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Published on: 30 August 2011

Statement No. 873

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

WHEATSTONE DEVELOPMENT – GAS PROCESSING, EXPORT FACILITIES AND  
INFRASTRUCTURE.  
SHIRE OF ASHBURTON AND ROEBOURNE.

**Proposal:** The Proposal is to construct and operate a 25 million tonne per annum Liquefied Natural Gas (LNG) facility and associated Domestic Gas (Domgas) facility in the proposed Ashburton North Strategic Industrial Area (ANSIA) 12 kilometres south west of the town of Onslow. The Proposal includes:

- Subsea gas trunkline to bring produced hydrocarbons onshore to the LNG and Domgas plants;
- Product loading facility (PLF);
- Materials offloading facility (MOF);
- LNG and Domgas plants;
- Accommodation facilities; and
- Domgas pipeline to transport natural gas to the Dampier to Bunbury Natural Gas Pipeline.

The key components of the Proposal are further documented in schedule 1 of this statement.

**Proponent:** Chevron Australia Pty Ltd

**Proponent Address:** 250 St George's Terrace, PERTH WA 6000

**Assessment Number:** 1754

**Report of the Environmental Protection Authority:** Report 1404

**Appeal Determination:** Appeal numbers 78 to 81 of 2011.

## **1 Proposal Implementation**

1-1 The Proponent shall implement the Proposal as documented and described in Schedule 1 of this statement subject to the conditions and procedures of this statement.

Note: Unless otherwise indicated, terms and acronyms are defined in Schedule 4.

## **2 Proponent Nomination and Contact Details**

2-1 The Proponent for the time being nominated by the Minister for Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the Proposal.

2-2 The Proponent shall notify the CEO of any change of the name and address of the Proponent for the serving of notices or other correspondence within 30 days of such change.

## **3 Time Limit of Authorisation**

3-1 The authorisation to implement the Proposal provided for in this statement shall lapse and be void five years after the date of this statement if the Proposal to which this statement relates is not substantially commenced.

3-2 The Proponent shall provide the CEO with written evidence which demonstrates that the Proposal has substantially commenced on or before the expiration of five 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 months prior to the first compliance report required by condition 4-6, or prior to construction, whichever is sooner. The Compliance Assessment Plan shall indicate:

- i. the frequency of compliance reporting;
- ii. the approach and timing of compliance assessments;
- iii. the retention of compliance assessments;
- iv. the method of reporting of potential non-compliances and corrective actions taken;
- v. the table of contents of compliance assessment reports; and
- vi. 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 days of that non-compliance being known.
- 4-6 The Proponent shall submit to the CEO the first compliance assessment report fifteen months from the date of issue of this Statement addressing the twelve 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:
- i. be endorsed by the Proponent's Managing Director or a person delegated to sign on the Managing Director's behalf;
  - ii. include a statement as to whether the Proponent has complied with the conditions;
  - iii. identify all potential non-compliances and describe corrective and preventative actions taken;
  - iv. be made publicly available in accordance with the approved compliance assessment plan; and
  - v. indicate any proposed changes to the compliance assessment plan required by condition 4-1.

## **5 Final Marine Infrastructure Plan**

- 5-1 Prior to the construction of the nearshore and offshore marine facilities listed in Schedule 1 for this Proposal, unless otherwise approved by the CEO, the Proponent must prepare a final Marine Infrastructure Plan which is to be approved by the CEO, on advice of the Dampier Port Authority, which details the nearshore and offshore marine facilities. The plan must also show the proposed location(s) for anchoring the Offshore Accommodation Vessel.
- 5-2 The Proponent shall provide the CEO with the approved Marine Infrastructure Plan described in Condition 5-1 and spatial data locating the nearshore and offshore marine facilities, in a Geographical Information System (GIS) compatible format specified by the CEO.
- 5-3 The Proponent shall construct the nearshore and offshore marine facilities listed in Schedule 1 consistent with the approved Marine Infrastructure Plan.
- 5-4 The Proponent must locate the Offshore Accommodation Vessel more than 500 metres from any sessile benthic filter feeder communities or benthic primary producer habitat (other than soft bottom microphytobenthos) at a location(s) approved by the CEO.
- 5-5 The Offshore Accommodation Vessel (if any) shall be anchored for this Proposal using an appropriate mooring system approved by the CEO that minimises anchor chains scouring the adjacent seafloor and associated habitats.
- 5-6 The Proponent shall locate the Offshore Accommodation Vessel (if any) consistent with the principles and suggested measures contained in the EPA Environmental Assessment Guideline No. 5 unless otherwise approved by the CEO.

## **6 Construction of Marine Facilities**

Note: Definitions pertaining to condition 6 are contained in Schedule 4.

- 6-1 The Proponent shall ensure the construction of nearshore and offshore marine facilities achieves the following environmental protection outcomes:
- i. no irreversible loss of, or serious damage to, coral habitats outside of the Zone of High Impact shown in Figure 3 of Schedule 1;
  - ii. no irreversible loss of, or serious damage to, filter feeder habitats outside of the Zone of High Impact shown in Figure 3 of Schedule 1;
  - iii. no irreversible loss of, or serious damage to, seagrass, macroalgal and other benthic habitats outside of the Zone of High Impact shown in Figure 4 of Schedule 1;
  - iv. protection of at least 70% of baseline live coral cover on each designated reef formation (see Figure 2 of Schedule 1) within the Zone of Moderate Impact shown in Figure 3 of Schedule 1;
  - v. no detectable reduction of net live coral cover within the Zone of Influence shown in Figure 5 of Schedule 1; and
  - vi. no detectable net negative change from the baseline state of filter feeder, seagrass, macroalgal and other benthic habitats determined by implementing condition 7, outside of the Zones of High and Moderate Impact, shown in Figures 3 and 4 of Schedule 1, whichever figure is relevant to the habitats above,

unless and until, at a specified site(s) outside the Zones of Moderate Impact or specified designated reef formation(s) or site(s) in the Zones of Moderate Impact, a revised environmental protection outcome has been approved by the Minister in accordance with condition 6-10 to have effect for that specified site(s) or specified designated reef formation(s), in which case the approved revised environmental protection outcome for the specified site(s) or designated reef formation(s) shall be achieved in the construction of the nearshore and offshore marine facilities.

- 6-2 Notwithstanding the Environment Protection Outcomes specified in condition 6-1 which the Proponent must achieve, the Proponent shall design and execute turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities with the aim of achieving the following management objectives:
- i. Within the Zone of High Impact shown in Figure 3 of Schedule 1: protection of at least 50% of baseline live coral cover on each of the following two reef formations: a) End of Channel Shoal; and b) Saladin Shoal, which are shown in Figure 2 of Schedule 1;
  - ii. Within the Zone of Moderate Impact shown in Figure 3 of Schedule 1: no detectable reduction of net live coral cover at any designated reef formation in this zone; and
  - iii. Within the Zone of Influence shown in Figure 5 of Schedule 1: no detectable reduction of net live coral cover within this zone.

- 6-3 Prior to the commencement of turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities, unless otherwise approved by the CEO, the Proponent shall prepare a Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan that meets the objectives set out in condition 6-4 to be approved by the CEO.

- 6-4 The objectives of the Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan are to ensure that turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities:
- i. achieve the environmental protection outcomes set in condition 6-1; and
  - ii. are managed with the aim of achieving the management objectives set out in condition 6-2.
- 6-5 The Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan shall include:
- i. descriptions of monitoring sites, including key physical attributes, geographic locations and measures of the baseline condition of benthic communities to be monitored;
  - ii. descriptions of the environmental variables to be monitored for determining achievement of the environmental protection outcomes set in condition 6-1 (i), (iv) and (v) and the management objectives in condition 6-2;
  - iii. the monitoring and data evaluation procedures to be applied so as to assess achievement of the environmental protection outcomes set in condition 6-1 (i), (iv) and (v) and the management objectives in condition 6-2;
  - iv. the monitoring methodologies to be applied to:
    - a. measure relevant physical indicators (e.g. water currents, water quality conditions including turbidity, photosynthetic radiation and light attenuation coefficient, and sediment production and deposition rates) at a frequency to allow near-real time dredge and dredge overflow management and the validation and calibration of numerical models that may be used to assist in the management of dredging activities; and
    - b. measure biological indicators with intervals between monitoring occasions of approximately 14 days (depending on weather conditions) to inform adaptive environmental management (e.g. measures of live coral cover/coral mortality);
  - v. management trigger indicators and values for relevant physical and biological indicators to be applied in a risk-based tiered approach for the management of the environmental impacts of turbidity generating activities which are part of the construction of nearshore and offshore marine facilities;
  - vi. evidence demonstrating that the monitoring required to assess achievement of environmental protection outcomes set in condition 6-1 and management objectives in condition 6-2, is based on tests using appropriate effect size(s) and has statistical power values of at least 0.8 (or alternative value(s) as approved by the CEO);
  - vii. management actions that will be implemented in the event that the management triggers values set in condition 6-5(v) are not met;
  - viii. methods and procedures that will be implemented to regularly characterise, spatially-define and report the realised Zone of Influence caused by turbidity-generating activities which are part of the nearshore and offshore marine facilities;

- ix. procedures for coral reproductive status monitoring to assist with predicting the timing and duration of coral spawning events;
  - x. the following with respect to dredge spoil placement site C:
    - a. calculations of predicted incremental loss of dredge spoil under metocean conditions typical of the location (i.e. inter-cyclone periods taking account of seasonal variations) following completion of marine works; and
    - b. predictions of fate and environmental impact of dredge spoil calculated to be lost following completion of marine works;
  - xi. the following, with respect to dredge spoil placement sites in State waters, having regard to condition 6-5(x):
    - a. management actions to be undertaken during dredge spoil placement activities to minimise the environmental impact of those activities and any material incremental losses of dredge spoil which may occur following completion of dredge spoil placement at sites in State waters;
    - b. monitoring to be undertaken of retention, stability and fate of dredge spoil placed at dredge spoil placement sites during and following the completion of dredge spoil placement at sites in State waters to verify the efficacy of the measures referred to in condition 6(xi)(a);
    - c. contingency measures to be implemented should monitoring required by condition 6-5(xi)(b) indicate management actions referred to in condition 6(xi)(a) are not effective; and
  - xii. requirements for timely reporting of monitoring data, management responses and contingency measures.
- 6-6A The Proponent shall provide relevant stakeholders with a draft copy of the Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan required under conditions 6-3, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 6-3.
- 6-6 The Proponent shall implement the approved Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan required under conditions 6-3 to 6-5 and make that plan publicly available in a manner approved by the CEO.
- 6-7 In the event that monitoring carried out under the approved Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan determines that any of the environmental protection outcomes set in conditions 6-1(i), (iv) and (v) (or any approved revised environmental protection outcome) are not being achieved by construction of the nearshore and/or offshore marine facilities, the Proponent shall:
- i. immediately suspend all turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities;
  - ii. within 24 hours of that suspension, report the non-achievement to the Minister and that it has suspended all turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities; and
  - iii. within 48 hours of that suspension, report to the Minister:

- a. the results of the monitoring that led to that suspension;
- b. the findings of investigations into the status of relevant environmental measures against achievement of the environmental protection outcomes set in condition 6-1 (i), (iv) and (v) or any approved revised environmental protection outcomes;
- c. the turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities and metocean conditions occurring at the time of the non achievement of environmental protection outcomes set in condition 6-1 (or any approved revised environmental protection outcome); and
- d. the results of the most recent water quality and sediment deposition monitoring.

6-8 If, after suspending any turbidity-generating activities under condition 6-7, in the report required by condition 6-7(iii), the Proponent:

- i. determines that environmental protection outcomes set in conditions 6-1(i), (iv) and (v) (or any approved revised environmental protection outcome) are being achieved; or
- ii. provides strong evidence that a particular turbidity generating activity did not cause the non-achievement,

and the Minister concurs with the findings of the Proponent's report, then the Proponent may recommence turbidity-generating activities which are part of:

- iii. the construction of nearshore and/or offshore marine facilities if condition 6-8(i) applies; or
- iv. the construction of which-ever particular marine facilities that are determined not to have caused the non-achievement if condition 6-8(ii) applies, consistent with relevant management plans.

6-9 If conditions 6-8(iii) and (iv) do not apply, and the Proponent wishes to recommence the turbidity-generating activities which are suspended under condition 6-7, the Proponent:

- i. shall submit to the Minister a report detailing the following:
  - a. the results of the most recent environmental monitoring for all monitoring and reference sites, including identifying where an environmental protection outcome (or any approved revised environmental protection outcome) is not being achieved, and those sites where there is strong evidence that non-achievement of an environmental protection outcome (or any approved revised environmental protection outcome) is reasonably expected to be recorded as part of the same event;
  - b. the turbidity-generating activities which were being undertaken in the monitoring period prior to the environmental protection outcome (or an approved revised environmental protection outcome) not being achieved and until the time of suspension;
  - c. the metocean conditions as monitored in the most recent monitoring period prior to the environmental protection outcome (or an approved revised

- environmental protection outcome) not being achieved and until the time of suspension;
- d. the results of the most recent water quality and sediment deposition monitoring;
  - e. proposed revised environmental protection outcome(s) for the site(s) outside the Zones of Moderate Impact where an environmental protection outcome (or an approved revised environmental protection outcome) is not being achieved, and those sites where there is strong evidence that contravention of an environmental protection outcome (or an approved revised environmental protection outcome) is expected to be recorded as part of the same event, and or for the designated reef formation(s) or site(s) inside the Zones of Moderate Impact where an environmental protection outcome (or an approved revised environmental protection outcome) is not being achieved; and
  - f. any other information considered relevant by the Proponent in support of its Proposal to recommence all turbidity-generating activities that remain suspended after implementing condition 6-8.
- ii. shall, if an environmental protection outcome (or any approved revised environmental protection outcome) is not being achieved inside a Zone of Moderate Impact, include in the report required by condition 6-9(i), additional management actions proposed to be implemented so that the recommencement of turbidity-generating activities which are part of the construction of that particular nearshore or offshore marine facility:
    - a. will not contribute to non-achievement of a revised environmental protection outcome proposed by the Proponent in condition 6-9(i)(e) for that zone where an environmental protection outcome has not been achieved, having regard to the matters provided for in condition 6-9(i); and
    - b. will ensure environmental protection outcomes set in conditions 6-1(i), (iv) and (v) (or any approved revised environmental protection outcome) continue to be achieved outside the Zones of Moderate Impact.
  - iii. shall, if an environmental protection outcome (or any approved revised environmental protection outcome) is not being achieved outside the Zones of Moderate Impact (not including the Zone of High Impact), include in the report required by condition 6-9(i), additional management actions proposed to be implemented so that the recommencement of turbidity-generating activities which are part of the construction of that particular nearshore or offshore marine facility:
    - a. will not contribute to further non-achievement of environmental protection outcomes set in conditions 6-1(i), (iv) and (v) or any approved revised environmental protection outcome; or
    - b. will not cause non-achievement of a revised environmental protection outcome proposed by the Proponent in condition 6-9(i) to apply at those sites where an environmental protection outcome (or any approved revised environmental protection outcome) has not been achieved or there is strong evidence that non-achievement of an environmental protection outcome (or any approved revised environmental protection outcome) is expected as part of the same event; and



- c. will ensure the environmental protection outcomes set in conditions 6-1(i), (iv) and (v) (or any approved revised environmental protection outcome) continue to be achieved at all other sites and designated reef formations.

