Report and recommendations of the Environmental Protection Authority

Cape Preston East – Iron Ore Export Facilities

Iron Ore Holdings Ltd

Report 1476

May 2013

Assessment on Proponent Information
Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
03/12/2012	Level of assessment set	
24/12/2012	Scoping guideline issued by EPA	3
27/03/2013	Proponent's Final API document received by EPA	13
15/05/2013	Provision of EPA report to Minister	7
20/05/2013	Publication of EPA report (3 days after report to Minister)	3 days
04/06/2013	Close of appeals period	2

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority met its timeline objective in the completion of the assessment and provision of a report to the Minister.

Dr Paul Vogel
Chairman

15 May 2013

ISSN 1836-0483 (Print)
ISSN 1836-0491 (Online)
Assessment No. 1954

Contents

1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal to develop and operate an iron ore export facility at Cape Preston East by Iron Ore Holdings Ltd (IOH) as the proponent.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires the EPA to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented, and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, and can be implemented subject to the EPA's recommended conditions being made legally binding.

This report provides the EPA's advice and recommendations in accordance with section 44 of the EP Act.

2. The proposal

Following amendments to the *Iron Ore Processing (Mineralogy Pty Ltd) Agreement Act 2002* in 2008, an area of land to the east of Cape Preston was set aside by the State Government for the purposes of a multi-user port development. The proponent, Iron Ore Holdings Ltd (IOH), proposes to develop the first stage of the multi-user iron ore export facility on the eastern side of Cape Preston approximately 60 kilometres (km) south-west of Dampier in the Pilbara region (Figure 1). As a multi-user facility, the port will ultimately fall under the jurisdiction of the Dampier Port Authority (DPA).

The proponent's proposal would involve the construction of a 200 metre (m) rock supporting structure extending offshore, a 1.5 km trestle jetty, six deep water transhipment anchorage points, a materials stockyard, a two gigalitre (GL) per annum permanent desalination plant, an access road corridor from North Coast Highway, office buildings, communications infrastructure, power supply, fuel farm, waste management facilities, road train and vehicle maintenance workshop/wash facilities and an accommodation camp. An approximate layout of the project components is shown in figures 1, 2 and 3.

The key infrastructure elements of the proposal have been designed to cater for the export of up to 20 million tonnes per annum (Mtpa). However, IOH as the foundation proponent for the proposal is seeking approval to construct the proposed infrastructure and export up to 10 Mtpa of iron ore. The EPA has provided other advice in Section 6 of this report regarding increasing the throughput of iron ore beyond 10 Mtpa.

Road trains would be used to transport the iron ore to the stockyard via an existing causeway over a tidal creek from the North West Coastal Highway. The development and operation of Iron Ore Holdings mine site/s would be located off-tenement and do not form part of this proposal.

Conveyors would be installed on the jetty to transport iron ore onto a barge. The barges would transfer the iron ore to a self-powered transhipment vessel moored approximately 18 km offshore in deep water.

The main characteristics of the proposal as described by the proponent are summarised in the table below:

Table 1: Summary of key proposal characteristics

Element	Description
Project Development Envelope	Up to 401.2 hectares (ha) within a 2,942 ha development envelope (See figure 1) (comprising 398 ha of terrestrial disturbance and 3.2 ha of benthic subtidal, intertidal and coastal disturbance).
Terrestrial Disturbance Area (including stockyard, roads, workshops, accommodation, conveyors and supporting infrastructure)	• Clearing of up to 176 ha at the stockyard area (north of the causeway). • Clearing of up to 222 ha for supporting infrastructure south of the causeway.
Marine Disturbance Area (including Rock breakwater, trestle jetty, navigation aids and cyclone mooring)	Up to 3.2 ha of disturbance to benthic subtidal, intertidal and coastal areas. Trestle jetty approximately 1.5 km long and a 200 m supporting rock structure for a boat launching ramp.
Throughput	Up to 10 Mtpa of iron ore
Water supply	*Construction* Up to 6 GL in total sourced from groundwater and/or temporary desalination units. *Operation* Up to 2 GL per annum sourced from a permanent desalination plant with ocean intake and outfall.
Power supply	Diesel generators with a total capacity of up to 12 megawatts.
Deep water transhipment anchorage points	Six anchorage points approximately 18 km offshore.

The potential impacts of the proposal are discussed by the proponent in the environmental review document, Iron Ore Holdings Ltd (2013) (see Appendix 4).

