIE sites are valued as **Family**. They will be provided with training, equipment and support to undertake their work. All incidents will be investigated, and the people involved will be listened to and treated fairly and with respect.

We have the **Humility** to accept personal coaching and feedback about behaviours which may put us at risk of injury or illness.

AIE acts with **Integrity**. We will comply with all relevant workplace health, safety and environmental laws. We will report, investigate and learn from all workplace incidents, and from any near misses. We will take responsibility for our actions and we will work continuously to improve our processes.

AIE is **Enthusiastic** about protecting our people and the environment by demonstrating initiatives to challenge, communicate and consider the safest way to work and by integrating relevant objectives into every day and strategic business planning processes.

AIE knows that Health, Safety and Environmental performance will only improve when we **Generate Ideas**. AIE is committed to consulting and communicating with our workers. We work together effectively, welcome feedback and recognise that we can always improve. We are open and transparent about our performance and relentless in learning from our experiences.

AIE sets **Stretch Targets** in relation to health, safety, and environmental performance in the workplace. Stretch Targets challenge us to do better.

AIE will work to build a workplace culture which supports safe operations. We have the **Courage** to challenge ourselves and promote a positive workplace culture and the **Determination** to succeed.



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