- 6-10 The Minister may, having regard to the report submitted by the Proponent under condition 6-9 and on the advice of the Chairman of the EPA, approve revised environmental protection outcome(s) to have effect for the purpose of condition 6-1 in which case the Proponent may then recommence turbidity-generating activities which are part of construction of the particular nearshore or offshore marine facility(s) subject to the approved revised environmental protection outcome(s). The Minister may also, having regard to the report submitted by the Proponent under condition 6-9, require the Proponent to implement the additional management actions proposed in conditions 6-9(ii) and (iii) above, or other additional practicable management actions, as part of the approved Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan (condition 6-3).
- 6-11 The Proponent shall not conduct turbidity-generating activities which are part of the construction of nearshore and offshore marine facilities during the period 3 days prior to the predicted commencement of mass coral spawning, or as soon as mass coral spawning is detected if prior to the predicted time, and those turbidity-generating activities are to remain suspended for 7 days from the commencement of mass coral spawning unless it supplies peer-reviewed scientific evidence that if those turbidity-generated activities were to continue during coral mass spawning events, any effect, if it were to occur, would not significantly impact the functional ecology of local and regional reefs and the CEO provides a written exemption of those turbidity-generating activities from the requirement to cease over the period specified or alters the period that turbidity-generating activities must cease.
- 6-12 The Proponent shall undertake turbidity-generating activities which are part of the maintenance of nearshore and offshore marine facilities listed in Schedule 1 to ensure that each of the environmental protection outcomes set in condition 6-1 (including any approved revised environmental protection outcomes) are achieved.
- 6-13 If under condition 6-10 any revised environmental protection outcomes for conditions 6-1(i), (iv) and (v) are approved, and/or additional management actions are required to be implemented, those approved revised environmental protection outcomes and additional management actions required by the Minister under condition 6-10 shall have effect as if they were part of the approved Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan.

*Control of turbid water overflow from dredging equipment*

- 6-14 If the Proponent proposes to allow turbid water overflow from dredging equipment in overflow control zones as defined in Schedule 4 in such a manner that designated reef formations in the Zone of Moderate Impact may reasonably be expected to be exposed to some turbidity associated with the turbid water overflow from dredging equipment, the Proponent shall prepare a Turbid Water Overflow Adaptive Monitoring and Management Strategy which is to be implemented once approved by the CEO. The Turbid Water Overflow Adaptive Monitoring and Management Strategy shall include the following basic elements:
  - i. environmental baseline data covering the range of seasonal conditions expected during turbid water overflow from dredging equipment in overflow control zones, focusing on relevant key water quality and coral health indicators;

- ii. Proposal-specific tolerance limits for relevant key water quality and coral health indicators;
- iii. a sediment spill budget and spill budget limits relevant to the Proposal-specific tolerance limits referred to in ii above that aims to meet the management objectives on condition 6-2 and ensures that the environmental protection outcomes set in condition 6-1 are achieved;
- iv. work plans that specify the time, location and geographical coordinates of dredging that is likely to cause turbid water overflow from dredging equipment in overflow control zones, and includes relevant procedures and equipment;
- v. compliance monitoring of relevant environmental indicators and assessment of monitoring data against sediment spill budget limits, at a frequency of at least daily;
- vi. near real time control monitoring of relevant environmental indicators and evaluation against Proposal-specific environmental tolerance limits for those indicators with the objective of on-going verification of the spill budget and performance of the validated and calibrated plume hindcast model;
- vii. daily spill hindcast simulations using a plume hindcast model which has been validated and calibrated for implementation at the site, with input data including actual dredging rates and schedules, empirical data on the composition of dredged material and actual metocean conditions over the hindcast period, to assess the extent, intensity and duration of sediment plumes generated by turbid water overflow from dredging equipment in overflow control zones over hindcast periods not exceeding 3 days in arrears;
- viii. fortnightly monitoring of coral health at each designated reef formation in the Zone of Moderate Impact and at appropriate reference sites;
- ix. a program to inform routine verification and update (as necessary) of the Proposal-specific tolerance limits and the spill budget;
- x. measures for timely, proactive management of dredging, or turbid water overflow from dredging equipment, in overflow control zones to prevent detectable reduction of live coral cover at any designated reef formation in the Zone of Moderate Impact and achieve the environmental protection outcomes referred to in condition 6-1; and
- xi. procedures for timely reporting of monitoring results and management actions.

6-15 If coral health monitoring required by condition 6-14(viii) indicates the lowest detectable reduction of net live coral cover at any designated reef formation in the Zone of Moderate Impact, then the Proponent shall report that monitoring result to the CEO within 24 hours of the detection and immediately, and then for the remainder of marine works required for construction of marine facilities, implement management of turbid water overflow from dredging equipment in overflow control zones in accordance with condition 6-16.

6-16 If condition 6-15 is brought into effect or if the Proponent exercises discretion at any time not to implement condition 6-14, then the turbid water overflow from dredging equipment in overflow control zones shall only be allowed:

- i. when and where it can be demonstrated, by undertaking monitoring to the satisfaction of the CEO, that designated reef formations would not be exposed to turbidity associated with the turbid water overflow from dredging equipment; or
- ii. where approved by the Minister.

## **7 State of the Marine Environment Surveys**

Note: Definitions pertaining to condition 7 are contained in Schedule 4.

- 7-1 The Proponent shall, within six months following the date of this Statement, or at least three months prior to the commencement of any marine works that may impact the marine environment, whichever is sooner, unless otherwise approved by the CEO, prepare a Scope of Works for surveys of the marine environment referred to in condition 7-2 for the approval of the CEO.
- 7-2 The surveys of the marine environment are to be conducted in accordance with the approved Scope of Works at the times as indicated below, unless otherwise approved by the CEO, so as to establish the following:
  - i. the baseline state of the marine environment prior to the commencement of any marine works;
  - ii. the state of the marine environment at the mid-term of the marine works period associated with:
    - a. the construction of the nearshore and offshore marine facilities; and
    - b. the trunkline installation;
  - iii. the first post-development state of the marine environment associated with:
    - a. the construction nearshore and offshore marine facilities; and
    - b. the trunkline installation; and
  - iv. a second post-development state of the marine environment having regard to the findings of previous surveys.
- 7-3 The Scope of Works for surveys of the marine environment required in condition 7-2 shall include the following where relevant having regard to when the survey is conducted:
  - i. Procedures and methods for the collection of quantitative environmental data for:
    - a. water quality;
    - b. hydrodynamic conditions including direction and velocity of water currents;
    - c. the physical characteristics of native sediments and development-influenced sediments suspended in the water column and deposited on the benthos;
    - d. the natural and development-influenced rates, and spatial and temporal patterns of sediment deposition;

- e. the spatial extent, distribution, community composition (at a suitable taxonomic resolution to differentiate different communities), natural variability including seasonality and condition of benthic habitats; and
  - f. the preparation of benthic habitat maps.
- ii. timing for the implementation and completion of the surveys having regard to the types and sequence of surveys referred to in condition 7-2;
  - iii. procedures for the use of survey data to assess compliance with relevant environmental protection outcomes in conditions 6-1 and 8-7; and
  - iv. timing and frequency of reporting.

Note: In the case of the hard coral components of benthic habitats referred to in condition 7-3, a measure of condition shall include live coral cover at each of the designated reef formations in the Zones of Moderate Impact shown in Figure 2 of Schedule 1.

- 7-4 Prior to the commencement of marine works and in accordance with the approved Scope of Works required under condition 7-3, the Proponent shall undertake the baseline state of the marine environment survey.
- 7-5 At the time specified in the approved Scope of Works and in accordance with the approved Scope of Works, the Proponent shall undertake the surveys for the state of the marine environment at the mid-term of the marine works.
- 7-6 At the time specified by the approved Scope of Works and in accordance with the approved Scope of Works, the Proponent shall undertake the surveys for the state of the marine environment at the post development of the marine works.
- 7-7 No longer than 5 years following completion of marine works required for the construction of marine facilities or the trunkline and in accordance with the approved Scope of Works, the Proponent shall undertake a second post-development state of the marine environment survey to determine compliance with the environmental protection outcomes set in conditions 6-1 and 8-7 (or any approved revised environmental protection outcome), unless otherwise approved by the Minister.
- 7-8 The Proponent shall report the findings of the baseline state of the marine environment survey required by condition 7-4 to the CEO within three months of having completed that survey.
- 7-9 The Proponent shall report the findings of subsequent state of the marine environment surveys required by conditions 7-5, 7-6 and 7-7 and include in each report an appraisal of compliance with environmental protection outcomes set in condition 6-1 and condition 8-7 having regard to any relevant approved revised environmental protection outcome, to the CEO within four months of having completed each survey.

## **8 Trunkline Installation**

Note: Definitions pertaining to condition 8 are contained in Schedule 4.

- 8-1 The Proponent shall, prior to the commencement of the trunkline installation activities, unless otherwise approved by the CEO, prepare a Trunkline Route and Infrastructure Plan, to be approved by the CEO, on the advice of the Dampier Port Authority.

- 8-2 The objective of Trunkline Route and Infrastructure Plan is to accurately describe, including with the use of spatial data, the actual trunkline route to be used, trunkline installation methods, and activities that will be associated with the trunkline installation activities following that route.
- 8-3 The actual trunkline route to be used shall be contained wholly within the corridor and investigative area shown on Figure 7 of Schedule 1 and described by coordinates provided in Table 3 of Schedule 1.
- 8-4 Trunkline Route and Infrastructure Plan shall include:
- i. a sufficient number of scale, spatially-rectified maps and/or technical drawings to show the configuration and location of all components of the trunkline to be installed within State waters;
  - ii. geo-spatial information describing the actual trunkline route to be used and the associated centre-line of trunkline for its full length in State waters;
  - iii. geo-spatial information describing the Trunkline Direct Disturbance Footprint , Zone of High Impact, Zones of Moderate Impact about the actual trunkline route to be used, as defined in condition 8-5;
  - iv. geo-spatial information describing the predicted Zone of Influence for the actual trunkline route and construction methods to be used, based on modelling outputs;
  - v. benthic habitat maps showing the extent and distribution of different benthic habitats coincident with the Zone of High Impact and Zones of Moderate Impact and at representative sites in the Zones of Influence as defined in condition 8-5;
  - vi. a table setting out the areas, in hectares, of the different benthic habitats within the Trunkline Direct Disturbance Footprint, Zone of High Impact and the Zones of Moderate Impact; and
  - vii. descriptions of the key trunkline installation activities and the measures taken to design the trunkline route and execute the trunkline installation activities to minimise, so far as is reasonably practicable, the impacts to benthic habitats.
- 8-5 The proponent shall implement the approved Trunkline Route and Infrastructure Plan required under condition 8-4, and will exercise all practicable means to minimise the impacts of trunkline installation activities so that impacts fall within the spatial limits defined for sections of the trunkline route in the Trunkline Route and Infrastructure Plan, or within the Trunkline Direct Disturbance Footprint and Zones of impact, whichever is less. For the purpose of condition 8, the Trunkline Direct Disturbance Footprint and Zones of impact are defined as follows:
- i. the Trunkline Direct Disturbance Footprint, which lies within the Zone of High Impact defined in condition 8-5(ii), is not to extend beyond 25 metres of the centre-line of the trunkline for the length of the trunkline in State waters;
  - ii. the Zone of High Impact about the trunkline is not to extend beyond 525 metres of the centre-line of trunkline for the length of the trunkline in State waters;

- iii. Zones of Moderate Impact about the trunkline are those areas beyond the Zone of High Impact defined in condition 8-5(ii), but are not to extend more than 1,525 metres either side of the centre-line of the trunkline for the length of the trunkline in State waters; and
- iv. Zones of Influence are areas beyond the Zones of Moderate Impact defined in condition 8-5(iii), predicted in accordance with the requirements of condition 8-4(iv),

unless the Proponent justifies, to the requirements of the CEO on the advice of the Dampier Port Authority, that having exercised all practicable means to minimise the impacts of trunkline installation activities, an alternative Zone of High Impact and/or Zones of Moderate Impact are warranted.

8-6 Reef formations at Ashburton Island and Brewis Reef shown in Figure 2 of Schedule 1 shall not be contained within either the Zone of High Impact or the Zones of Moderate Impact defined in condition 8-5.

8-7 The Proponent shall undertake turbidity-generating activities associated with trunkline installation in State waters consistent with the approved Trunkline Route and Infrastructure Plan and ensure that each of the following environmental protection outcomes are achieved:

- i. no irreversible loss of, or serious damage to macroalgal habitats due to the installation of the trunkline;
- ii. no irreversible loss of, or serious damage to, seagrass habitat outside of the Trunkline Direct Disturbance Footprint;
- iii. no irreversible loss of, or serious damage to, coral habitats outside of the Zone of High Impact;
- iii(a). no irreversible loss of, or serious damage to filter feeder habitats outside of the Zone of High Impact;
- iv. no detectable net negative change from the baseline state of seagrass habitats determined by implementing condition 7, outside of the Zone of High Impact;
- v. no detectable net negative change from the baseline state of filter feeder and macroalgal habitats determined by implementing condition 7, outside the Zone of High Impact and the Zones of Moderate Impact; and
- vi. no detectable reduction of net live coral cover within the Zones of Influence, including reef formations at Ashburton Island and Brewis Reef,

unless and until, at a specified site(s), outside the Zones of Moderate Impact or reef formations at Ashburton Island or Brewis Reef or site(s) in the Zones of Moderate Impact, a revised environmental protection outcome has been approved to have effect for that specified site(s) or reef formation(s) by the Minister in accordance with condition 8-16, in which case the approved revised environmental protection outcome for the specified site(s) or designated reef formation(s) shall be achieved due to turbidity-generating activities associated with trunkline installation.

8-8 Notwithstanding the Environment Protection Outcomes specified in condition 8-7 which the Proponent must achieve, the Proponent shall design and execute trunkline

installation activities in State waters with the aim of achieving the following management objectives:

- i. irreversible loss of, and serious damage to, benthic habitats is restricted to the area within the Trunkline Direct Disturbance Footprint (excluding macroalgal habitats to which there shall be no irreversible loss or serious damage);
- ii. impacts to the marine environment within the Zones of Moderate Impact are minimised to the greatest extent practicable; and
- iii. cumulative impacts from turbidity-generating activities associated with trunkline installation undertaken simultaneously with turbidity-generating activities associated with the construction of the nearshore and offshore marine facilities are managed so as to achieve the environmental protection outcomes set in condition 8-7 and condition 6-1 (or any approved revised environmental protection outcomes).

8-9 Prior to the commencement of the trunkline installation activities and consistent with the Trunkline Route and Infrastructure Plan required by condition 8-1, unless otherwise approved by the CEO, the Proponent shall submit a Trunkline Installation Environmental Monitoring and Management Plan that meets the objectives set out in condition 8-10 to be approved by the CEO.

8-10 The objectives of the Trunkline Installation Environmental Monitoring and Management Plan are to ensure that turbidity-generating activities associated with trunkline installation, in State waters:

- i. achieve the environmental protection outcomes set in condition 8-7; and
- ii. are managed with the aim of achieving the management objectives set out in condition 8-8.