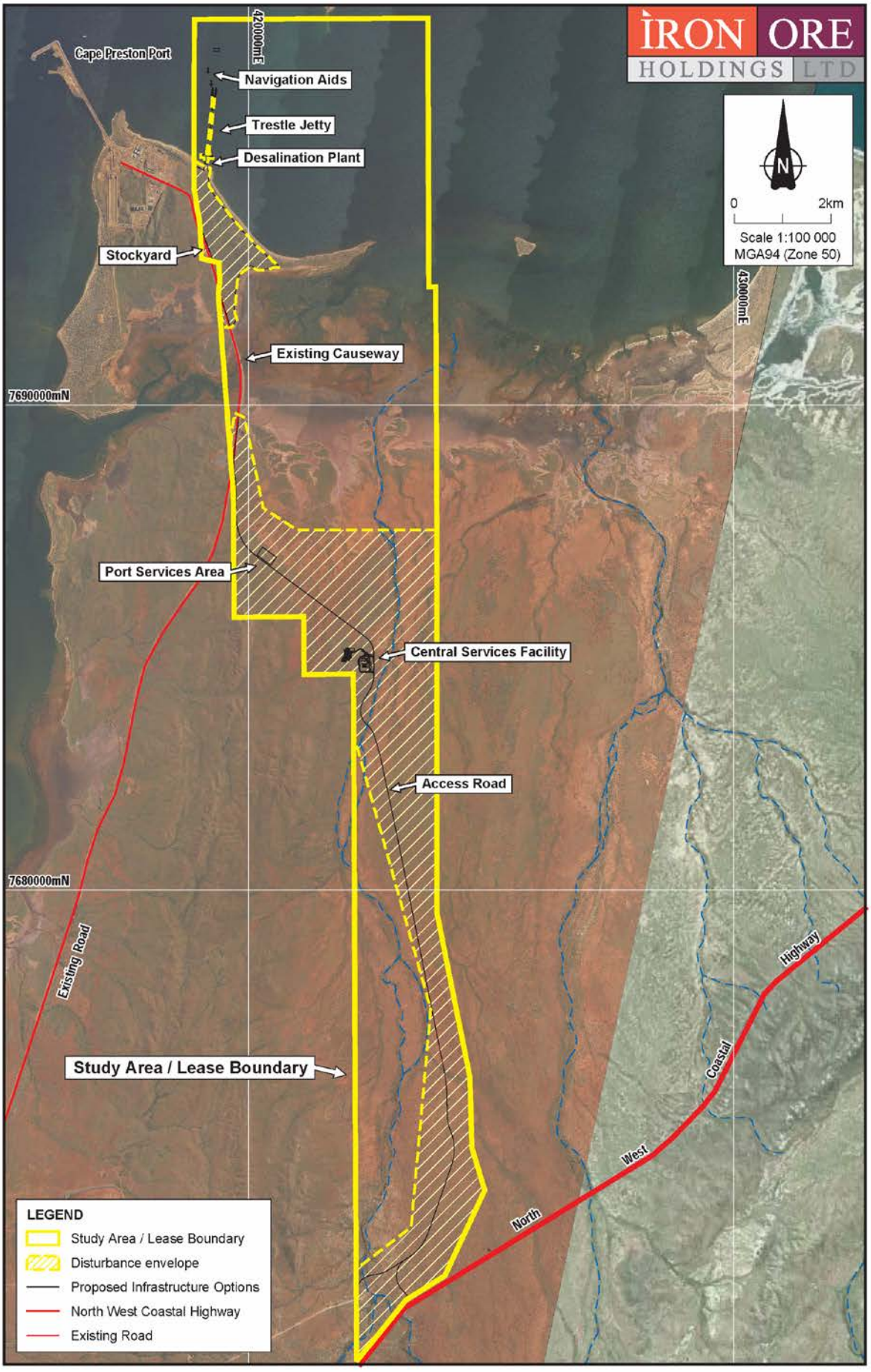

Figure 1 Location of proposal and development envelope

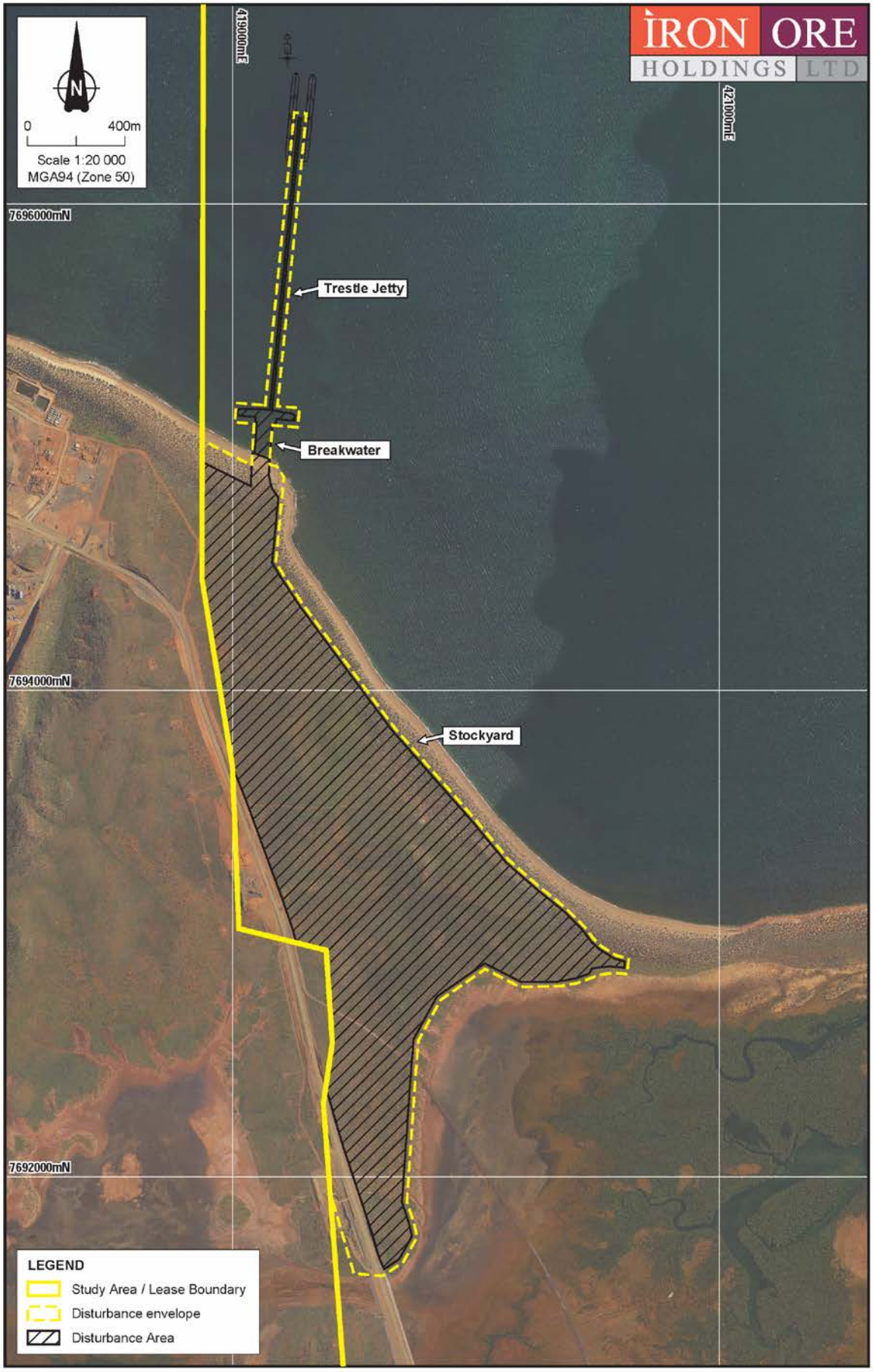

Figure 2 Trestle jetty and rock breakwater infrastructure

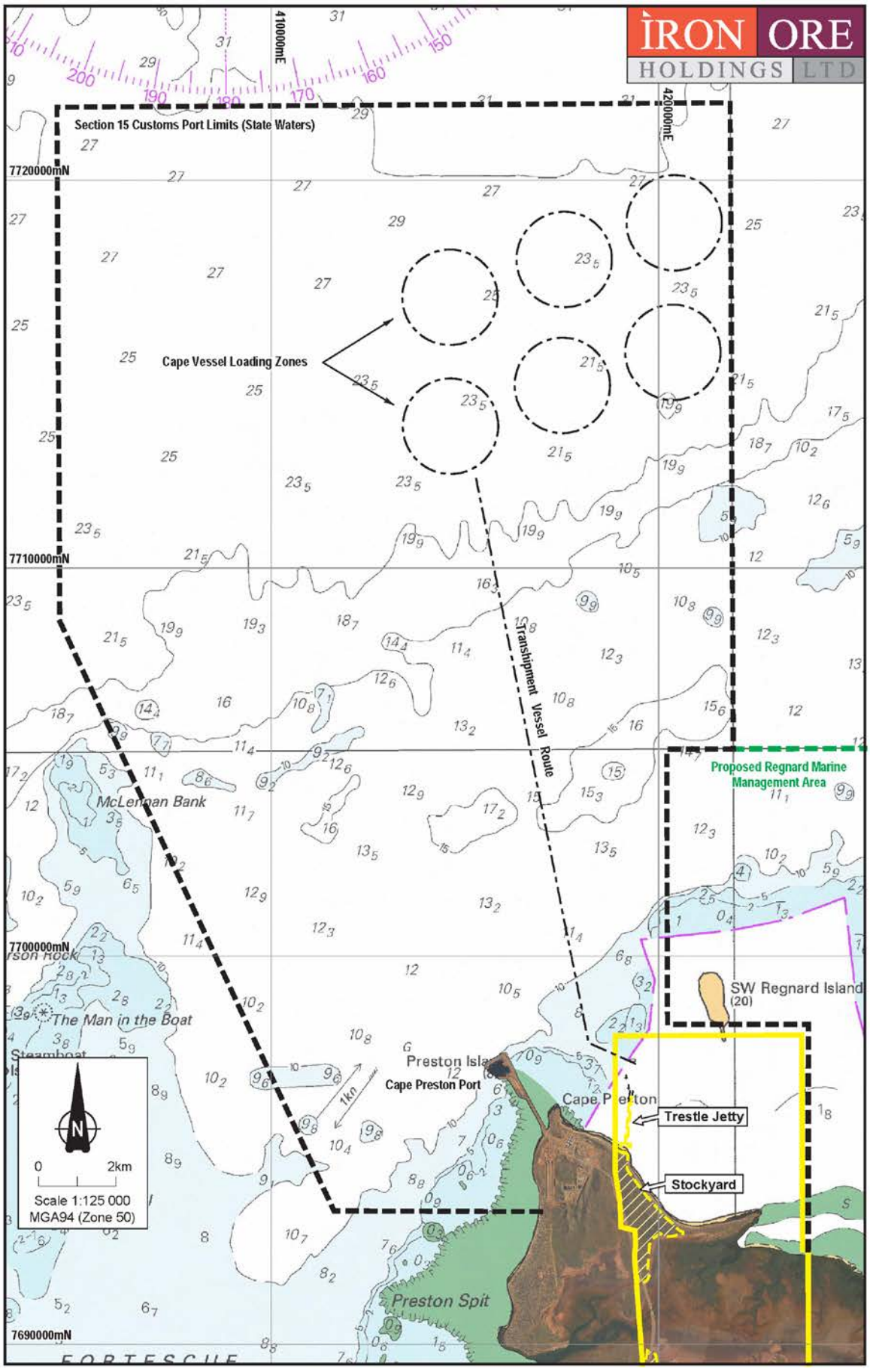

Figure 3 Location of deeper transhipment anchorage points

3. Consultation

During the preparation of the API, the proponent has undertaken consultation with government agencies and key stakeholders. The agencies and organisations consulted, the issues raised and the proponent's response are detailed in Table 10 (page 56) of the proponent's environmental review document (Iron Ore Holdings Ltd, 2013).

The EPA considers that the consultation process has been appropriate and that reasonable steps have been taken to inform the community and stakeholders on the proposed development.

4. Key environmental factors

It is the EPA's opinion that the following key environmental factors relevant to the proposal require evaluation in this report:

(a) Marine fauna
(b) Marine environmental quality

The key environmental factors are discussed in sections 4.1 – 4.2. The description of each factor shows why it is relevant to the proposal and how it would be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

Appendix 3 describes preliminary key environmental factors identified in the scope of the API which, at the conclusion of the assessment, were not considered to be key environmental factors warranting discussion and evaluation in the EPA's assessment report.

4.1 Marine fauna

Description

The proposal has the potential to impact on marine fauna during both construction and operation, with the construction phase of the proposal posing the greatest risk to marine fauna.

The proponent identified that the following marine fauna species listed under the *Wildlife Conservation Act 1950* may potentially be found in the project area:

- Humpback whale (*Megaptera novaeangeliae*);
- Short-nosed Sea Snake (*Aipysurus apraefrontalis*);
- Loggerhead turtle (*Caretta caretta*);
- Green turtle (*Chelonia mydas*);
- Hawksbill turtle (*Eretmochelys imbricate*);
- Flatback turtle (*Natator depressus*); and
- Dugong (*Dugong dugon*).

The *Indicative Management Plan for the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area* (CALM, 2005) also identifies the following additional marine fauna in the Cape Preston region:

- Common dolphin (*Delphinus delphis*);
- Striped dolphin (*Stenella coeruleoalba*);
- Bottlenose dolphin (*Tursiops truncates*);
- Indo-Pacific Humpback dolphin (*Sousa chinensis*);
- Southern Bottlenose dolphin (*Hyperoodon planifrons*);
- Risso's dolphin (*Grampus griseus*); and
- Leatherback (*Dermochelyidae coriacea*).

Marine mammals

Humpback whales may be encountered in the proposal area during their northern migration in late June to early August, and during their southern migration (with calves) during late August to mid October. The Cape Preston area is not known to support calving, aggregation or feeding areas for this species and migrating whales typically remain well offshore in waters greater than 20 m in depth. Although individual animals or pods do venture closer to shore, the shallow waters between the mainland and South Regnard Island may not allow whales to pass in low tide conditions (IOH, 2013).

Dugongs have been sighted in the Cape Preston area and may move through the area looking for food. While sparse areas of seagrass are found in the Cape Preston region, key feeding habitat comprising of large areas of dense seagrass communities occurs approximately 2 km north of the berthing area for the proposal (IOH, 2013). The proposal will not impact upon seagrass beds.

Potential impacts to marine mammals associated with the proposal include injury or modified behavior due to underwater noise and vibration emissions (greater predicted impact through construction as a result of the piling requirement), and surface strikes by vessels during construction and operation, and physical presence of marine structures.