8-11 The Trunkline Installation Environmental Monitoring and Management Plan shall include:

- i. information describing the actual trunkline route to be used consistent with the approved Trunkline Route and Infrastructure Plan;
- ii. descriptions of key trunkline installation activities, including information about where and when each activity will occur consistent with the approved Trunkline Route and Infrastructure Plan;
- iii. descriptions of monitoring sites, including key physical attributes, geographic locations and measures of the baseline condition of benthic communities to be monitored;
- iv. the monitoring methodologies to be applied to:
  - a. measure relevant physical indicators (e.g. water currents, water quality conditions including turbidity, photosynthetic radiation and light attenuation coefficient, and sediment production and deposition rates) at a frequency to allow near-real time dredge management and the validation and calibration of numerical models that may be used to assist in the management of dredging activities; and

- b. measure biological indicators for environmental management (e.g. live coral cover, coral mortality) at a frequency of approximately not less than each 14 days (weather permitting);
  - v. the measures, procedures and monitoring strategy to be applied for monitoring achievement of the environmental protection outcomes set in conditions 8-7(iii) and (vi) (or any approved revised environmental protection outcome that may apply);
  - vi. evidence demonstrating that the design of the monitoring strategy applied to determine achievement of environmental protection outcomes set in conditions 8-7(iii) and (vi) (or any approved revised environmental protection outcome that may apply) is based on tests using appropriate effect size(s) and has statistical power value of at least 0.8 or an alternative value as determined by the CEO;
  - vii. the trigger indicators, values and circumstances that shall be applied to determine whether the management objectives detailed in condition 8-8 are being achieved;
  - viii. a risk-based tiered approach to management of the environmental impacts of trunkline installation activities;
  - ix. management actions that will be implemented in the event that tiered management trigger levels for the various indicators being monitored are not being achieved;
  - x. methods and procedures that will be implemented to regularly characterise, spatially-define and report the realised Zone of Influence caused by turbidity-generating activities associated with trunkline installation;
  - xi. procedures to be implemented to minimise the environmental impact of trunkline installation vessel operations, including vessel anchoring;
  - xii. coral reproductive status monitoring to assist with predicting the timing and duration of coral spawning events; and
  - xiii. reporting requirements.
- 8-12A The Proponent shall provide relevant stakeholders with a draft copy of the Trunkline Installation Environmental Monitoring and Management Plan required under condition 8-9, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 8-9.
- 8-12 The Proponent shall implement the approved Trunkline Installation Environmental Monitoring and Management Plan required under conditions 8-9 to 8-11 and make that plan publicly available in a manner approved by the CEO.
- 8-13 In the event that monitoring carried out under the approved Trunkline Installation Environmental Monitoring and Management Plan determines that the environmental protection outcomes set in conditions 8-7(iii) and (vi) (including any approved revised environmental protection outcomes that may apply at the time) are not being achieved by trunkline installation activities, the Proponent shall:
- i. immediately suspend all turbidity-generating activities associated with trunkline installation;



- ii. within 24 hours of that suspension, report the non-achievement and suspension of turbidity-generating activities associated with trunkline installation consistent with relevant management plans to the Minister; and
- iii. within 48 hours of that suspension, report to the Minister:
  - a. the results of the monitoring that led to that suspension;
  - b. the findings of investigations into the status of relevant environmental measures against the achievement of the environmental protection outcomes set in conditions 8-7(iii) and (vi);
  - c. the turbidity generating activities, and metocean conditions which resulted in the non-achievement of the environmental protection outcomes set in conditions 8-7(iii) and (vi) (or approved revised environmental protection outcomes); and
  - d. the results of the most recent water quality and sediment deposition monitoring.

8-14 If, after suspending turbidity-generating activities associated with trunkline installation under condition 8-13, in the report required by condition 8-13(iii), the Proponent:

- i determines that the environmental protection outcomes set in conditions 8-7(iii) and (vi) (or any approved revised environmental outcome) are being achieved; or
- ii provides strong evidence that turbidity-generating activities associated with trunkline installation did not cause the non-achievement,

and the Minister concurs with the findings of the report, then the Proponent may recommence turbidity-generating activities associated with trunkline installation consistent with relevant management plans.

8-15 If, after suspending turbidity-generating activities associated with trunkline installation under condition 8-13, and if condition 8-14 does not apply, and the Proponent wishes to recommence turbidity-generating activities associated with trunkline installation, the Proponent:

- i. shall submit a report to the Minister detailing the following:
  - a. the results of the most recent biological indicators monitoring, for all monitoring and reference sites, including identifying where an environmental protection outcome is not being achieved, and those sites where there is strong evidence that non-achievement of an environmental protection outcome is reasonably expected to be recorded as part of the same event;
  - b. the turbidity-generating activities which were being undertaken in the monitoring period prior to the environmental protection outcome not being achieved and until the time of suspension;
  - c. the metocean conditions as monitored in the monitoring period prior to the environmental protection outcome not being achieved and until the time of suspension;

- d. the results of the most recent water quality and sediment deposition monitoring;
  - e. proposed revised environmental protection outcome(s) for the site(s) outside the Zones of Moderate Impact where an environmental protection outcome is not being achieved, and those sites where there is strong evidence that exceedance of an environmental protection outcome is expected to be recorded as part of the same event, and or for the designated reef formations at Ashburton Island and Brewis Reef or site(s) inside the Zones of Moderate Impact where an environmental protection outcome is not being achieved; and
  - f. any other information considered relevant by the Proponent in support of its Proposal to recommence turbidity-generating activities associated with trunkline installation.
- ii. shall, if an environmental protection outcome (or an approved revised environmental protection outcome) is not being achieved inside a Zone of Moderate Impact, include in the report required by condition 8-15(i) additional management actions proposed so that the recommencement of turbidity-generating activities associated with trunkline installation:
    - a. will not contribute to non-achievement of a revised environmental protection outcome proposed by the Proponent in condition 8-15 (i)(e), for that zone where failure to achieve an environmental protection outcome has been recorded having regard to the matters provided for in condition 8-15(i); and
    - b. will ensure environmental protection outcomes set in conditions 8-7(iii) and (vi) continue to be achieved outside the Zones of Moderate Impact (unless a revised environmental protection outcome for a specified site(s) has been approved).
- iii. shall, if an environmental protection outcome (or any approved revised environmental protection outcome) is not being achieved outside the Zones of Moderate Impact (not including the Zone of High Impact), include in the report required by condition 8-15(i) additional management actions proposed to be implemented so that the recommencement of turbidity-generating activities associated with trunkline installation:
    - a. will not contribute to further non-achievement of environmental protection outcomes set in conditions 8-7(iii) and (vi) (or any approved revised environmental protection outcome); or
    - b. will not cause non-achievement of a revised environmental protection outcome proposed by the Proponent in condition 8-15 (i)(e), at those sites where failure to achieve an environmental protection outcome (or any approved revised environmental protection outcome) has been recorded or there is strong evidence that non-achievement of an environmental protection outcome (or any approved revised environmental protection outcome) is expected to be recorded as part of the same event; and
    - c. will ensure the environmental protection outcomes set in conditions 8-7(iii) and (vi) (or any approved revised environmental protection outcome) continue to be achieved at all other sites and reef formations.

- 8-16 The Minister may, having regard to the report submitted by the Proponent under condition 8-15 and on the advice of the Chairman of the EPA, approve revised environmental protection outcome(s) to have effect for the purpose of condition 8-7 in which case the Proponent may then recommence turbidity-generating activities associated with trunkline installation subject to the revised environmental protection outcome(s). The Minister may also, having regard to the report submitted by the Proponent under condition 8-15, require the Proponent to implement additional management actions in condition 8-15(ii) and (iii) or other additional practicable management actions, as part of the approved Trunkline Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan (condition 8-9).
- 8-17 If under condition 8-16 any revised environmental protection outcomes for condition 8-7 are approved, and/or additional management actions are required to be implemented, those approved revised environmental protection outcomes and additional management actions required by the Minister under condition 8-16 shall have effect as if they were part of the approved Trunkline Installation Environmental Monitoring and Management Plan.
- 8-18 The Proponent shall not conduct turbidity-generating activities associated with trunkline installation during the period 3 days prior to the predicted commencement of mass coral spawning, or as soon as mass coral spawning is detected if prior to the predicted time, and those turbidity-generating activities are to remain suspended for 7 days from the commencement of mass coral spawning unless it supplies peer-reviewed scientific evidence that if those turbidity-generating activities were to continue during coral mass spawning events, any effect, if it were to occur, would not significantly impact the functional ecology of local and regional reefs, and the CEO provides a written exemption of those turbidity-generating activities from the requirement to cease over the period specified or alter the period that turbidity generating activities must cease.

## **9 Coastal Processes**

- 9-1 The Proponent shall ensure that construction and operation of the nearshore marine facilities (as defined in Schedule 1) achieve the following outcomes as far as is practicable as measured under the Coastal Processes Monitoring and Management Plan:
- i. minimise change to littoral sediment transport;
  - ii. minimise an erosion trend under non-cyclonic conditions in the position of the mean sea level shoreline and dune vegetation line between the nearshore marine facilities and Beadon Creek;
  - iii. maintain the functionality of Hooley Creek;
  - iv. maintain the functionality of the Ashburton delta and avoid destabilisation of the chenier that impounds the coastal lagoon east of Entrance Point;
  - v. minimise the impacts on the recreational value of beaches between the nearshore marine facilities and Beadon Creek;
  - vi. minimise the reduction in the integrity and performance of the Onslow seawall; and
  - vii. minimise the reduction in the integrity and values of heritage sites between the Ashburton Delta and Beadon Creek.

- 9-2 Prior to construction of the nearshore marine facilities (as defined in Schedule 1), unless otherwise approved by the CEO, the Proponent shall develop a Coastal Processes Monitoring and Management Plan to be approved by the CEO. The plan shall include:
- i. site inspection of beach, entrance bar and seawall condition between the Ashburton Delta and Beadon Creek;
  - ii. beach, chenier and spit/entrance bar width using a combination of topographic surveys and aerial photography/satellite imagery;
  - iii. beach profile using on-ground photography;
  - iv. mangrove habitat monitoring;
  - v. hydrographic survey of the near-shore area;
  - vi. community liaison strategy to obtain feedback on impacts on recreational values; and
  - vii. site inspection of heritage locations to assess the condition and potential threats to European heritage locations;
  - viii. a table showing the type of monitoring and monitoring frequency for each of the coastal features to be protected under condition 9-1;
  - ix. management triggers relevant to achieving the outcomes specified in condition 9-1;
  - x. management actions that will be implemented in the event that management triggers are likely to be exceeded.
- 9-3A The Proponent shall provide relevant stakeholders with a draft copy of the Coastal Processes Monitoring and Management Plan required under condition 9-2, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 9-2.
- 9-3 The Proponent shall implement the approved Coastal Processes Monitoring and Management Plan required under condition 9-2.
- 9-4 The Proponent shall report any non achievement of the management trigger referred to in condition 9-2, along with measures taken and/or proposed to be taken, and strategies to be implemented in response to the non achievement, to the CEO within 21 days of the non achievement being identified.
- 9-5 The Proponent shall make the Plan required under condition 9-2 publicly available in a manner approved by the CEO.
- 10 Marine Fauna Interaction – Marine Pile Driving, Dredging and Marine Construction Vessels, Offshore Accommodation Vessel and Onshore Facility light sources**
- 10-1 The Proponent shall engage dedicated Marine Fauna Observers who must:

- i. 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 their behaviours;
  - ii. be on duty on vessels actively engaged in pile-driving and/or dredging during all daylight hours when pile-driving operations and/or dredging are conducted; and
  - iii. maintain a log of:
    - a. their observations of cetaceans in a format consistent with the National Cetacean Sightings and Strandings Database;
    - b. their observations of other marine fauna, including injured or dead fauna within 500 metres of the vessels referred to in condition 10-1(ii);
    - c. their observations of fauna behaviours, in particular any behaviours that could be interpreted as a display of disturbance or distress;
    - d. management responses by the Proponent in relation to observation of disturbed or distressed fauna, and injured or dead fauna; and
    - e. observation hours and in relation to the duration of the pile driving and dredge activity.
- 10-2 The Proponent shall within six months of completing pile driving operations, lodge cetacean records with the National Cetacean Sighting and Strandings Database at the Australian Antarctic Division and with DEC and OEPA.
- 10-3 At least one member of the crew on each vessel undertaking construction activities will be trained in marine fauna observations and mitigation measures, including the requirements of the *Wildlife Conservation (Closed Season for Marine Mammals) Notice 1998*, as amended or replaced from time to time, and maintain 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 DEC on an annual basis at the same time as submitting the compliance assessment report required by condition 4-6 to the CEO.
- 10-4 Vessels engaged in construction of the nearshore or offshore marine facilities or trunkline shall not exceed those speeds specified in the Conservation Significant Marine Fauna Interaction Management Plan required under condition 10-11 or a speed designated by the Department of Transport or relevant Port Authority, whichever is lesser.
- 10-5 Subject to condition 10-9, no marine pile driving operations shall commence until the Marine Fauna Observer (or observers) required by condition 10-1 have verified that no cetacean(s) or dugong(s) have been observed within a radius of 1,500 metres or marine turtle(s) within a radius of 300 metres from the planned piling operation during the 30 minute period immediately prior to commencement of piling operations.
- 10-6 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 15 minutes.
- 10-7 If the Marine Fauna Observer(s) required by condition 10-1, or any other person, observes a marine turtle enter within 100 metres of a piling operation, or cetacean or

dugong within 500 metres of each piling operation, the piling operation within 100 metres of a marine turtle or 500 metres of the cetacean or dugong is to be suspended.

- 10-8 Marine pile driving that has been suspended in accordance with condition 10-7 shall not recommence until the cetacean or dugong has moved beyond 1,500 metres from the suspended piling operation or the marine turtle beyond 300 metres or the cetacean, dugong or marine turtle has not been observed within the exclusion zone for a period of 30 minutes. Marine pile driving that has been suspended for more than 15 minutes shall recommence with soft start-up procedures as required by condition 10-6.
- 10-9 No marine pile-driving operations shall occur between the hours of sunset and sunrise during the peak southern migration of mother and calf humpback whale pods defined as 10 August to 10 October in any year.
- 10-10 Marine pile driving commenced prior to sunset can continue between the hours of sunset and sunrise, unless marine pile driving is suspended for more than 15 minutes.

*Conservation Significant Marine Fauna Interaction Management Plan*

- 10-11 Prior to the commencement of construction of nearshore and offshore marine facilities, trunkline and onshore facilities, unless otherwise approved by the CEO, the Proponent shall prepare a Conservation Significant Marine Fauna Interaction Management Plan in consultation with the DEC and Commonwealth Department of Sustainability, Environment, Water, Population and Communities, which is to be approved by the CEO.

The objective of this Conservation Significant Marine Fauna Interaction Management Plan is to ensure that the Proponent constructs and operates the nearshore and offshore marine facilities, trunkline and Onshore Facility so as to:

- i. detect; and
- ii. avoid, or where this is not practicable, mitigate,

impacts upon conservation significant marine fauna, from construction and operation of nearshore and offshore marine facilities, trunkline and onshore facilities, including impacts from vessels.

Note: For the purposes of this condition the term 'conservation significant marine fauna' includes marine mammals, marine turtles, whale sharks and sawfish.