The proponent has proposed management controls to minimise impacts of marine noise from pile-driving activities and the risk of vessel strike on marine fauna. These are detailed in Table 3: *Environmental Assessment Marine Fauna* of the environmental review document, (IOH, 2013). The proponent considers that although the species of high conservation status are likely to be present in or near the proposal area at some time, long-term population decrease was unlikely because the species are not restricted to the local area, nor are critical habitats present near the proposal.

The proponent predicts that the low potential impacts to humpback whales are expected to be similar for other whale species and dolphins.

Marine turtles

Multiple surveys have been conducted since 2000 on turtle nesting activities on Cape Preston beaches. The eastern beaches of Cape Preston provide suitable nesting habitats for marine turtles. Low density flatback turtle (*Natator depressus*) nesting

was observed along the northern extent of the beach and the south eastern beach point of Cape Preston. The nests recorded on the northern beach are susceptible to inundation from storm surges and the number of turtle nests recorded along the eastern beaches indicated that these beaches have a lower density compared to other beaches and islands in the Pilbara region and are not considered to be regionally significant (Imbricata, 2013).

Potential impacts to marine turtles associated with the proposal include changes to turtle nesting beaches as a result of altered coastal processes during construction and operation, and light spill impacts on turtle nesting.

The proposal involves constructing a 200 m rock breakwater. The proponent's modelling has predicted that over a period greater than 20 years, construction of the structure would result in sediment accretion of approximately 200,000 m^3 on the western side of the structure, with the potential for sediment erosion on the eastern side (GHD, 2013a). The proponent proposes to monitor coastal profiles and physically remove or build up sand as required to maintain beach profiles.

The proponent has considered the best practice methods as outlined in the EPA's EAG No. 5 *Protecting Marine Turtles from Light Impacts*. The proponent proposes to introduce management controls to mitigate light spill including reduced height light poles in the stockyard, shielding lights and directing lights away from the beach. However, the proponent has noted that, with the low elevation of the dunes, there will still be residual impacts of lighting on the south eastern beaches which may impact on turtle nesting activities.

Introduced marine pests

Benthic surveys to date reveal no introduced marine pests at Cape Preston. Construction vessels and equipment used for pile driving pose the greatest risk of introducing pest species to Cape Preston if they are not appropriately managed. The proponent considers that the risk of introducing marine pests is low with the implementation of the proposed management measures detailed in Table 3: *Environmental Assessment Marine Fauna* of the environmental review document (Iron Ore Holdings Ltd, 2013). These include the implementation of inspection and clearance procedures for construction vessels and equipment, and regular marine pest monitoring.

Other species

Seawater drawn in through intake pipes may result in the entrapment of small marine fauna. The proponent has proposed to implement industry standard fauna entrapment controls including ensuring low velocity flow and a screen to cover the intake pipe.

Assessment

The EPA's environmental objective for this factor is to maintain the diversity, geographic distribution and viability of fauna at the species and population levels.

Potential threats to marine fauna include temporary or permanent displacement, collisions with vessels, behavioural disruption, or injury at close range from high impact noises such as pile driving, changes to turtle nesting beaches as a result of altered coastal processes, and light spill impacts on turtle nesting.

Construction

Marine noise

The EPA notes that pile driving activities and vessel noise have the potential to impact a range of marine faunal groups, resulting in either avoidance behaviour (short term or long term) or, in the case of pile driving, temporary or permanent hearing loss with the most sensitive marine fauna considered to be cetaceans (whales and dolphins), dugongs and turtles.

However, the EPA notes that the proposal area does not contain critical habitats for marine fauna, and that construction activities are expected to be short-term, lasting approximately 12 months.

The EPA has recommended conditions 6-1 to 6-7 to manage marine fauna interaction with the activities of marine pile driving and marine construction. Requirements of the conditions include a marine fauna observer to be present at all times during marine construction activities, soft start up procedures and the cessation of piling activities if cetaceans (whales and dolphins) and dugongs are sighted within 500 m, or marine turtles are sighted within 100 m of the activity. Piling operations cannot recommence until the marine mammals have moved beyond 1000 m and turtles 300 m, or the marine fauna have not been observed in the area for 20 minutes. If pile driving operations have been suspended for more than 15 minutes then soft start up procedures apply.

The EPA notes that, compared to other beaches and islands in the Pilbara region, turtle nesting beaches at Cape Preston are not considered to be regionally significant. However, during the period from approximately 20 October to 10 March, turtle hatchlings may emerge from nests. In order to minimise any potential impacts to marine turtles the EPA has recommended Condition 6-8 which requires marine construction activities to be suspended at night during this period.

Vessel strike

The EPA notes that increased numbers of vessels in the area during construction pose a risk of vessel strike to marine fauna. The EPA has considered the proponent's proposed management controls including observations, communications and vessel speed limits, and recommended conditions 6-1 to 6-3 which requires a marine fauna observer to be present on all vessels undertaking marine construction activities to minimise the risk of vessel strike during construction.

Introduced marine pests

The EPA notes that while the risk of the introduction of marine pest species is considered low, it has the potential to cause significant and widespread impacts to natural marine communities. It is the EPA's view that by ensuring monitoring design, implementation and reporting standards are consistent with the *National System for the Prevention and Management of Marine Pest Incursions (National System)* the risk of pest species incursions at Cape Preston can be managed to within levels that do not exceed the risks at other Pilbara ports. Accordingly the EPA has recommended

Condition 7 that requires an Introduced Marine Pest Risk Assessment Procedure to be prepared and implemented to address this issue.

Operation

Light spill

The EPA notes that the proponent has considered the best practice methods as outlined in the EPA's EAG No. 5 *Protecting Marine Turtles from Light Impacts*. However, even with the implementation of the proponent's proposed management, due to the low elevation of the dunes there will still be residual impacts of lighting on the south eastern beaches which may impact on turtle nesting activities. The EPA notes that multiple surveys have been conducted since 2000 on turtle nesting activities on Cape Preston beaches, which indicate that Cape Preston is not a regionally significant turtle nesting habitat. The EPA considers that the potential impacts on marine turtles can be managed through the proponent's proposed management regime and will not impact the viability of the regional population of turtles.

Coastal processes

The EPA considers that the potential impacts to regional coastal processes are likely to be minimal and can be managed using the proponent's proposed management regime. This includes monitoring the beach profiles and relocating any significant sediment build up to allow use of the boat ramps from the western side of the rock breakwater to the eastern beaches.

Desalination intake entrapment

Seawater drawn in through intake pipes may result in the entrapment of small marine fauna. In considering the implementation of industry standard for desalination intake, i.e. fauna entrapment controls including ensuring low velocity flow and a screen to cover the intake pipe, combined with the location of the intake pipe over a sandy substrate, the EPA considers impacts on marine fauna from the intake of the desalination plant to be manageable.

Summary

Having particular regard to the:

- population and distribution of marine fauna in the area of the proposal including the regional significance of habitats elsewhere in the Pilbara;
- the short term nature of the construction activities; and
- the mitigation and management measures proposed by the proponent,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor provided that the recommended conditions in Appendix 2 are implemented.

4.2 Marine Environmental Quality

Description

The construction and ongoing port operations of the export facility may result in discharges such as brine discharge, bulk material spillage, leaks and spills, as well as pulses of turbidity and sediment mobilisation during vessels berthing which may impact the surrounding environment.

Desalination plant

The desalination plant operations would involve the intake of seawater, via an intake pipe located approximately 1.3 km from shore, and the discharge of brine via an outfall/diffuser system located approximately 1.5 km from shore at a depth of at least 0.5 m above the sea bed.

The discharge of brine from the Seawater Reverse Osmosis desalination plant is a potential source of impact to the surrounding marine environment. The desalination plant will generate up to approximately 5.5 ML per day of hypersaline water with a salinity of approximately 70,000 milligrams per litre (mg/L) that will be discharged to the ocean with an expected recovery rate of freshwater from seawater of 40 per cent. The preliminary design for a two port diffuser with a discharge rate of 2 GL/year was used to model the extent of the mixing zone. The modelling indicated an expected mixing zone of 10 – 15 m from the outfall (GHD, 2013b). The discharge rate of brine for the proposal has been calculated at 3 GL/year. As this is slightly more than the scenario that was modelled, the mixing zone is estimated to be around 25 m (IOH, 2013).

Ongoing operations

The loading of ore onto barges on the trestle jetty and the transferring of ore from the barges to the transhipment vessels has the potential to result in bulk material spillage. The increased movement of ships and barges as part of the transhipment proposal introduces an additional cumulative risk of an oil spill incident occurring. This is in addition to transhipping by CITIC Pacific Mining on the western side of Cape Preston.

The proponent has committed to prepare an oil response plan to the satisfaction of the Dampier Port Authority, and a Tier 1 incident response capability in the unlikely event of an oil spill as a result of the port operations. This means that there will be oil spill response equipment and stockpiles on-site to respond to oil spill incidents and capability to respond to spills of up to 10 tonnes.

Assessment

The EPA's environmental objective for this factor is to maintain the quality of water, sediment and biota so that the environmental values, both ecological and social, are protected.

The EPA notes the proponent has designed the trestle jetty to have access to a deep channel meaning dredging is not required.

Desalination plant

The EPA notes that *The Pilbara Coastal Water Quality Consultation Outcomes: Environmental Values and Environmental Quality Objectives* (DoE, 2006) currently recommends the area surrounding the proposal as a High Ecological Protection Area. The EPA considers the discharge of brine may result in a small area of impact on marine environmental quality in the area immediately surrounding the diffuser, however, this poses a low risk to the already highly mixed marine environment. The EPA also notes that the brine discharge is below the level which is regulated by the Department of Environment and Conservation (DEC) under Part V of the EP Act. The EPA considers that the potential impacts to marine environmental quality from the desalination plant are acceptable and it is therefore not necessary to recommend any conditions.

Oil spill risk

The EPA notes that the proponent has proposed a Tier 1 incident response capability and that an oil response plan will need to be prepared to the satisfaction of the Dampier Port Authority to ensure this commitment is given effect. The EPA considers that the risk of oil spill can be adequately managed through the proponent's commitments and it is therefore not necessary to recommend any conditions.

Ongoing operations

The EPA notes that the DEC is able to manage potential spills from bulk loading operations for both the loading of materials from the jetty and the offshore transfer of materials from the barge to the transhipment vessel through the regulation of those activities as prescribed premises. Accordingly the EPA considers that potential spills as a result of bulk loading of materials can be managed through the Works Approval and Licensing process under Part V of the EP Act.

Summary

Having particular regard to the:

- predicted mixing zone of around 25 m in an already highly mixed environment and therefore the small area of impact on marine water quality;
- management measures proposed by the proponent; and
- ability of the Works Approval and Licence under Part V of the EP Act to manage bulk loading activities,

it is the EPA's view that the proposal can be managed to meet the EPA's environmental objective for this factor without the requirement for Ministerial conditions provided that a Works Approval and Licence is obtained from the DEC.