- 10-12A The Proponent shall provide relevant stakeholders with a draft copy of the Conservation Significant Marine Fauna Interaction Management Plan required under condition 10-11, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 10-11.
- 10-12 The Proponent shall include the following in the Conservation Significant Marine Fauna Interaction Management Plan:
  - i. a description of the environmental stressors relating to the construction and operation of nearshore and offshore marine facilities, trunkline and Onshore Facility which are likely to impact on marine fauna. (environmental stressors may include, but are not limited to, noise, vibration, light spill and glow, vessel strike, dredge entrainment, and changes to coastal processes with the potential to impact on important marine fauna habitats);

- ii. a description of design features and management actions which the Proponent will implement to avoid, or where this is not practicable, mitigate impacts of the environmental stressors relating to the construction and operation of nearshore and offshore marine facilities, trunkline and Onshore Facility on conservation significant marine fauna (for example, darkness strategies that avoid, or where this is not practicable, the impact of lights or light glow from the construction and operations of the Proposal, vessels and offshore accommodation vessel, interfering with female turtles and hatchlings);
  - iii. environmental performance standards to determine whether the design features and management actions are achieving the plan objectives referred to in condition 10-11; and
  - iv. a process (including a monitoring programme) to determine that the environmental performance standards are being achieved.
- 10-13 The Proponent shall implement the approved Conservation Significant Marine Fauna Interaction Management Plan required under conditions 10-11 and 10-12.
- 10-14 The Proponent shall make the approved Conservation Significant Marine Fauna Interaction Management Plan required under conditions 10-11 and 10-12 publicly available in a manner approved by the CEO.
- 10-15 The Proponent shall review annually the approved Conservation Significant Marine Fauna Interaction Management Plan.
- 10-16 The Proponent shall report to:
- i. the CEO any non-achievement of the environmental performance standards referred to in condition 10-12(iii) within 21 days of it having determined non-achievement and its recommendations as to how the plan should be amended to ensure standards are achieved; and
  - ii. the DEC any natural or Proposal attributable injury or mortality of conservation significant marine fauna within 24 hours of the observation.

*Underwater Noise Monitoring and Review Program*

- 10-17 Prior to commencement of marine pile driving activities, unless otherwise approved by the CEO, the Proponent shall prepare, with the advice of an expert(s) in the field of noise propagation modelling in the marine environment, an Underwater Noise Monitoring and Review Program for the marine pile driving activities, to be approved by the CEO, which:
- i. measures underwater noise from pile driving operations to establish a library of sound signals:
    - a. at varying distances from the noise source;
    - b. when driving piles of different sizes and types;
    - c. during the concurrent piling of different numbers of piles;
    - d. in conditions of different water depths; and

- e. in different driving conditions (substrate types); and
  - ii. reviews the predictive capacity of the noise propagation model used for the pile driving and make recommendations for improving the accuracy of underwater noise modelling in the future.
- 10-18 The Proponent shall implement the approved Underwater Noise Monitoring and Review Program required under condition 10-17.
- 10-19 The results of the approved Underwater Noise Monitoring and Review Program are to be published within one year after the completion of the pile driving operations in a manner approved by the CEO.

## **11 Marine Drilling and Blasting Activities**

- 11-1 Prior to commencing marine drilling and blasting activities which are part of the construction of the nearshore or offshore marine facilities and trunkline, unless otherwise approved by the CEO, the Proponent shall prepare a Drilling and Blasting Management Plan to be approved by the CEO.
- 11-2 The objectives of the Drilling and Blasting Management Plan are to ensure that drilling and blasting activities which are part of the construction of the nearshore or offshore marine facilities and trunkline are managed to minimise adverse impacts on all marine fauna. The Drilling and Blasting Management Plan shall include:
- i. a description of geographical location and duration of drilling and blasting required;
  - ii. a description of likely blast pressures and potential environmental impacts of these pressures;
  - iii. management actions to minimise environmental impacts, including:
    - a. actions for the disposal of drilling muds;
    - b. requirements for a dedicated Marine Fauna Observers for drilling and blasting operations as described in Condition 10 for other marine operations under 10-1, 10-2, 10-3, 10-5, 10-7 and 10-8;
    - c. No night-time blasting during the peak nesting/hatching seasons for marine turtles, and the northern and southern migration of mother and calf humpback whales, as determined in consultation with the Department of Environment and Conservation; and
    - d. Where practicable, marine blasting should be timed to avoid the peak nesting/hatching seasons for marine turtles, and the northern and southern migration of mother and calf humpback whales, as determined in consultation with the Department of Environment and Conservation
  - iv. management actions for dead and injured marine fauna;
  - v. stakeholder communication; and
  - vi. reporting procedures and time frames.



- 11-3A The Proponent shall provide relevant stakeholders with a draft copy of the Drilling and Blasting Management Plan required under condition 11-1, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 11-1.
- 11-3 In the event that marine drilling and blasting is required, the Proponent shall implement the approved Drilling and Blasting Management Plan required under conditions 11-1 and 11-2.
- 11-4 The Proponent shall make the approved Drilling and Blasting Management Plan publicly available in a manner approved by the CEO.

## **12 Introduced Marine Pests**

- 12-1 The Proponent shall manage non-trading vessel activities and immersible equipment activities whilst engaged for the implementation of the Proposal with the objective of preventing the introduction of marine pests into State waters. For the purpose of this condition, Introduced Marine Pests are those species known to be introduced marine pests, or any other species demonstrating invasive characteristics.
- 12-2 Prior to the departure of any non-trading vessels and associated immersible equipment engaged for the implementation of the Proposal (including dredges and pile driving barges), from any port into State waters, the Proponent shall:
- i. undertake a risk assessment for Introduced Marine Pests. The risk assessment will be undertaken in accordance with a risk assessment procedure approved by Department of Fisheries; and
  - ii. submit the risk assessment, including all inputted data and results to the Department of Fisheries for a determination of the risk level (high, or low) to be assigned to the vessels or associated immersible equipment.
- 12-3 The proponent shall ensure that any non-trading vessel or immersible equipment assessed in accordance with conditions 12-2(i) and (ii) and determined by the Department of Fisheries to be of high risk of Introducing Marine Pests, do not enter State waters unless and until:
- i. the non-trading vessel or immersible equipment has been inspected by an Officer of the Department of Fisheries, or a suitably qualified invasive marine pest expert approved by the Department of Fisheries; and
  - ii. the proponent has provided evidence to the Department of Fisheries, certifying that:
    - a. there is no sediment on or within the non-trading vessel and immersible equipment;
    - b. ballast water (if any) has been, or will be, managed according to the Australian Quarantine and Inspection Service ballast water requirements as amended or replaced from time to time;
    - c. no Introduced Marine Pests have been identified on or within any vessel or immersible equipment inspected or;

- d. where an Introduced Marine Pest has been identified on or within any vessel or immersible equipment then;
  - 1. the vessel has been subsequently cleaned and the cleaned vessel has been inspected by an Officer of the Department of Fisheries or a suitably qualified invasive marine pest expert approved by the Department of Fisheries,
  - 2. any cleaning or treatment activities undertaken to address Introduced Marine Pests risk, has been undertaken to an extent that the non-trading vessel or associated immersible equipment is determined by the Department of Fisheries to represent a low risk to the West Australian marine environment; and
- iii. vessel and immersible equipment inspections have been conducted no more than 7 days prior to vessel or immersible equipment departure for Ashburton North; or
- iv. If a vessel is determined by DoF to be of a high risk and has entered State waters, without meeting the requirements of conditions 12-3 (i), (ii) and (iii), then it must be inspected within 48 hours of arrival in State waters by an Officer of the Department of Fisheries or a suitably qualified invasive marine pest expert approved by the Department of Fisheries.

Note: Arrangements for inspection within Port of Onslow shall be carried out in consultation with the Harbour Master.

12-4 If non-trading vessels and associated immersible equipment are to be transferred without exemption (condition 12-5) from Ashburton North to other locations within State waters, the Proponent shall, at least 14 days prior to departure from Port of Onslow, undertake an inspection or submit a demobilisation risk assessment report to the Department of Fisheries that is informed by the Introduced Marine Pests monitoring of Ashburton North. Introduced Marine Pests monitoring shall:

- i. be consistent with monitoring design, implementation and reporting standards set out as part of the National Monitoring Network for the Prevention and Management of Marine Pest Incursions, as approved by the Monitoring Design Assessment Panel of the Marine Pest Sectoral Committee (MPSC), or as otherwise approved by the Department of Fisheries.
- ii. include a review of target priority Introduced Marine Pest species prior to each monitoring survey;
- iii. include a range of sample sites focusing on habitats considered most capable of facilitating the establishment of priority target species throughout all areas of port activities including anchorages, wharves, jetties, slipways, harbours and natural substrates, within the waters of the marine leases held by the Proponent;
- iv. be undertaken a minimum of once each year for the life of the Proposal; and
- v. include suitable targeted sampling and analysis of specimens removed during port and vessel maintenance activities.

12-5 Specified vessels and immersible equipment and vessels used to undertake single or multiple bunkering or other routine operational activities at neighbouring ports such as Exmouth, Dampier and Port Hedland will be exempt from the Introduced Marine Pests

risk mitigation measures referred to in condition 12-4 if, prior to arriving or departing from Port of Onslow, the Department of Fisheries, has issued a written exemption for that specified vessel and immersible equipment to enter and or leave Port of Onslow prior to an identified date, based on comprehensive information submitted by the Proponent that includes a risk assessment supported by documentation demonstrating biofouling management actions and a vessel activity profile since the most recent dry-dock cleaning.

- 12-6 The Proponent shall, throughout the life of the Proposal notify the Department of Fisheries, the Port of Onslow Harbour Master and the CEO of any known or suspected Introduced Marine Pests detected in the waters within the marine leases held by the Proponent at or adjacent to Ashburton North within 24 hours following detection, or following subsequent sample analysis undertaken as part of inspection or monitoring activities.
- 12-7 In the event that Introduced Marine Pests are detected during either the inspection of non-trading vessels and immersible equipment required by condition 12-3, or during monitoring surveys required by condition 12-4, and the introduction is a result of proposal related activities, the Proponent shall, in consultation with the Department of Fisheries and the CEO, develop and implement an Introduced Marine Pests Management Strategy to prevent wherever practicable, the establishment and proliferation of that organism, aiming to control and potentially eradicating that organism, and to minimise the risk of that organism being transferred to other locations within Western Australia.
- 12-8 The Proponent is to submit a report detailing the outcomes of the implementation of the Introduced Marine Pests Management Strategy to the Department of Fisheries and the CEO within a month of the commencement of the implementation of the Introduced Marine Pests Management Strategy and thereafter as required by the CEO.

### **13 Marine Outfalls**

- 13-1 *Environmental Quality Management Framework and location of waste water discharges*  
Prior to construction of any infrastructure for this Proposal related to waste water discharge, and prior to application for any works approval from DEC for any discharge, unless otherwise approved by the CEO, the Proponent must prepare a map to be approved by the CEO that spatially defines the areas where each environmental quality objective and level of ecological protection is to be achieved in the marine environment surrounding this Proposal. The map shall be provided in a GIS compatible format specified by the CEO.
- 13-2 The Proponent must locate the co-mingled on-shore brine and waste water outfalls so that the associated Low Ecological Protection Area is entirely contained within the Moderate Ecological Protection Area of the port.
- 13-3 The Moderate Ecological Protection Area for the port is defined as the area contained within 250 metres of the shipping berths and ship turning basin, and the area enclosed by the Marine Offloading Facility breakwaters. Outside of the Moderate Ecological Protection Area a high level of ecological protection shall be maintained.
- 13-4 The Low Ecological Protection Area for the co-mingled on-shore brine and waste water outfalls must not extend beyond 70 metres from all points of the diffuser structure.
- 13-5 The Proponent must locate the produced water outfall beyond the 20 metre isobath at a location approved by the CEO.

- 13-6 The Proponent shall incorporate waste treatment strategies and design the produced water outfall to minimise the size of any associated Low Ecological Protection Area and to ensure it does not extend beyond 70 metres from all points of the diffuser. Outside the Low Ecological Protection Area a high level of ecological protection shall be maintained.
- 13-7 The Proponent shall ensure that all waste and produced water discharges are managed to achieve the environmental quality objectives and levels of ecological protection as identified through condition 13-1 and described in Schedule 2.

*Offshore Accommodation Vessel Marine Discharge Infrastructure*

- 13-8 The Proponent shall not combine the brine discharge from the onboard desalination plant with the treated waste water discharge.
- 13-9 The Proponent shall incorporate waste treatment strategies and design the discharge outlets for treated waste water, brine and generator cooling water so that the size of any associated Low Ecological Protection Area is minimised and does not extend beyond 70 metres from the Offshore Accommodation Vessel. Outside the Low Ecological Protection Area a high level of ecological protection shall be maintained.
- 13-10 The Proponent shall ensure that all discharges from the Offshore Accommodation Vessel are managed to achieve the environmental quality objectives and levels of ecological protection as described in Schedule 2.

*Quality of all Waste Water Discharges from the Onshore Facilities*

- 13-11 Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall submit a report to the DEC that:
- i. spatially maps the areas where each environmental quality objective and level of ecological protection is to be achieved;
  - ii. identifies the environmental quality criteria, for constituents of the discharge considered relevant by the DEC, that should be achieved to maintain the environmental quality objectives and levels of ecological protection established through condition 13-1;
  - iii. predicts the toxicity of the final discharge under typical conditions;
  - iv. predicts the number of dilutions necessary to meet the required environmental quality objectives and level of ecological protection. For example, a moderate level of protection at the boundary of a Low and Moderate Ecological Protection Area and a high level of protection at the boundary of a Moderate and High Ecological Protection Area, or to meet a high level of protection at the boundary of a Low and High Ecological Protection Area (predictions are based on achieving environmental quality criteria and effluent toxicity); and
  - v. presents contingency options for additional treatment or extending the diffuser to achieve greater dilutions if required.
- 13-12 Prior to submitting an application for a works approval to the DEC for any discharge from the onshore facilities, the Proponent shall develop an Effluent Quality Validation and Reporting Plan in consultation with the DEC that addresses the following issues:

- i. Whole Effluent Toxicity Testing program for determining:
  - a. the actual toxicity of any discharge post commissioning and post operation of the outfall and following any significant change in effluent composition; and
  - b. the number of dilutions required to achieve each relevant level of ecological protection,

testing is to be undertaken on a minimum of five locally relevant species from four different taxonomic groups using the recommended protocols from ANZECC and ARMCANZ (2000)<sup>1</sup>;

- ii. characterisation of any waste water discharge under typical operational conditions and after any significant changes in effluent composition;
- iii. a revised set of environmental quality criteria based on the contaminants of concern identified from condition 13-12(ii);
- iv. given the results from conditions 13-12(i) (ii) and (iii), the number of dilutions required to achieve the environmental quality objectives and levels of ecological protection identified in condition 13-1 and described in Schedule 2; and
- v. reporting to the DEC within 6 months of commissioning of a discharge or within 6 months of any significant change in composition of a discharge, including any management actions necessary to ensure ongoing compliance with the environmental quality objectives and levels of ecological protection established through condition 13-1 and described in Schedule 2.

*Quality of any Offshore Accommodation Vessel Discharges*

13-13 Prior to application for a works approval from the DEC for any discharges from the Offshore Accommodation Vessel, the Proponent shall submit a report to the DEC that:

- i. for those water quality indicators considered relevant to the discharges, identifies the environmental quality criteria that should be achieved to maintain the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9 and described in Schedule 2;
- ii. models the behaviour of the different discharges from the offshore accommodation vessel and confirms that the environmental quality objectives will be achieved and that a high level of ecological protection will be achieved at the edge of the low ecological protection area;
- iii. predicts the impact of the discharges under typical conditions;
- iv. predicts the volumes and rates of the different discharges;
- v. predicts the number of dilutions required to achieve all of the environmental quality objectives, including a high level of ecological protection at the boundary of the Low and High Ecological Protection Areas (based on achieving the environmental quality criteria); and

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<sup>1</sup> Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), Report 4, National Water Quality Management Strategy.

- vi. presents contingency options for additional management actions or treatment options to achieve the required levels of ecological protection if required.