5. Recommended conditions

Having considered the information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the proposal by Iron Ore Holdings Ltd to develop and operate an iron ore export facility at Cape Preston is approved for implementation. These conditions are presented in Appendix 2.

6. Other advice

Residual impacts

The EPA has previously recommended offsets for the clearing of 'good to excellent' condition native vegetation in the Pilbara IBRA bioregion. The recommended approach to these offsets recognises the significant residual impacts of the proposal, specific constraints of undertaking certain offset measures in the region, as well as acknowledging the cumulative impacts of mining in the region. Impacts to the coastline differ from those in the hinterland (e.g. impacts to coastal vegetation communities), there are areas not subject to mining tenements and pastoral leases, and the cumulative impact from developments is not considered significant. Therefore, the clearing of 'good to excellent' condition native vegetation as the trigger for offsets is not considered appropriate in this environment at this point in time. Determining whether the significance of the impacts along the coastline warrants offsets should follow the general offsets policy approach in environmental assessment guidelines.

In the case of this proposal, there are no significant residual environmental impacts as the impacts can be mitigated and managed, therefore no offset is required.

Multi-user facility (beyond 10 Mtpa)

The EPA notes that the proposal by IOH is to construct, and operate the first stage of a multi user iron ore export facility and to export up to 10 Mtpa. The facility will have the capacity to export up to 20 Mtpa and will ultimately be vested with the Dampier Port Authority under the *Port Authorities Act 1999*. It should be noted that the infrastructure elements of the proposal assessed by the EPA have the capacity within the development envelope and recommended conditions to accommodate 20 Mtpa, however the EPA has assessed the initial throughput of 10 Mtpa. The EP Act provides for consideration of future expansions should they be required.

7. Conclusions

The EPA has considered the proposal by Iron Ore Holdings Ltd to construct and operate an iron ore export facility at Cape Preston approximately 60 km south-west of Dampier in the Pilbara region.

The EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2.

8. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the proposal being assessed is for the construction and operation of an iron ore export facility at Cape Preston;
2. That the Minister considers the report on the key environmental factors as set out in Section 4;

3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2; and

4. That the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

Conservation and Land Management (CALM), 2005. *Indicative management plan for the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area.* Department of Conservation and Land Management, Marines Parks & Reserves Authority, Fremantle, Western Australia, 2005.

Department of Environment (DoE), 2006. *The Pilbara Coastal Water Quality Consultation Outcomes: Environmental Values and Environmental Quality Objectives*. Department of Environment, Government of Western Australia, Marine Series Report No. 1.

Environmental Protection Authority (EPA), 2010. *Environmental assessment guideline for protecting marine turtles from lights impacts*. Environmental Assessment Guideline No. 5. Environmental Protection Authority, Perth, Western Australia, November 2010.

GHD, 2013a. *Cape Preston East Environmental Studies – Coastal Processes*. GHD Australia, Northbridge, Western Australia, February 2013.

GHD, 2013b. *Cape Preston East Environmental Studies – Brine Dispersion Study.* GHD Australia, Northbridge, Western Australia, January 2013.

Imbricata Pty Ltd, 2013. *Marine Turtle Habitat and Light Spill Assessment on the Eastern Beach of Cape Preston.* Prepared by Imbricata Pty Ltd for GHD Australia, Northbridge, Western Australia, February 2013.

Iron Ore Holdings (IOH), 2013. *Assessment on Proponent Information – Cape Preston East Export Facilities*. Prepared by Preston Consulting for Iron Ore Holdings Ltd, West Perth, Western Australia, March 2013.

Appendix 2

Identified Decision-making Authorities
and
Recommended Environmental Conditions

Identified Decision-making Authorities

Section 44(2) of the *Environmental Protection Act 1986* (EP Act) specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities, and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following decision-making authorities have been identified for this consultation:

Decision-making Authority	Approval
1. Minister for Water	*Rights in Water and Irrigation Act 1914* – Beds and Banks permit
2. Minister for State Development	*Iron Ore (Mineralogy Pty Ltd) Agreement Act 2002*
3. Minister for Aboriginal Affairs	*Aboriginal Heritage Act 1972* – Section 18 Clearances
4. Minister for Transport	*Port Authorities Act 1999*
5. Minister for Lands	*Land Administration Act 1997*
6. Minister for Environment	*Wildlife Conservation Act 1950*
7. Department of Environment and Conservation	Part V Licence and Works Approval under *Environmental Protection Act 1986*
8. Dampier Port Authority	*Port Authorities Act 1999*
9. Main Roads	*Main Roads Act 1930*
10. Shire of Roebourne	*Planning and Development Act 2005* - Development Approval

Note: In this instance, agreement is only required with DMAs #1 to 6 since these DMAs are Ministers.

Statement No. XXX

RECOMMENDED ENVIRONMENTAL CONDITIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

Cape Preston East – Iron Ore Export Facility

Proposal: The proposal is to construct and operate an iron ore export facility at Cape Preston East in the Pilbara region of WA.

Proponent: Iron Ore Holdings Ltd
Australian Company Number 107 492 517

Proponent Address: Level 1
1 Altona Street
WEST PERTH WA 6005

Assessment Number: 1954

Report of the Environmental Protection Authority Number: 1476

This Statement authorises the implementation of the Proposal described and documented in Columns 1 and 2 of Table 2 of Schedule 1. The implementation of the Proposal is subject to the following implementation conditions and procedures and Schedule 2 details definitions of terms and phrases used in the implementation conditions and procedures.

1 Proposal Implementation

1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Column 3 of Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the Proposal has been approved under the EP Act.

2 Contact Details

2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

3-1 The proponent shall not commence implementation of the proposal after the expiration of five (5) years from the date of this statement, and any commencement, within this five (5) year period, must be substantial.

3-2 Any commencement of implementation of the proposal, within five (5) years from the date of this statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this statement.

4 Compliance Reporting

4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.

4-2 The proponent shall submit to the CEO the compliance assessment plan required by condition 4-1 at least six (6) months prior to the first compliance assessment report required by condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

(1) the frequency of compliance reporting;

(2) the approach and timing of compliance assessments;

(3) the retention of compliance assessments;

(4) the method of reporting of potential non-compliances and corrective actions taken;

(5) the table of contents of compliance assessment reports; and

(6) public availability of compliance assessment reports.

4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.

4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by Condition 4-1 and shall make those reports available when requested by the CEO.

4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.

4-6 The proponent shall submit to the CEO the first compliance assessment report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first compliance assessment report.

The compliance assessment report shall:

(1) be endorsed by the proponent's Managing Director or a person delegated to sign on the Managing Director's behalf;

(2) include a statement as to whether the proponent has complied with the conditions;

(3) identify all potential non-compliances and describe corrective and preventative actions taken;

(4) be made publicly available in accordance with the approved compliance assessment plan; and

(5) indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

(1) a secret formula or process; or

(2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make this data publically available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

6 Marine Fauna

6-1 Prior to construction and for the duration of the marine construction activities the proponent shall engage dedicated Marine Fauna Observers who must:

(1) demonstrate a knowledge of marine wildlife species in the Pilbara region, including Threatened and Migratory Species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and *Wildlife Conservation (Specially protected fauna) Notice 2010(2)* and priority listing , and their behaviours;

(2) have the capacity, subject to safety considerations, to move and make observations and other relevant records independently within 500 metres of marine construction activities;

(3) be on duty during all marine construction activities; and

(4) maintain a log of:

(a) observations of cetaceans in a format consistent with the National Cetacean Sightings and Strandings Database;

(b) observations of cetaceans, dugongs and marine turtles, including injured or dead fauna within 500 metres of the marine construction activities referred to in condition 6-1(2);

(c) observations of cetaceans, dugongs and marine turtles behaviour, in particular any behaviour that could be interpreted as a display of disturbance or distress;

(d) management responses implemented by the proponent in relation to observation of disturbed or distressed fauna, and injured or dead fauna; and

(e) observation hours in relation to the duration of the marine construction activities.