13-14 Prior to submitting an application for a works approval to the DEC for the discharges from any Offshore Accommodation Vessels, the Proponent shall develop a Discharge Quality Validation and Reporting Plan to the satisfaction of the DEC that addresses the following issues:

- i. Characterisation of the different discharge streams under typical operational conditions;
- ii. A revised set of environmental quality criteria based on the contaminants of concern identified from condition 13-14(i);
- iii. Given the results from condition 13-4(i) and (ii), confirmation that the environmental quality objectives and levels of ecological protection identified in conditions 13-1 and 13-9, and as outlined in Schedule 2, will be achieved; and
- iv. Reporting to the DEC within 6 months of commissioning, including any additional treatment options or management actions necessary to ensure ongoing compliance with the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9 and described in Schedule 2.

#### *Reporting*

13-15 In the event that the monitoring required by conditions 13-12 and 13-14 or through the discharge licences issued under Part V of the *Environmental Protection Act 1986* indicates that the environmental quality objectives and levels of ecological protection established through conditions 13-1 and 13-9, and described in Schedule 2, are not being met, or are not likely to be met, the Proponent shall report the findings to the CEO and the DEC as soon as practicable, but within five working days, along with a description of the management actions to be taken to meet the required level of environmental quality.

#### *Discharge of Hydrostatic Test Water*

13-16 Prior to the discharge of hydrostatic test fluids to marine waters, unless otherwise approved by the CEO, the Proponent is to develop, to the approval of the CEO, a Hydrostatic Test Fluids Discharge Management Plan that includes ecotoxicity testing of the hydrostatic test fluid, an assessment of likely impacts of the potential discharge against the environmental quality management framework outlined in Schedule 2 and management actions that will be implemented to ensure that the environmental quality objectives and levels of ecological protection are maintained, including monitoring and reporting frameworks.

13-17 The Proponent must implement the Hydrostatic Test Fluids Discharge Management Plan required under condition 13-16 once approved by the CEO.

### **14 Mangrove, Algal Mat and Tidal Creek Protection**

14-1 The Proponent shall manage construction and operation activities to achieve the following outcomes as measured under the Mangrove, Algal Mat and Tidal Creek Protection Management Plan:

- i. not more than 5% long-term (greater than 5 years) loss of mangrove habitat in the Hooley Creek – Four Mile Creek mangrove system;
- ii. no long-term (greater than 5 years) net detectable loss of mangrove habitat in the Ashburton Delta mangrove system; and
- iii. no long-term (greater than 5 years) net detectable loss of algal mat habitat outside the Proposal footprint.

14-2 Prior to construction of the MOF or ground disturbing activities that could potentially impact upon mangroves and algal mat habitats, unless otherwise approved by the CEO, the Proponent shall prepare a Mangrove Algal Mat and Tidal Creek Protection Management Plan to be approved by the CEO.

The objective of the Mangrove Algal Mat and Tidal Creek Protection Management Plan is to minimise the impacts of construction and operation of the Proposal on mangroves, algal mats, juvenile turtle habitat and saw fish nursery habitat (tidal creeks and lagoon) between and including the Ashburton River Delta and Four Mile Creek. The Plan shall include the results of the additional saw fish survey referred to in the Wheatstone Environmental Review and Management Program (July 2010), and details of management, monitoring, triggers, contingencies and reporting in relation to:

- i. human impacts;
- ii. contaminated surface water runoff;
- iii. contaminated groundwater impacts;
- iv. changes in turbidity;
- v. changes in hydrological regime;
- vi. generation of acidity from potential acid sulphate soil disturbance; and
- vii. chemical and hydrocarbon spills and leaks.

14-3A The Proponent shall provide relevant stakeholders with a draft copy of the Mangrove Algal Mat and Tidal Creek Protection Management Plan required under condition 14-2, and provide those stakeholders a reasonable opportunity to comment on the plan before it is submitted to the CEO for approval under condition 14-2.

14-3 The Proponent shall implement the approved Mangrove Algal Mat and Tidal Creek Protection Management Plan required under condition 14-2.

14-4 The Proponent shall make the Mangrove Algal Mat and Tidal Creek Protection Management Plan required under condition 14-2 publicly available in a manner approved by the CEO.

## **15 Vertebrate Terrestrial Fauna**

15-1 The Proponent shall ensure that any section of Open Trenches which are part of construction of the underground Domgas pipeline(s) and onshore portion of the trunkline(s) are cleared of trapped vertebrate fauna by Fauna-Rescue Personnel at least twice daily. Details of all fauna recovered shall be recorded, consistent with condition 15-5. The first daily clearing shall be conducted within three hours after

sunrise and the second clearing shall be conducted between the hours of 3:00 pm and 6:00 pm.

The Proponent shall ensure that the Open Trenches which are part of construction of the underground Domgas pipeline(s) and onshore portion of the trunkline(s) are also be cleared of vertebrate fauna, and fauna details recorded, by Fauna-Rescue Personnel within one hour prior to backfilling the Open Trenches for the construction of the underground Domgas pipeline(s) and onshore portion of the trunkline(s) being backfilled.

- 15-2 In addition to holding any necessary licences required by law to take fauna, the Fauna-Rescue Personnel shall be trained in the following:
- i. fauna identification, capture and handling (including specially protected fauna and venomous snakes likely to occur in the area);
  - ii. identification of tracks, scats, burrows and nests of all vertebrate fauna likely to occur in the area;
  - iii. fauna vouchering (of deceased animals);
  - iv. assessing injured fauna for suitability for release, rehabilitation or euthanasia;
  - v. familiarity with the ecology of the species which may be encountered in order to be able to appropriately translocate fauna encountered; and
  - vi. performing euthanasia on fauna.
- 15-3 Open trench lengths for construction of the underground Domgas pipeline(s) and onshore portion of the trunkline(s) shall be of a length capable of being inspected and cleared by the fauna-clearing personnel within the required times as set out in condition 15-1.
- 15-4 Egress points and/or fauna refuges providing suitable reasonable shelter from the sun and predators, for trapped fauna are to be placed in the underground Domgas pipeline(s) and onshore portion of the trunkline(s) (as per condition 15-1) at intervals not exceeding 50 metres.
- 15-5 The Proponent shall produce a report on fauna management within the underground Domgas pipeline(s) and onshore portion of the trunkline(s) at the completion of construction of both the Domgas pipeline and onshore portion of the trunkline(s). The report shall include the following:
- i. details of fauna inspections;
  - ii. the number and type of fauna cleared from trenches and actions taken; and
  - iii. vertebrate fauna mortalities;
- 15-6 The report required under condition 15-5 shall be provided to the CEO and DEC no later than 21 days after completion of construction of both the underground Domgas pipeline and onshore portion of the trunkline(s).

## **16 Weeds**

- 16-1 The Proponent shall ensure that:



- i. No new species of declared weeds and environmental weeds are introduced into the proposed extension to the Cane River conservation park that can be attributed to the Proposal;
- ii. Prior to ground disturbing activities, unless otherwise approved by the CEO, the Proponent shall undertake a baseline weed survey to determine the species and extent of declared weeds and environmental weeds present at weed monitoring sites within 50 metres of the onshore facilities footprint including the Domgas pipeline disturbance corridor and at least three reference sites on nearby undisturbed land beyond 200 metres from the onshore facilities footprint and Domgas pipeline disturbance corridor footprint in consultation with the DEC;
- iii. Baseline and reference weed monitoring sites surveyed as required by condition 16-1(ii), except those adjacent to common-user facilities, are to be monitored every 2 years for the life of the Proposal to determine whether changes in weed cover and type within 50 metres of the onshore facilities including the Domgas pipeline disturbance corridor footprint have occurred and are likely to have resulted from implementation of the Proposal or broader regional changes;
- iv. Baseline and reference weed monitoring sites adjacent to common-user facilities are required to be monitored every two years up until the Proponent has provided written notice to the EPA that it ceases to have responsibility for the common-user facilities; and
- v. If the results of monitoring under condition 16-1(iii) indicate that adverse changes in weed cover and type within 50 metres of the onshore facilities footprint and Domgas pipeline disturbance corridor are Proposal attributable, the Proponent shall report the monitoring findings to DEC within 3 months of completion of the monitoring and shall immediately undertake weed control and rehabilitation in the affected areas, where Proposal attributable weed cover has adversely changed, using native flora species of local provenance.

## **17 Rehabilitation**

- 17-1 The Proponent shall undertake progressive rehabilitation of areas temporarily disturbed by construction and operation of onshore facilities for the duration of the construction and operation of onshore facilities, in a manner specified as follows:
- i. Within 12 months of the date of this statement the Proponent shall conduct surveys of each of the vegetation communities that are likely to be impacted by construction and operation of onshore facilities to collect adequate information to assist setting completion criteria for rehabilitation;
  - ii. The methodology of the survey required in condition 17-1(i) shall be prepared and submitted for the approval of the CEO, on advice from the DEC;
  - iii. Within 18 months of initial disturbance of vegetation in an area temporarily disturbed by construction and operation of onshore facilities commencing, the Proponent will develop completion criteria for rehabilitation for that area to be approved by the CEO on advice from the DEC;
  - iv. Rehabilitation of areas temporarily disturbed by construction and operation of onshore facilities shall be initiated within 6 months of the completion of the temporary disturbance;

- v. After 5 years of the completion of rehabilitation of those areas temporarily disturbed, the percentage cover and species diversity of living self sustaining native vegetation in rehabilitation areas shall be comparable to the completion criteria required by condition 17-1(iii);
  - vi. No new species of declared weeds and environmental weeds shall be introduced into the rehabilitated areas which are likely to be attributable to the Proposal; and
  - vii. The cover of declared weeds and environmental weeds in rehabilitated areas shall not exceed the lesser of:
    - a. that identified in the baseline weed survey condition 16-1(ii);
    - b. that existing on comparable nearby land which has not been disturbed during implementation of the Proposal.
- 17-2 The Proponent shall progressively monitor the rehabilitation for a range of sites against the criteria developed pursuant to condition 17-1(iii) with appropriately timed surveys as agreed with DEC, until the completion criteria are met. The monitoring shall be conducted annually unless otherwise agreed by the CEO, on advice from DEC.
- 17-3 The Proponent shall include the results of the rehabilitation monitoring required pursuant to condition 17-2 in the compliance assessment report referred to in condition 4-6. The report shall address the following:
- i. The progress made towards achieving the completion criteria developed pursuant to condition 17-1(iii); and
  - ii. Contingency management actions if the monitoring required by condition 17-2 indicates that the completion criteria required by condition 17-1(iii) are unlikely to be met.
- 18 Emissions to Air**
- 18-1 The Proponent shall install equipment in the LNG plants and Domgas plants and manage ongoing operations such that best practice for a liquefied natural gas/domestic gas facility is achieved in respect of:
- i. minimising emissions of volatile organic compounds and oxides of nitrogen emissions;
  - ii. optimising the smokeless capacity of flares so as to minimise the frequency and duration of visible smoke; and
  - iii. minimising non emergency flaring of gas.
- 18-2 As part of its Works Approval application under Part V of the EP Act for the Foundation Project and also for Works Approval applications for subsequent LNG trains, the Proponent shall provide reports to DEC showing:
- i. specific design features that have been used to minimise and monitor emissions to air, pursuant to condition 18-1;
  - ii. how the design features compare with current lowest emissions for similar operations and proposals internationally and within Australia; and

- iii. a peer review report as required by condition 18-3.
- 18-3 The Proponent shall commission peer reviewer(s), approved by the CEO to undertake the following, in accordance with terms of reference also approved by the CEO:
- i. a review of the reports referred to in condition 18-2(i) and (ii);
  - ii. provide comment on the basis and validity of the conclusions in the reports; and
  - iii. provide comment on the relevance of the described Australian and international standards for this Proposal.
- 18-4 Where practicable the Proponent shall replace plant and equipment with that which meets the best practice standards as at the time of replacement. Replacement equipment shall not result in an increase in emissions or reduction in air quality.

## **19 Greenhouse Gas Abatement**

- 19-1 Prior to commencement of construction of the LNG plant, unless otherwise approved by the CEO, the Proponent shall prepare and submit to the CEO a Draft Greenhouse Gas Abatement Program for the LNG Plant and Domgas Plants, including all flares, which has the objectives of minimising net greenhouse gas emissions from the Proposal and reducing emissions per tonne of product as far as practicable.
- 19-2 The Greenhouse Gas Abatement Program shall:
- i. demonstrate that the Proposal is designed and operated in a manner which minimises greenhouse gas emissions as far as practicable;
  - ii. demonstrate that maximising energy efficiency and opportunities for future energy recovery have been given due consideration in the design and operation of the Proposal;
  - iii. include measures aimed at achieving as low as practicable greenhouse gas emissions from the LNG Plant, including all flares, and which is reported against the benchmark identified by the Proponent in its document Wheatstone Project Terrestrial Environment; Wastes and Emissions; Recreational Use, March 2011, of 0.26 tonnes carbon dioxide equivalent per tonne of LNG, excluding consideration of reservoir carbon dioxide;
  - iv. include a management objective on “greenhouse gas” intensity [i.e. quantity of carbon dioxide equivalents (CO<sub>2</sub>-e) generated per tonne of product produced] that is equivalent to, or better than published benchmarked best practice for equivalent plants; and
  - v. achieve continuous improvement in net greenhouse gas emissions and emission intensity through the periodic review, and where practicable, adoption of advances in technology and process management.
- 19-3A The Proponent shall provide relevant stakeholders with a draft copy of the Greenhouse Gas Abatement Programs required under conditions 19-1 and 19-3, and provide those stakeholders a reasonable opportunity to comment on the plans before they are submitted to the CEO under conditions 19-1 and 19-3.

- 19-3 Prior to commissioning of the LNG plant, unless otherwise approved by the CEO, the Proponent shall prepare and submit to the CEO a Final Greenhouse Gas Abatement Program for the LNG Plant and Domgas Plants, including all flares, referred to in condition 19-1 and meeting the requirements of condition 19-2.
- 19-4 The Proponent shall review the Greenhouse Gas Abatement Program each calendar year and submit a review assessment report to the CEO on the performance of the Proposal against the requirements of condition 19-2 by 31 March of each year.
- 19-5 The Proponent shall implement the Greenhouse Gas Abatement Program required under conditions 19-1 to 19-4.
- 19-6 In addition to condition 19-4, the Proponent shall commission an Independent Specialist to assess the Proponent's performance against the Final Greenhouse Gas Abatement Program which meets requirements of condition 19-2 at intervals of no greater than two years, with the Independent Specialist's assessment report being provided to the CEO within 20 business days of it being received by the Proponent.
- 19-7 The Proponent shall make the Draft Greenhouse Gas Abatement Program required by condition 19-1, the Final Greenhouse Gas Abatement Program required by condition 19-3 and the reviews under conditions 19-4 and 19-6 publicly available in a manner approved by the CEO.
- 19-8 Subject to condition 19-9, for the life of the Proposal, the Proponent shall implement a greenhouse gas offset package approved by the Minister which, as a minimum, offsets the reservoir carbon dioxide released to the atmosphere from the Proposal.
- 19-9 Conditions 19-1 to 19-8 continue to have effect and conditions the implementation of the Proposal until such time as it is determined by the Minister for Environment that it is non-complementary to the Commonwealth Government's greenhouse gas reduction legislation applicable to the Proposal.

## **20 Public Availability of Data**

- 20-1 Subject to condition 20-2, 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.
- 20-2 If any of the data referred to in condition 20-1 contains particulars of:
- i. a secret formula or process; or
  - ii. confidential commercially sensitive information

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

## **21 Decommissioning**

- 21-1 After the Proponent permanently ceases to operate the Proposal for the purposes for which it is implemented the Proponent shall meet the following decommissioning criteria.

- i. remove or, if agreed in writing by the CEO on advice from the appropriate regulatory authority in consultation with relevant stakeholders, retain (that is, leave in-situ) plant and infrastructure;
- ii. rehabilitate all disturbed areas to a standard suitable for the new land use(s) as agreed pursuant to the consultation referred to in condition 21-1(i); and
- iii. identify contaminated areas, including provision of evidence of notification and proposed management actions to relevant statutory authorities.

## **22 Residual Impacts and Risk Management Measures**

- 22-1 Given the residual impacts and risks (permanent and temporary) of the Proposal to seagrass, coral, mangroves, marine and estuarine fauna, algal mats, vegetation, and conservation areas, the Proponent shall undertake the following residual impacts and risk management measures, consistent with financial, governance and accountability arrangements described in Schedule 3 (Proponent residual impacts and risk management measures – Wheatstone Proposal), unless otherwise agreed by the CEO.
- 22-2 The Proponent will contribute to a relevant scientific initiative, on the basis as described in Schedule 3 (**Project A**), which has the aim of adding to the understanding and management of the impacts of dredging on tropical marine communities in Western Australia. The Proponent will develop a process, approved by the CEO on advice from the DEC, to select and fund research project/s by 30 January 2012, unless otherwise agreed by the CEO.
- 22-3 The Proponent will contribute to a research program, on the basis as described in Schedule 3 (**Project B**), which has the aim of adding to the understanding of west Pilbara marine habitats (including coral and seagrass communities), their level of connectivity and recovery potential following natural and human induced disturbance. The Proponent will develop a process, approved by the CEO on advice from the DEC, to select and fund research project/s by 30 January 2012, unless otherwise agreed with the CEO.
- 22-4 The Proponent will contribute to a research program, on the basis described in Schedule 3 (**Project C**), which has the aim of adding to the understanding and improved management of regionally critical habitat for humpback whales, dugongs and snubfin dolphins in Pilbara waters. The Proponent will develop a process, approved by the CEO, on advice from DEC, to select and fund research projects by 30 January 2012, unless otherwise agreed by the CEO.
- 22-5 Where practicable, the Proponent will take account of the findings of research Projects A, B and C in the management of the Proposal.
- 22-6 The Proponent will provide funding to DEC, on the basis as described in Schedule 3 (**Project D**). The aim of the funding will be to assist DEC in the management of potential impacts and risks associated with increased visitation to island nature reserves managed under the *Conservation and Land Management Act 1984* within the vicinity of the Proposal.
- 22-7 The Proponent will fund the Department of Fisheries, on the basis described in Schedule 3 (**Project E**). The aim of the funding will be to assist the Department of Fisheries enforce compliance with bag limits and size limits in the coastal and estuarine environment within the vicinity of the Proposal.

- 22-8 The Proponent will fund DEC, on the basis described in Schedule 3 (**Project F**). The aim of the funding will be to assist DEC in the management of potential impacts and risks to the Cane River Conservation Park and proposed extensions associated with increased visitation from the Proposal.
- 22-9 The Proponent will maintain a contingency fund, on the basis described in Schedule 3 (**Project G**), for the purposes of remediating potential impacts to offshore islands and the Cane River Conservation Park and proposed extensions to be released on an as-needs basis to DEC, where impacts can be reasonably attributed to the Proposal, as determined by the CEO, on advice from the DEC and the Proponent. The contingency funding will continue to be available until one year after the date of first shipment of product from the LNG plant.
- 22-10 The real value of funding for Projects D, E and G will be maintained through indexation to the Perth consumer price index (CPI), with the first adjustment occurring on 30 January 2013.

### **23 Staging of Plans**

- 23-1 Where a plan, program, report, survey strategy or other document is required by these conditions to be prepared, submitted or approved prior to commencement of an activity, it is required that the plan, program, report, survey strategy or other document to be prepared, submitted or approved as per the relevant condition requirements for the component or stage of the facility or activity before the Proponent commences the activity.

### **24 Review of Plans**

- 24-1 If the Proponent amends any plan, program, report or strategy or other document required by these conditions, the Proponent must implement the amended plan from the date of the amendment.
- 24-2 If any plan, program, report or strategy is required to be approved under these conditions, the Proponent may only make a significant amendment to the plan, program, report or strategy if the amendment is also approved. Significant amendments are those amendments which alter the obligations of the Proponent, that is, are not minor or administrative.

### **25 Onslow Solar Salt Agreement Act**

- 25-1 No nearshore or offshore marine facilities shall be constructed within any area subject to the *Onslow Solar Salt Agreement Act 1992* without the agreement of the Minister for Environment on the advice of the Minister for State Development

### **Notes**

1. Where a condition states “on advice of the Office of the Environmental Protection Authority”, the Office of the Environmental Protection Authority will provide that advice to the Proponent.

2. The Office of the Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the DEC.
3. The Minister for Environment will determine any dispute between the Proponent and the Office of the Environmental Protection Authority over the fulfilment of the requirements of the conditions.
4. The Proponent is required to apply for a Works Approval and Licence for this Proposal under the provisions of Part V of the *Environmental Protection Act 1986*.

[signed 30 August 2011]

**HON BILL MARMION MLA  
MINISTER FOR ENVIRONMENT; WATER**

**The Proposal (Assessment No. 1754)**

The Proposal is to construct and operate a 25 million tonne per annum Liquefied Natural Gas (LNG) facility and associated Domestic Gas (Domgas) facility in the proposed Ashburton North Strategic Industrial Area (ANSIA) 12 kilometres south west of the town of Onslow.

The Proposal includes:

- Subsea gas trunkline to bring produced gas onshore to the LNG and Domgas plants;
- Product loading facility (PLF);
- Materials offloading facility (MOF);
- LNG and Domgas plants;
- Accommodation facilities; and
- Domgas pipeline to transport natural gas to the Dampier to Bunbury Natural Gas Pipeline

The location of the various Proposal components is shown in Figures 1 to 7.

The main characteristics of the Proposal are summarised in Table 1 below. A detailed description of the Proposal is provided in section 2.0 of the Environmental Review and Management Programme document, *Draft Environmental Impact Statement/Environmental Review and Management Programme for the Proposed Wheatstone Proposal*, Chevron Australia Pty Ltd, (July 2010) and section 2.3 of *Final Environmental Impact Statement/Response to Submissions on the Environmental Review and Management Programme for the Proposed Wheatstone Proposal*, Chevron Australia Pty Ltd, (February 2011).

**Table 1: Summary of Key Proposal Characteristics**

Element	Description
<b>Nearshore Facilities</b>	(Figure 6)
Shipping channel	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).
Product loading facility (PLF)	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.
Materials Offloading Facility (MOF)	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.
Dredge Spoil disposal site A	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>
Discharge lines	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.



**Table 1: Summary of Key Proposal Characteristics (cont'd)**

<b>Element</b>	<b>Description</b>
<b>Offshore Facilities</b>	
Shipping Channel	Up to 18 km long navigation channel and turning basin for access to the PLF (offshore component of the shipping channel not shown in Figure 6).
Dredge Spoil disposal sites B C D E	<p>Up to 3 Mm<sup>3</sup> in 5 km<sup>2</sup>            Up to 40 Mm<sup>3</sup> in 24 km<sup>2</sup>            Up to 40 Mm<sup>3</sup> in 9 km<sup>2</sup>            Contingency only</p> <p><b>Note:</b> Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm<sup>3</sup>, the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm<sup>3</sup>.</p>
Produced Water Outfall	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.
<b>Other Marine Facilities</b>	
Dredging	Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm <sup>3</sup> of dredge spoil. Up to 3 Mm <sup>3</sup> dredge spoil for the trunkline.
Trunkline	One subsea partially buried pipeline to the shore crossing
Trunkline shore crossing	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.
Offshore Accommodation Vessel	Vessel for accommodation for marine construction workers.
<b>Onshore Facilities</b>	
Footprint	<p>Total disturbance onshore – approximately 3,300 ha comprised of:</p> <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> <li>• Roads and fill sources approximately 980 ha; and</li> <li>• Domgas line approximately 320 ha.</li> </ul>
<b>LNG plant</b>	Located in Ashburton North Strategic Industrial Area (ANSIA)
Throughput	Up to 25 MTPA (foundation plant up to 9 MTPA)
Components	Up to 6 LNG trains
No. of storage tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks
	Up to 4 x 120,000 m <sup>3</sup> condensate tanks

**Table 1: Summary of Key Proposal Characteristics (cont'd)**

<b>Element</b>	<b>Description</b>
<b>Onshore Facilities</b>	
<b>LNG plant (cont'd)</b>	
No. of flares	Up to 8 elevated flare structures: <ul style="list-style-type: none"> <li>• 3 x high pressure (approximate height 125 m);</li> <li>• 3 x low pressure (approximate height 45 m); and</li> <li>• 2 marine flares (approximate height 45 m).</li> </ul>
Utilities	Construction power generation – approximately 15 MW from on site diesel generators. Operations power generation – approximately 400 MW. Construction water usage – approximately 6,134,000 m <sup>3</sup> (excluding hydro test water). Operations water usage – approximately 150 m <sup>3</sup> /hr potable water.
Discharges	Produced Water (PW) offshore outfall approximately 13,200 m <sup>3</sup> /day (starting from commissioning of LNG trains 3 to 6). Storm water – approximately 9,600 kL/day. Cooling water – none (air cooled). Flaring – no routine flaring other than pilot. Construction sewage – approximately 78 m <sup>3</sup> /hr. Operations sewage – approximately 18 m <sup>3</sup> /hr. Construction RO Brine – approximately 433 m <sup>3</sup> /hr. Operations RO Brine – approximately 234 m <sup>3</sup> /hr. Construction waste – up to 11,800 tonnes/year disposed of to a licensed 3 <sup>rd</sup> party waste facility (no onsite incineration). Operations waste – up to 1,600 tonnes/year disposed of to a licensed 3 <sup>rd</sup> party waste facility (no onsite incineration).
<b>Domgas plants</b>	Up to four
Capacity	Approximately 15% of heating value of LNG produced
Domgas pipeline	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).

**Table 1: Summary of Key Proposal Characteristics (cont'd)**

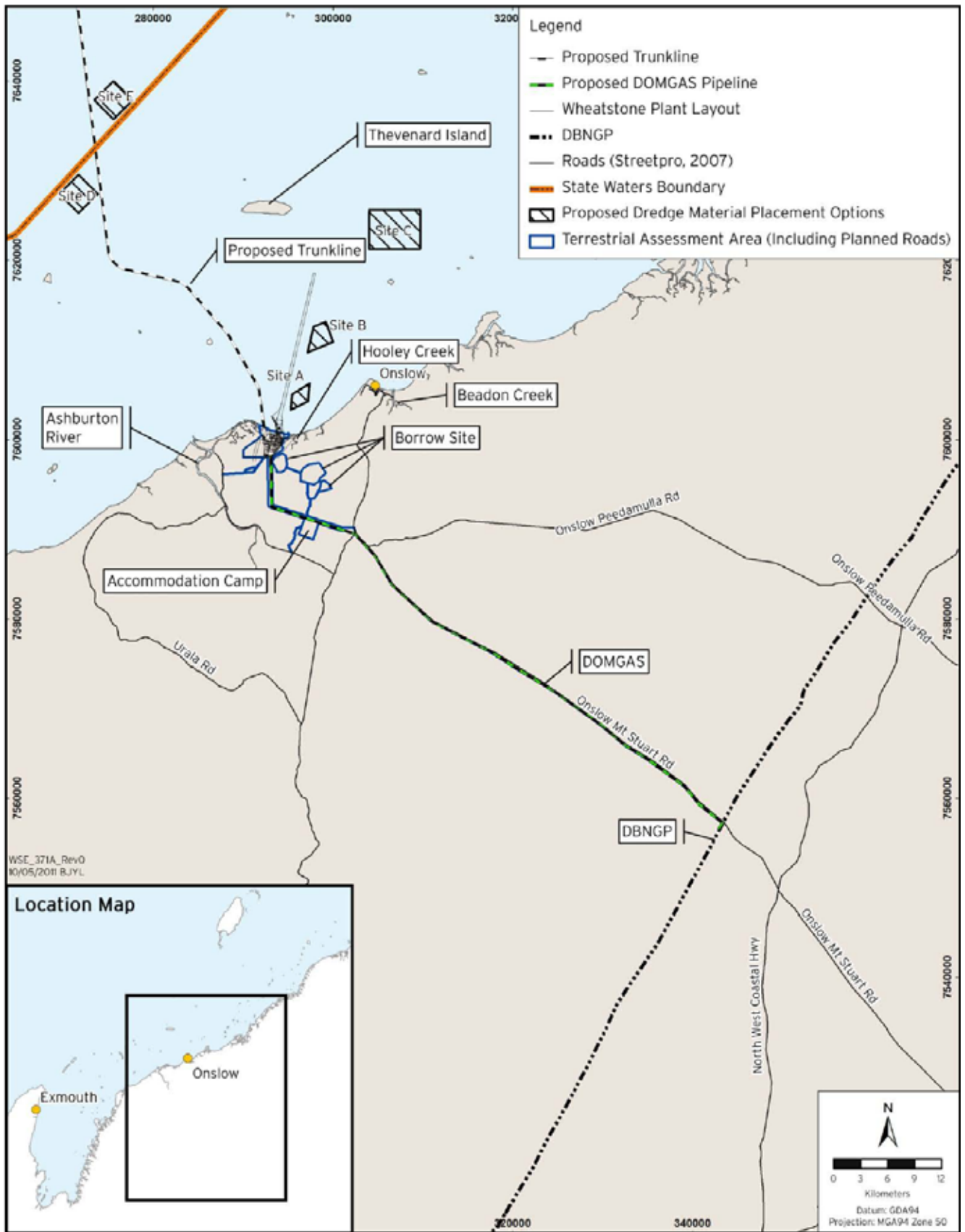
<b>Element</b>	<b>Description</b>
<b>Onshore Facilities</b>	
<b><i>Accommodation village</i></b>	
Location	Approximately 12 km inland from LNG Plant by road.
Capacity	Construction - approximately 5000 people. Operations – approximately 400 people
Utilities	Construction power generation - approximately 10 MW from onsite diesel generators Operations power generation – electrical power delivered from LNG facility. Construction and operations water usage – included LNG facility figures.
Discharges	Construction sewage - approximately 76 m <sup>3</sup> /hr recycled where possible for dust suppression Operations sewage – approximately 18 m <sup>3</sup> /hr to waste water outfall Construction waste disposal – approximately 5,500 tonnes/year disposed of to a licensed 3 <sup>rd</sup> party waste facility (no onsite incineration). Operations waste – approximately 175 tonnes/year disposed of to a licensed 3 <sup>rd</sup> party waste facility (no onsite incineration).