6-2 The proponent shall within six (6) months of completing marine construction activities, lodge cetacean records with the National Cetacean Sighting and Strandings Database at the Australian Antarctic Division and with the Department of Environment and Conservation.

6-3 The Marine Fauna Observer as required by condition 6-1 is to be present on each vessel undertaking construction activities and will be trained in marine fauna observations and mitigation measures, including the requirements of the *Wildlife Conservation (Closed Season Marine Mammals) Notice 1998*, as amended or replaced from time to time, and maintain a watch and a log of fauna observed during transit and construction activity consisting of: GPS coordinates; species (if known); and behaviour. Logs are to be submitted to the Department of Environment and Conservation on an annual basis at the same time as submitting the compliance assessment report required by condition 4-6 to the CEO.

6-4 Subject to condition 6-8, no marine construction activities shall commence until the Marine Fauna Observer (or observers) required by condition 6-1 have verified that no cetacean(s) or dugong(s) have been observed within a radius of 1,000 metres or marine turtle(s) within a radius of 300 metres from any marine construction activities during the twenty (20) minute period immediately prior to commencement of marine construction activities.

6-5 Prior to commencement of full power marine pile driving, the proponent shall implement soft start-up procedures that slowly increase the intensity of noise emissions over a period of no less than fifteen (15) minutes.

6-6 If the Marine Fauna Observer(s) required by condition 6-1, or any other person, observes a marine turtle enter within 100 metres of marine construction activities, or cetacean or dugong within 500 metres of marine construction activities, those activities are to be suspended.

6-7 Marine construction activities that have been suspended in accordance with condition 6-6 shall not recommence until the cetacean, or dugong has moved beyond 1,000 metres from the suspended marine construction activities or the marine turtle beyond 300 metres of their own accord, or the cetacean or dugong has not been observed within 500 metres of the marine construction activities or marine turtles within 100 metres of the marine construction activities for a period of twenty (20) minutes. Marine pile driving that has been suspended for more than fifteen (15) minutes shall recommence with soft start-up procedures as required by condition 6-5.

6-8 No marine construction activities shall occur between sunset and sunrise during the turtle nesting season defined as 20 October to 10 March in any year.

7 Introduced Marine Pests

7-1 The proponent shall manage non-trading vessel activities and immersible equipment activities whilst engaged for the construction, operation, maintenance and decommissioning of the proposal so as to prevent the introduction of Introduced Marine Pests into and within State waters.

7-2 Prior to any non-trading vessels or immersible equipment entering the Cape Preston East Marine Operations Area as required in condition 8, the proponent shall prepare an Introduced Marine Pest Risk Assessment Procedure to the satisfaction of the CEO in consultation with the Department of Fisheries which includes but is not limited to the following:

(1) all factors to be considered in the risk assessment;

(2) limits for unacceptable risk of introducing an Introduced Marine Pest;

(3) a tool for performing Introduced Marine Pest Risk Assessments; and

(4) measures to be implemented to reduce risks to an acceptable level, where the risk assessment identifies an unacceptable risk.

7-3 The proponent shall ensure that any non-trading vessels or immersible equipment are subject to an Introduced Marine Pest Risk Assessment, prior to entering or demobilising from the Cape Preston East Marine Operations Area as required in condition 8, in accordance with the Introduced Marine Pest Risk Assessment Procedure approved pursuant to condition 7-2.

7-4 The proponent shall ensure that any Introduced Marine Pest Risk Assessment undertaken pursuant to condition 7-3 is recorded and that record is provided to the Department of Fisheries within seven (7) days of the Introduced Marine Pest Risk Assessment being undertaken.

7-5 The proponent shall ensure that any non-trading vessel or immersible equipment that poses an unacceptable risk, as defined by the limits identified under condition 7-2(2), of introducing Introduced Marine Pests, as determined by an Introduced Marine Pest Risk Assessment undertaken pursuant to condition 7-3, does not enter the Cape Preston East Marine Operations Area as required in condition 8.

7-6 Prior to any non-trading vessels or immersible equipment entering the Cape Preston East Marine Operations Area as required in condition 8, the proponent shall prepare an Introduced Marine Pests Monitoring Program to the satisfaction of the CEO in consultation with the Department of Fisheries that:

(1) is consistent with monitoring design, implementation and reporting standards as set out in the *National System for the Prevention and Management of Marine Pest Incursions (Marine Intergovernmental Agreement, April 2005)*;

(2) includes a minimum monitoring frequency of once every two years and/or consistent with the *National System for the Prevention and*

Management of Marine Pest Incursions (Marine Intergovernmental Agreement, April 2005); and

(3) requires opportunistic sampling and analysis of specimens removed during port, vessel and immersible equipment monitoring activities.

7-7 The proponent shall implement the Introduced Marine Pests Monitoring Program approved pursuant to condition 7-6, or amended versions approved by the CEO for the life of the proposal, prior to any entry to the Cape Preston East Marine Operations Area as required in condition 8 by a non-trading vessel or immersible equipment.

7-8 The proponent shall provide the results of monitoring undertaken pursuant to condition 7-7 to the CEO and the Department of Fisheries annually.

7-9 Prior to any non-trading vessel or immersible equipment entering the Cape Preston East Marine Operations Area as required in condition 8, the proponent shall prepare an Introduced Marine Pest Management Strategy to the satisfaction of the CEO in consultation with the Department of Fisheries, to prevent wherever practicable, the establishment and proliferation of any Introduced Marine Pest, aiming to control and potentially eradicate that Introduced Marine Pest, and to minimise the risk of that Introduced Marine Pest being transferred to other locations within Western Australia.

7-10 The proponent shall notify the CEO, Department of Fisheries and any relevant Port Authority:

(1) within 24 hours following initial detection of a suspected Introduced Marine Pest; and

(2) within 24 hours following subsequent analysis and confirmation of species identification of the suspected Introduced Marine Pest.

7-11 In the event that any Introduced Marine Pests are suspected or detected, the proponent shall, in consultation with the Department of Fisheries and the CEO implement the Introduced Marine Pests Management Strategy.

7-12 The proponent is to submit a report detailing the outcomes of any implementation of the Introduced Marine Pests Management Strategy to the Department of Fisheries and the CEO within thirty (30) days of the commencement of the implementation of the Introduced Marine Pests Management Strategy and thereafter as required by the CEO in consultation with the Department of Fisheries.

8 Infrastructure Plan

8-1 Prior to the commencement of marine construction activities, unless otherwise agreed by the CEO, the proponent shall prepare an Infrastructure Plan which is to be approved by the CEO.

8-2 The Infrastructure Plan required pursuant to condition 8-1 shall:

(1) detail the boundary of the Cape Preston East Marine Operations Area; and

(2) detail the alignment, dimensions and locations of the key proposal elements as referred to in Columns 1 and 2 of Schedule 1.

8-3 The proponent shall provide spatial data for the Cape Preston East Marine Operations Area and the constructed key elements of the proposal as set out in Columns 1 and 2 of Table 2 in Schedule 1 to the CEO, 2 months prior to the commencement of construction activities.