**Abbreviations**

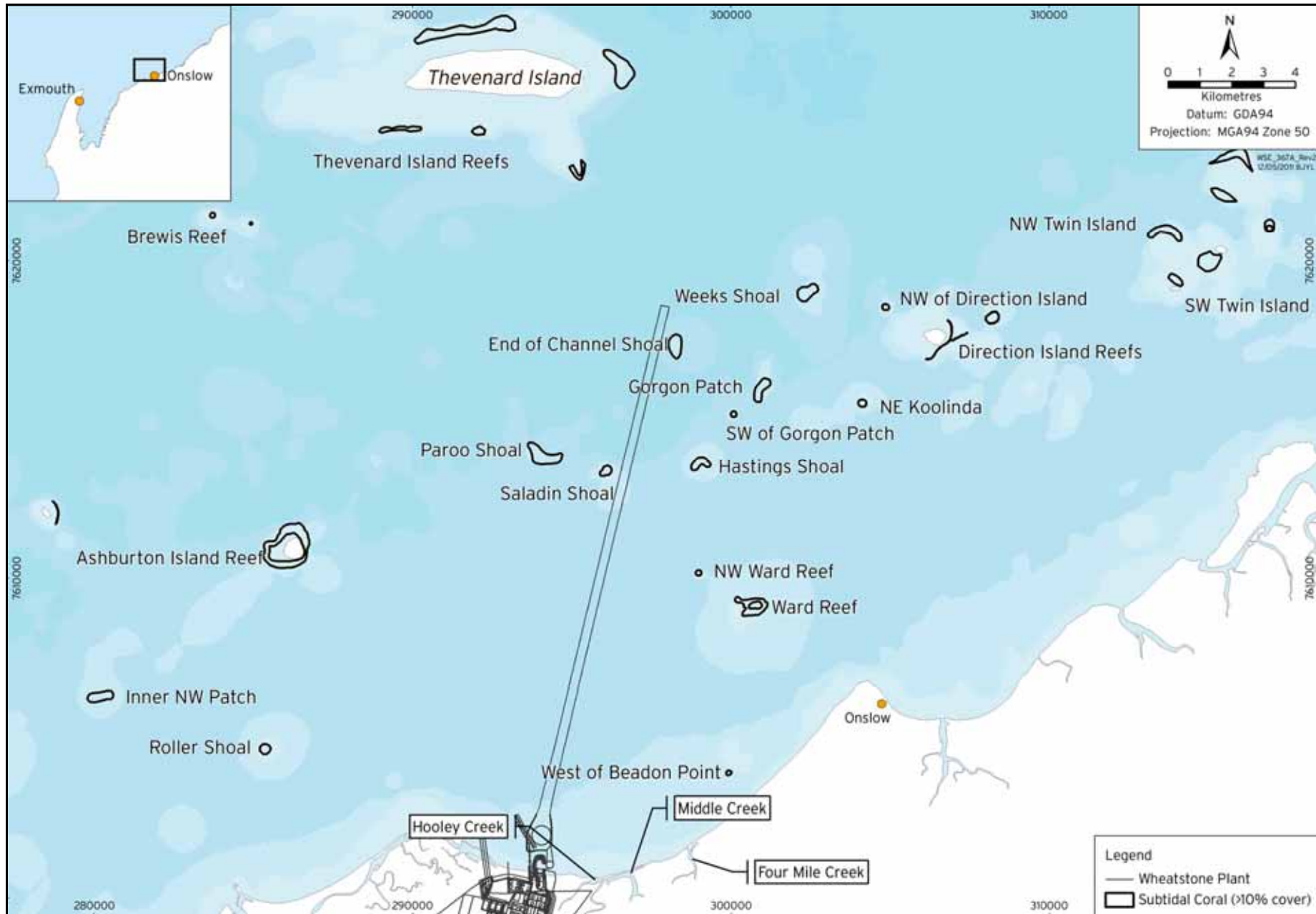
ha	hectares	m	metres
hr	hour	m <sup>3</sup>	cubic metres
kg	kilograms	Mm <sup>3</sup>	million cubic metres
km	kilometres	MW	megawatts (10 <sup>6</sup> watts)
km <sup>2</sup>	square kilometres		

**Figures**

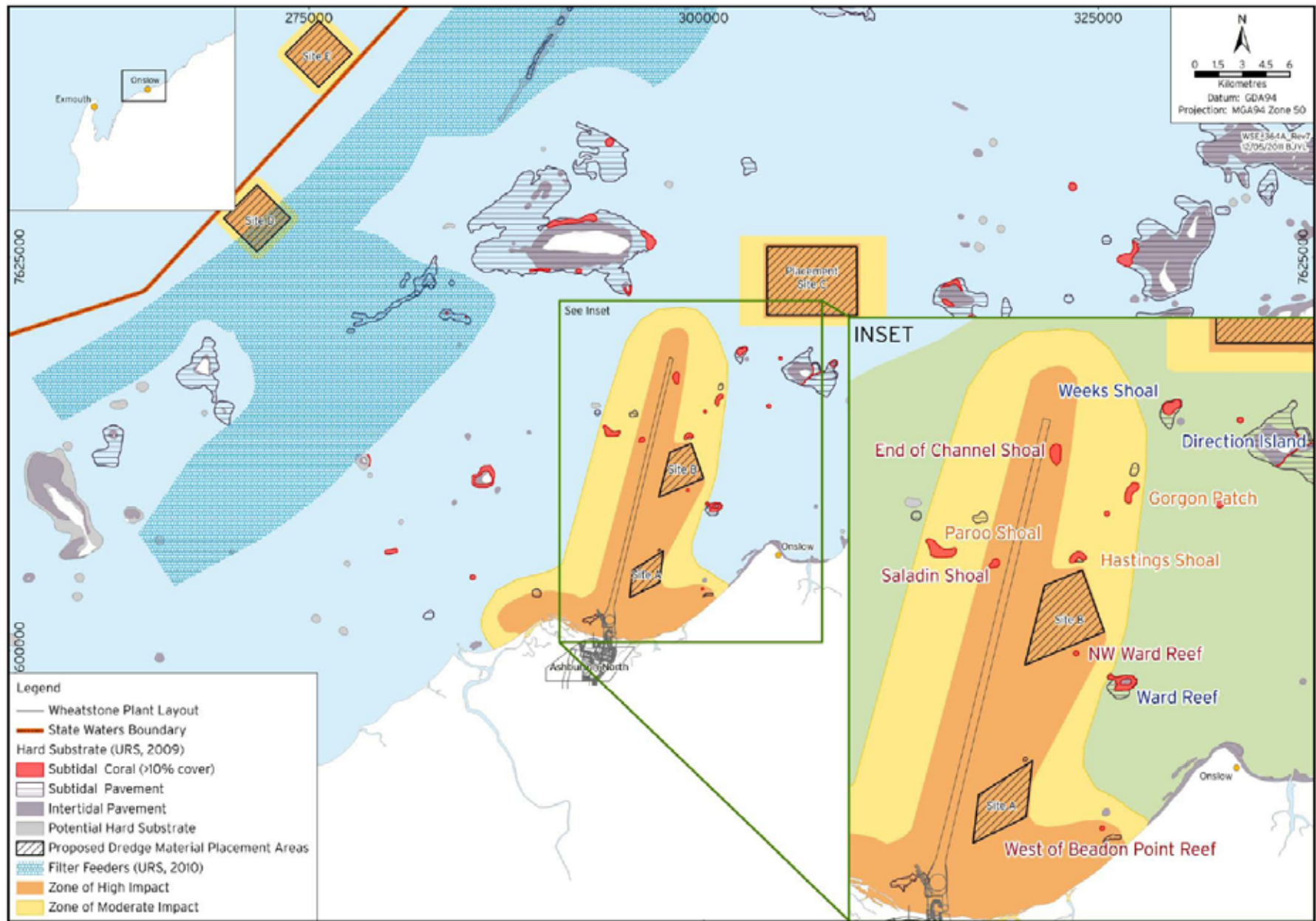
- Figure 1 Location of all Proposal components
- Figure 2 Islands, coral habitats, including designated reef formations, and Wheatstone marine facilities
- Figure 3 Zones of High Impact and Zones of Moderate Impact for corals and filter feeders, associated with dredging for construction of marine facilities
- Figure 4 Zones of High Impact and Zones of Moderate Impact for seagrass and macroalgae, associated with dredging for construction of marine facilities
- Figure 5 Zones of Influence associated with dredging for construction of marine facilities excluding trunkline
- Figure 6 Nearshore marine facilities
- Figure 7 Trunkline corridor



**Figure 1 Location of all Proposal components**

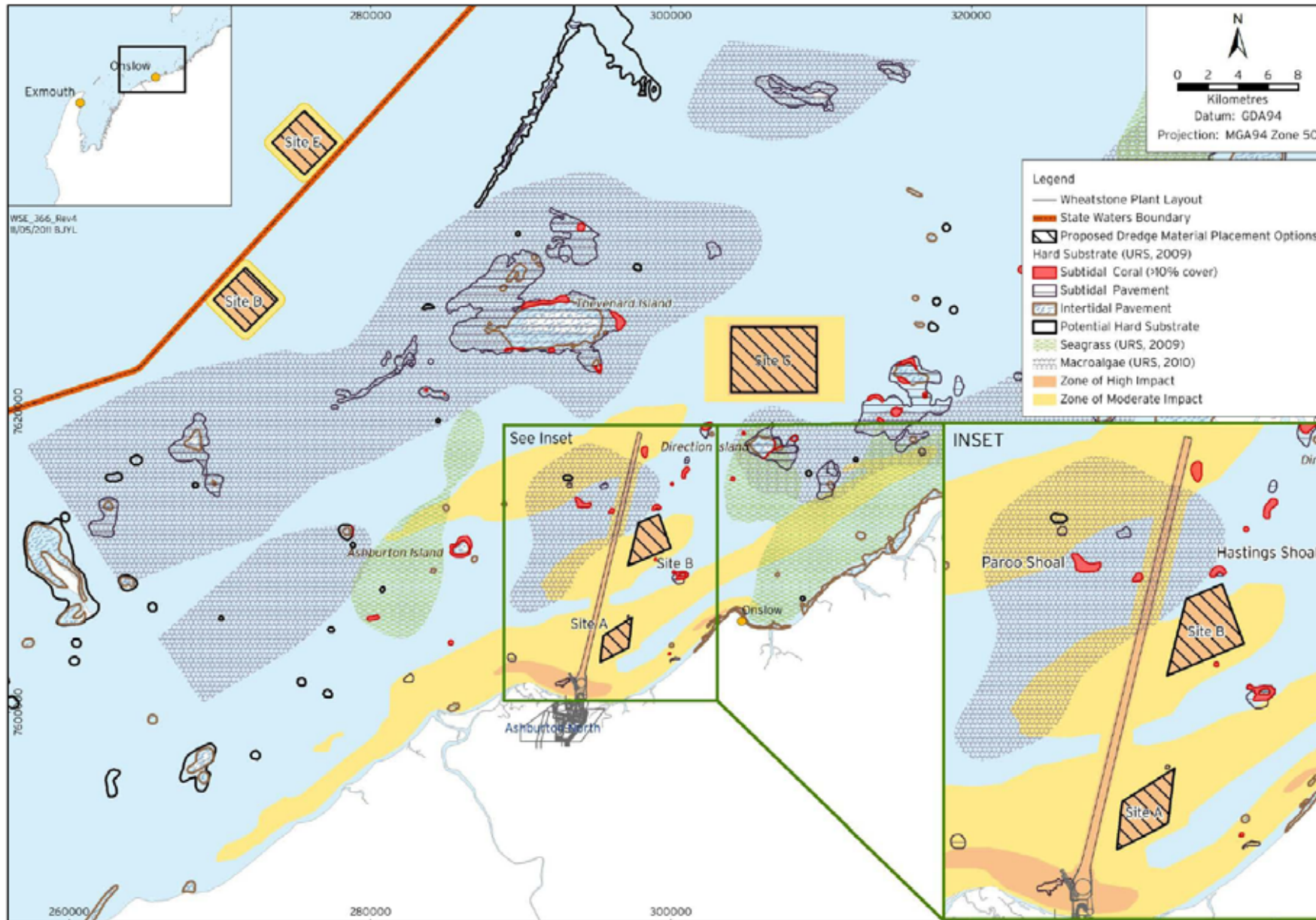


**Figure 2: Islands, coral habitats, including designated reef formations, and Wheatstone marine facilities**

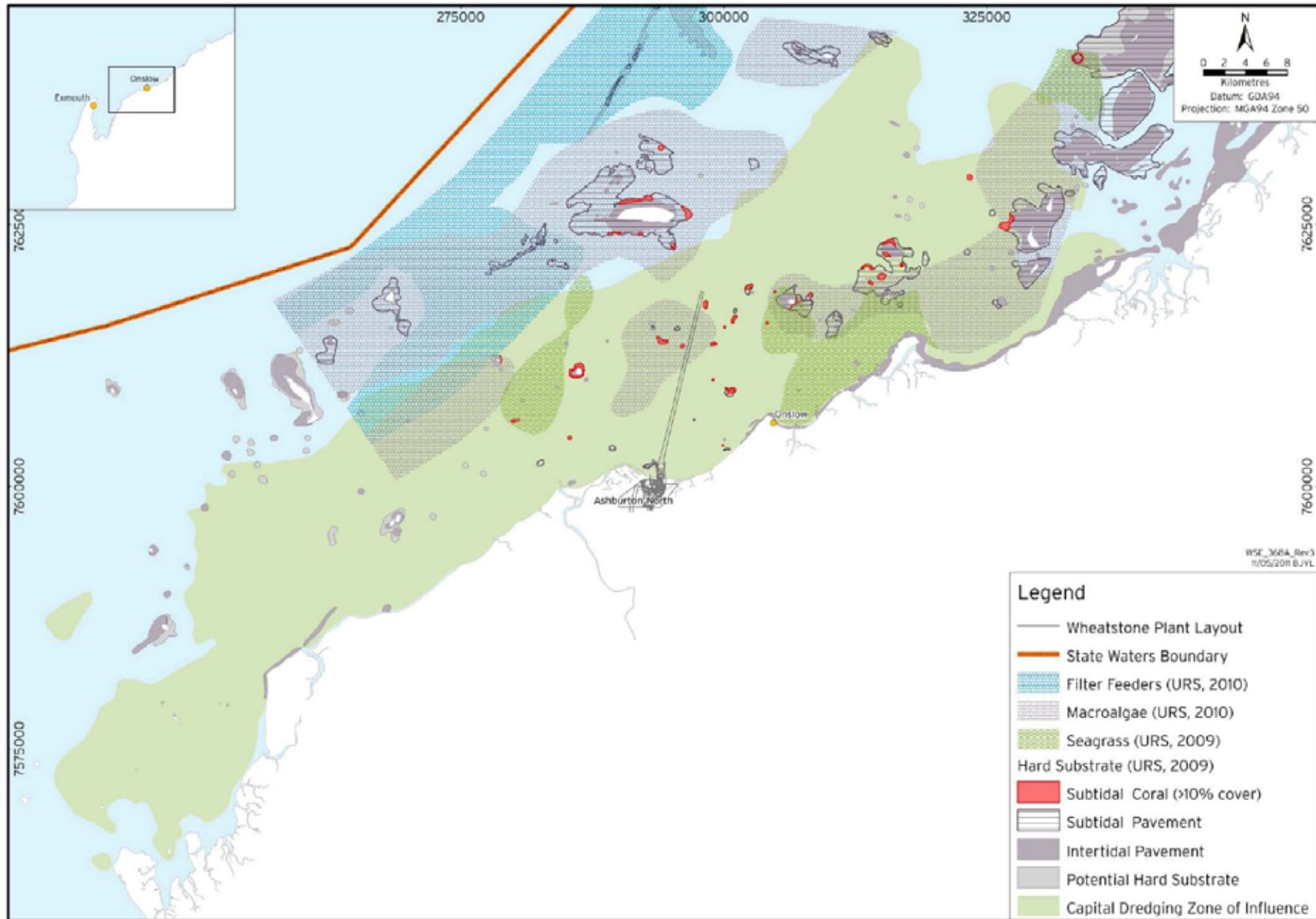


**Figure 3 Zones of High Impact and Zones of Moderate Impact for corals and filter feeders, associated with dredging for construction of marine facilities**