Schedule 1

Table 1: Summary of the Proposal

Proposal Title	Cape Preston East – Iron Ore
Short Description	The proposal is to design, construct and operate an iron ore export facility on the eastern side of Cape Preston approximately 60 km south-west of Dampier in the Pilbara region. The Marine infrastructure includes: • 200 m rock breakwater • 1.5 km trestle jetty • Navigation markers and cyclone mooring • Deep water transhipment anchorage points • Desalination plant intake and outfall pipelines Terrestrial infrastructure includes: • Stockyard • Access road corridor from North Coast Highway • Central Services Facility • Port Services Area • Desalination plant

Table 2: Location and authorised extent of physical and operational elements

Column 1	Column 2	Column 3
Element	**Location**	**Authorised Extent**
Project development envelope	Figure 1.	Disturbance of up to 401.2 ha within a 2,942 ha development envelope.
Terrestrial infrastructure	Includes stockyard, roads, workshops, accommodation, conveyors and supporting infrastructure as shown in Figure 1.	• Total clearing of up to 398 ha.
Marine infrastructure	Includes a rock breakwater, trestle jetty, navigation aids, moorings and transhipment anchorage points as shown in Figures 1, 2 & 3.	• Disturbance of up to 3.2 ha of benthic, intertidal and coastal areas. • Trestle jetty up to 1.5 km offshore. • 200 m supporting rock structure.
Desalination plant	A permanent desalination plant with ocean intake and outfall diffuser used during operation. Intake pipe to include marine fauna exclusion devices such as screening and low velocity intake of water.	• Brine discharge up to 8.2 ML/day (3GL/year). • Intake velocity not to exceed 0.15 metres per second.
Export operations	• Loading of barges with ore from trestle jetty; and • transhipment of ore to vessels moored in deep water as shown in Figure 3.	10 Mtpa.

Table 3: Abbreviations

Abbreviation	Term
GL	gigalitres (10^9 litres)
ha	Hectares
km	Kilometres
m	Metres
ML	megalitres (10^6 litres)
Mtpa	million tonnes per annum

Figures (attached)

Figure 1 – Location of proposal and development envelope
Figure 2 – Trestle jetty and rock breakwater infrastructure
Figure 3 – Location of deeper transhipment anchorage points

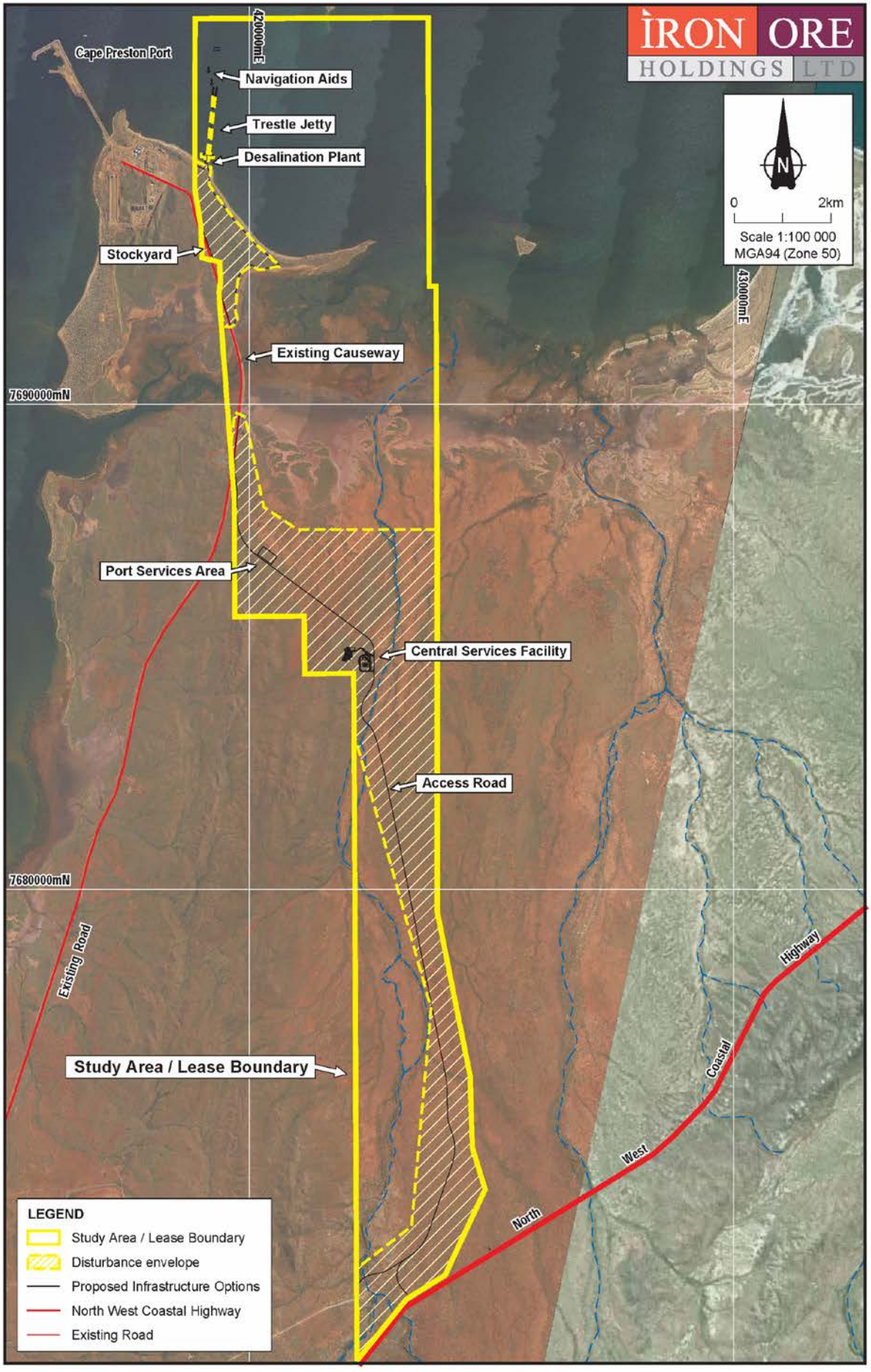

Figure 1 Location of proposal and development envelope

Figure 2 Trestle jetty and rock breakwater infrastructure

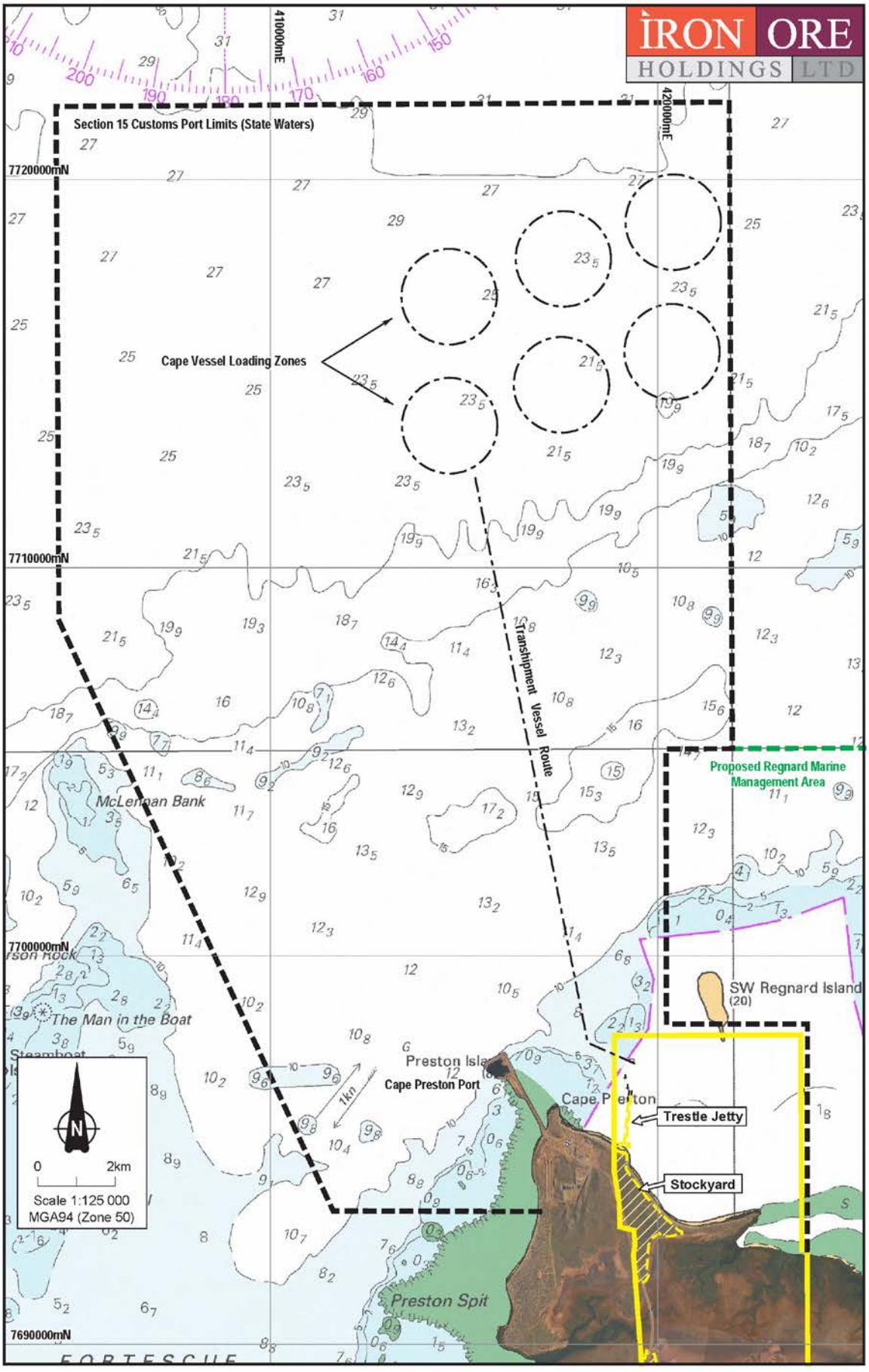

Figure 3 Location of deeper transhipment anchorage points

Schedule 2

Term or Phrase	Definition
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.
EPA	Environmental Protection Authority
Demobilising	Voyage or other movement of a vessel or immersible equipment following completion of proposal related activities. Please note that if a demobilised vessel or immersible equipment is subsequently required to undertake proposal related activities, that vessel will be deemed to be "mobilising" and will be required to meet the relevant mobilisation requirements.
EP Act	*Environmental Protection Act 1986*
Immersible equipment	Any equipment that owned by the proponent or is contracted for the construction, maintenance, operation or decommissioning this Proposal, and that is put into the water but which can be readily removed and transported which would not be considered as a component of the non-trading vessel from which it is deployed. Includes but is not limited to anchors, seismic spread well heads, acoustic seabed receivers, cutter suction heads and environmental monitoring equipment.
Introduced Marine Pests	Any marine species that poses a threat to the Western Australian environment or industry, if introduced, established or translocated. The marine species that are considered to pose a threat as outlined above include those detailed in the Western Australian Prevention List for Introduced Marine Pests, Department of Fisheries (2012), as amended from time to time and other species that appear to have clear adverse impacts or invasive characteristics.
Marine construction activities	Construction activities that take place in the marine environment are: • pile driving for the trestle jetty; • rock dumping for breakwater construction; and • drilling for trestle jetty.

Notes

The following notes are provided for information and do not form a part of the implementation conditions of the Statement:

- The proponent for the time being nominated by the Minister for Environment under section 38(6) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal unless and until that nomination has been revoked and another person is nominated.
- If the person nominated by the Minister, ceases to have responsibility for the proposal, that person is required to provide written notice to the Environmental Protection Authority of its intention to relinquish responsibility for the proposal and the name of the person to whom responsibility for the proposal will pass or has passed. The Minister for Environment may revoke a nomination made under section 38(6) of the *Environmental Protection Act 1986* and nominate another person.
- To initiate a change of proponent, the nominated proponent and proposed proponent are required to complete and submit *Post Assessment Form 1 – Application to Change Nominated Proponent*.
- The General Manager of the Office of the Environmental Protection Authority was the Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986* at the time the Statement was signed by the Minister for Environment.
- Post Assessment Forms and Guidelines may be found at www.epa.wa.gov.au

Appendix 3

Preliminary key factors not requiring further evaluation in the EPA report

The EPA identified the following preliminary key environmental factors in the scope of the API which, at the conclusion of the assessment, were not considered to be key environmental factors warranting discussion and evaluation in the EPA's assessment report.

Factor and EPA objective	Activities and potential impacts	Relevant legislation and policy	Assessment, management and mitigation of impacts
Terrestrial Fauna			
To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.	*Northern Quoll and Arlie Island Skink* Clearing and disturbance associated with terrestrial port associated operations has the potential to impact populations of the species.	*Wildlife Conservation Act 1950 (WC Act).*	Level 1 survey completed in the form of a habitat assessment and reconnaissance survey. Survey indicates avoidance of Northern Quoll habitat and no impact to Arlie Island Skink habitat (Samphire vegetation & claypans).
Flora and Vegetation			
To maintain representation, diversity, viability and ecological function at the species, population and community level.	Clearing of up to 398 ha.		There are no Declared Rare Flora or Threatened Ecological Communities to be cleared in the proposal area. Project revised to avoid and minimise impacts to flora and vegetation. There are further opportunities to modify the alignment of the road and associated infrastructure based on flora surveys prior to the commencement of construction provided it is located in the development envelope.
Air Quality			
To maintain air quality for the protection of the environment and human health and amenity.	Dust emissions from construction. Dust emissions from loading and unloading bulk material.	*Environmental Protection Act 1986 (*EP Act*).*	Department of Environment and Conservation to manage through the Works Approval under Part V EP Act.

Factor and EPA objective	Activities and potential impacts	Relevant legislation and policy	Assessment, management and mitigation of impacts
Heritage			
To ensure that historical and cultural associations are not adversely affected.	Potential impact on Aboriginal heritage sites.	*Aboriginal Heritage Act 1972 (*AH Act*).*	Surveys to be completed prior to ground disturbance. Project design will take into account location of heritage sites and avoid where practicable. Department of Indigenous Affairs (DIA) to manage under section 18 of the AH Act.
Benthic Communities and Habitat			
To maintain the structure, function, diversity, distribution and viability of benthic habitats at local and regional scales.	Disturbance to 3.2 ha of benthic, intertidal and coastal area.		Survey of corals communities and benthic habitat conducted Nov 2012 found the benthic habitat was not regionally significant. Design & orientation avoids significant coral communities. No mangroves to be cleared. No dredging required.
Hydrological Processes			
To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance are protected.	Significant surface water features within proposal area include Eramurra Creek and the tidal creek crossing Cape Preston.	*Rights in Water and Irrigation Act 1914 (RIWI Act).*	Existing causeway to be used no additional impact on tidal creek. Crossings of Eramurra Creek would use culverts so as not to impede flow. Department of Water (DoW) under the provisions of the RIWI Act to manage unauthorised impacts to waterways.

Appendix 4

Proponent’s API documentation