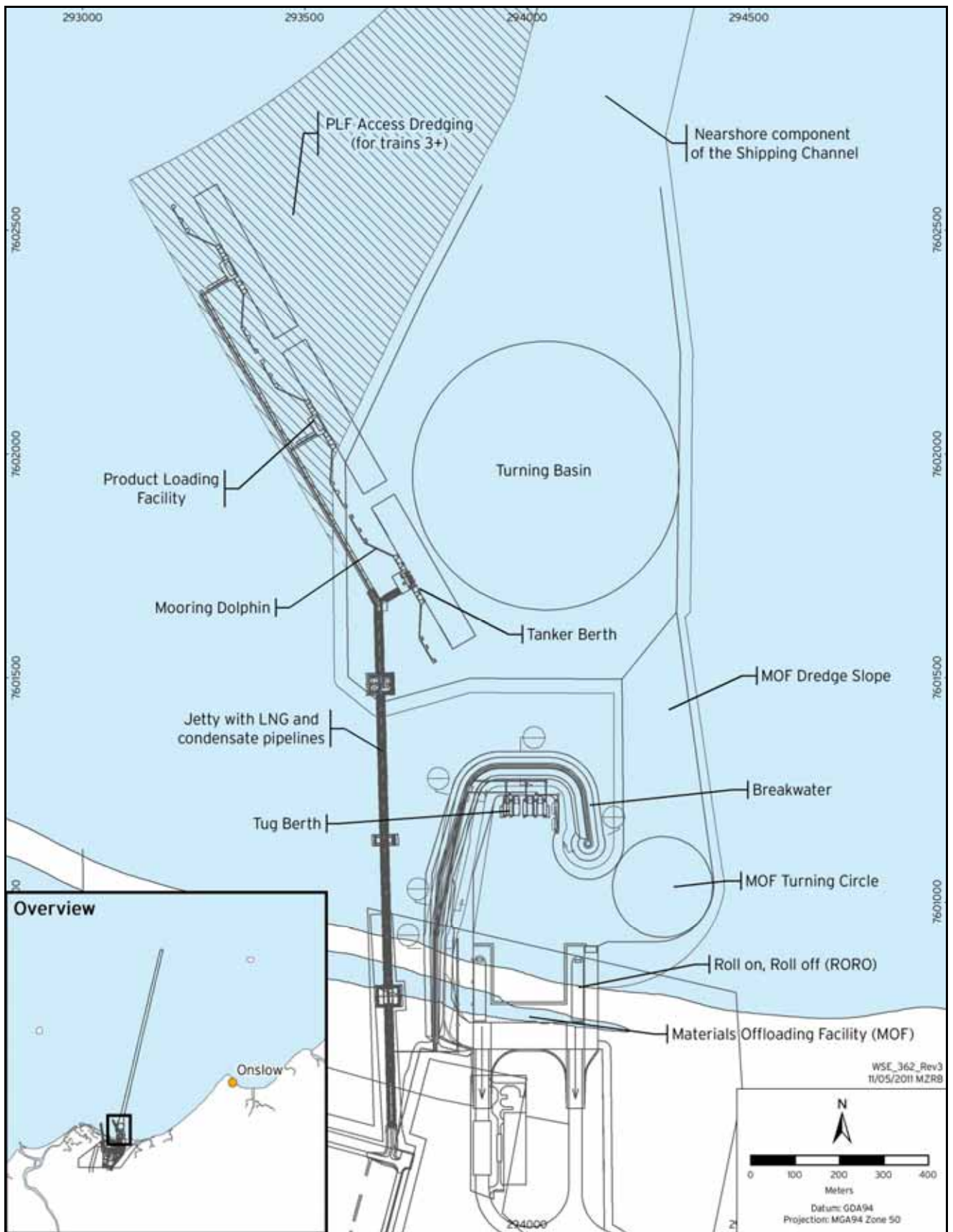


**Figure 4 Zones of High Impact and Zones of Moderate Impact for seagrass and macroalgae, associated with dredging for construction of marine facilities**

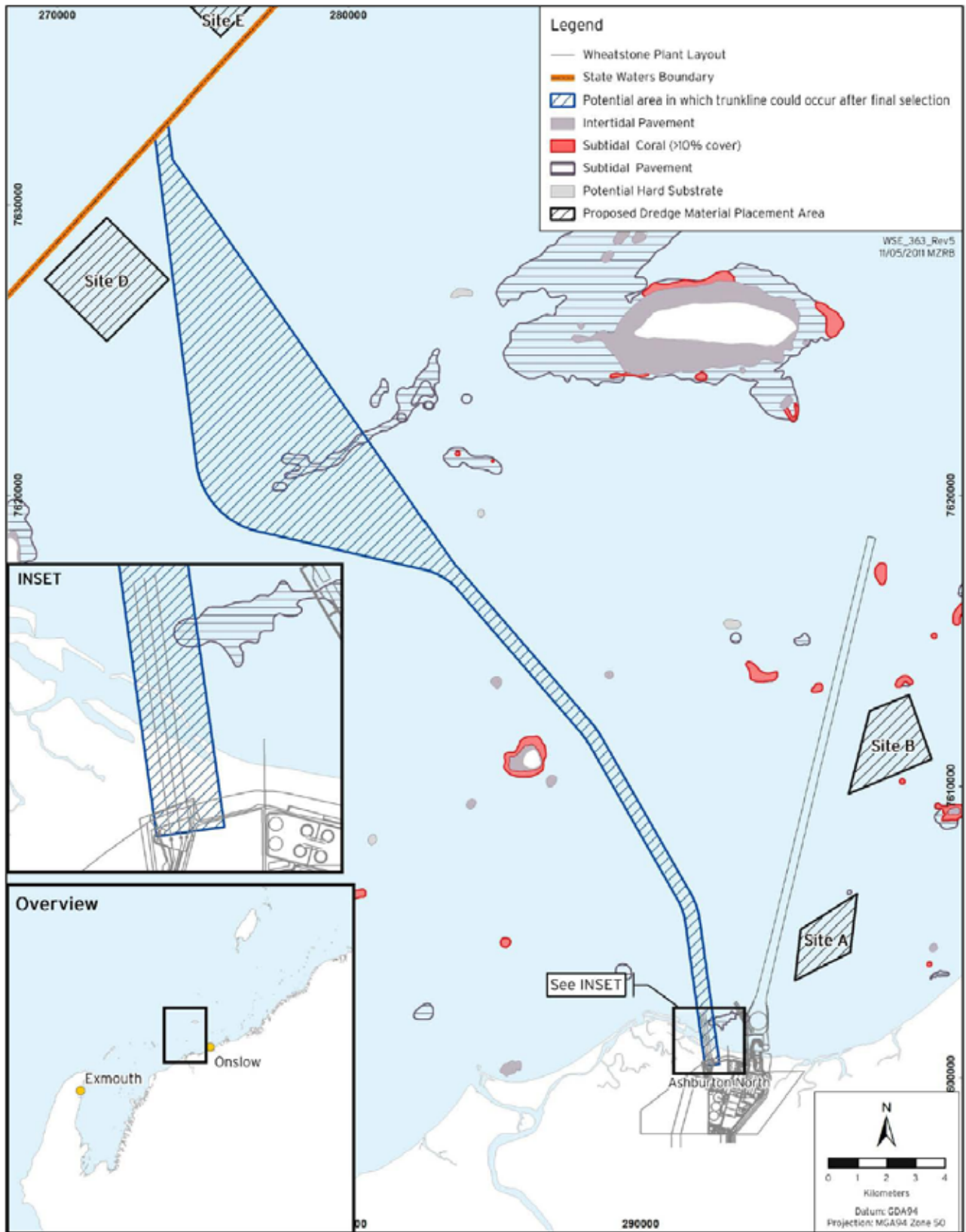


**Figure 5** Zones of Influence associated with dredging for construction of marine facilities excluding trunkline





**Figure 6** *Nearshore marine facilities*



**Figure 7** Trunkline corridor

**Table 2 Overflow Control Zones (Datum GDA94, Projection MGA94 Zone 50)**

<b>Id</b>	<b>Overflow Zone</b>	<b>Easting</b>	<b>Northing</b>
1	Zone 1	295343	7608380
2	Zone 1	295626	7608316
3	Zone 1	295174	7606420
4	Zone 1	294885	7606485
5	Zone 2	297003	7615260
6	Zone 2	297269	7615198
7	Zone 2	296576	7612289
8	Zone 2	296299	7612353

**Table 3 Trunkline corridor boundary coordinates**

<b>Point</b>	<b>Easting</b>	<b>Northing</b>
1	288364	7612137
2	291845	7606067
3	291994	7605591
4	291455	7605677
5	291255	7606134
6	288017	7611769
7	283425	7617048
8	282999	7617309
9	282527	7617470
10	282040	7617583
11	281553	7617697
12	281066	7617810
13	280579	7617923
14	280092	7618036
15	279605	7618150
16	279118	7618263
17	278631	7618376
18	278144	7618489
19	277657	7618603
20	277170	7618716
21	276685	7618836
22	276224	7619027
23	275805	7619299
24	275441	7619641
25	275146	7620044
26	274929	7620493
27	274796	7620975
28	273962	7631557
29	283628	7617646
30	283749	7616737
31	288510	7611941
32	273798	7632841
33	273353	7632357
34	288616	7611773
35	288434	7612048
36	288565	7611858
37	288071	7611696
38	288127	7611614
39	291514	7605444
40	291929	7605837
41	291373	7605899
42	292216	7600403
43	292711	7600471

**Schedule 2 The Environmental Quality Objectives and Levels of Ecological Protection to be achieved in marine waters for the Wheatstone Proposal. (Condition 13)**

Area	Environmental Quality Objectives	Level of Ecological Protection for Maintenance of Ecosystem Integrity
<p>Zone of initial dilution – maximum 70 m radius around diffuser or discharge.</p>	<ul style="list-style-type: none"> <li>• Maintenance of ecosystem integrity.</li> <li>• Maintenance of seafood for human consumption.</li> <li>• Maintenance of aquaculture.</li> <li>• Maintenance of primary contact recreation.</li> <li>• Maintenance of secondary contact recreation.</li> <li>• Maintenance of aesthetic values.</li> <li>• Maintenance of cultural and spiritual values.</li> <li>• Maintenance of industrial water supply.</li> </ul>	<p><b>Low</b> - To allow for large changes in the quality of water, sediment and biota (e.g. Large changes in contaminant concentrations causing large changes beyond natural variation in the natural diversity of species and biological communities, rates of ecosystem processes and abundance/biomass of marine life, but which do not result in bioaccumulation/biomagnification in nearby high ecological protection areas).</p> <p>For this protection level only the 80% species protection guideline trigger values* for potentially bio-accumulating toxicants in water apply. There should be no bioaccumulation in adjacent high ecological protection areas.</p>
<p>Marine waters within 250 m from ship turning basin and berthing areas and the area enclosed by the Marine Offloading Facility breakwaters.</p>	<ul style="list-style-type: none"> <li>• Maintenance of ecosystem integrity.</li> <li>• Maintenance of seafood for human consumption.</li> <li>• Maintenance of aquaculture.</li> <li>• Maintenance of primary contact recreation.</li> <li>• Maintenance of secondary contact recreation.</li> <li>• Maintenance of aesthetic values.</li> <li>• Maintenance of cultural and spiritual values.</li> <li>• Maintenance of industrial water supply.</li> </ul>	<p><b>Moderate</b> - To allow moderate changes in the quality of water, sediment and biota (eg moderate changes in contaminant concentrations that cause small changes, beyond natural variation, in ecosystem processes and abundance/biomass of marine life, but no detectable changes from the natural diversity of species and biological communities).</p> <p>For this protection level the 90% species protection guideline trigger values* for toxicants in water apply and for discharges that contain a mixture of toxicants, the sum of the concentrations of the primary toxicants (up to 5 toxicants) should not exceed the sum of the relevant trigger values. For other physical and chemical parameters the trigger values are based on the 95<sup>th</sup> percentile of natural background measurements. Trigger values should be derived in accordance with the recommended approaches in ANZECC &amp; ARM CANZ (2000). For sediments the ISQG-low* apply.</p> <p>For dissolved oxygen the outfalls should preferably be managed so that they do not cause the median dissolved oxygen concentration in waters ≤0.5 metres from the seafloor, calculated over a period of up to 6 weeks, to fall below 80% saturation at any site, but they should never cause dissolved oxygen concentrations to fall below 60% saturation.</p>

**Schedule 2 The Environmental Quality Objectives and Levels of Ecological Protection to be achieved in marine waters for the Wheatstone Proposal. (Condition 13) (cont'd)**

Area	Environmental Quality Objectives	Level of Ecological Protection for Maintenance of Ecosystem Integrity
Marine waters beyond the areas of Moderate and Low Ecological Protection.	<ul style="list-style-type: none"> <li>• Maintenance of ecosystem integrity.</li> <li>• Maintenance of seafood for human consumption.</li> <li>• Maintenance of aquaculture.</li> <li>• Maintenance of primary contact recreation.</li> <li>• Maintenance of secondary contact recreation.</li> <li>• Maintenance of aesthetic values.</li> <li>• Maintenance of cultural and spiritual values.</li> <li>• Maintenance of industrial water supply.</li> </ul>	<p><b>High</b> – To allow small changes in the quality of water, sediment and biota (e.g. small changes in contaminant concentrations with no resultant detectable changes beyond natural variation in the diversity of species and biological communities, ecosystem processes and abundance/biomass of marine life).</p> <p>For this protection level the 99% species protection guideline trigger values* for toxicants in water apply (except for cobalt for which the 95% species protection guideline should apply) and for discharges that contain a mixture of toxicants, the sum of the concentrations of the primary toxicants (up to 5 toxicants) should not exceed the sum of the relevant trigger values. For other physical and chemical parameters the trigger values are based on the 80<sup>th</sup> percentile of natural background measurements. Trigger values should be derived in accordance with the recommended approaches in ANZECC &amp; ARM CANZ (2000). For sediments the ISQG-low* apply.</p> <p>For dissolved oxygen the outfalls should preferably be managed so that they do not cause the median dissolved oxygen concentration in waters ≤0.5 metres from the seafloor, calculated over a period of up to 6 weeks, to fall below 90% saturation at any site, but they should never cause dissolved oxygen concentrations to fall below 60% saturation.</p>
Marine waters adjacent to the Ashburton River mouth identified for maximum ecological protection in map 5 of DoE Marine Report 1 (2006).	<ul style="list-style-type: none"> <li>• Maintenance of ecosystem integrity.</li> <li>• Maintenance of seafood for human consumption.</li> <li>• Maintenance of aquaculture.</li> <li>• Maintenance of primary contact recreation.</li> <li>• Maintenance of secondary contact recreation.</li> <li>• Maintenance of aesthetic values.</li> <li>• Maintenance of cultural and spiritual values.</li> <li>• Maintenance of industrial water supply.</li> </ul>	<p><b>Maximum</b> – No detectable changes beyond natural variation in ecosystem processes, the quality of water, sediment and biota, the diversity of species and biological communities or in the abundance/biomass of marine life.</p>

\* From National Water Quality Management Strategy Report 4, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000) or its updates.

**Schedule 3: Proponent Residual Impacts and Risk Management Measures - Wheatstone Proposal (Condition 22)**

Project	Value & Timeframe	Responsibility to implement	Governance	Cost
<b>RESEARCH</b>				
<b>Project A</b> Improving the understanding and management of the impacts of dredging on tropical marine communities.	\$1.6 million by 30 January 2012;  \$1.6 million by 30 Jan 2013.	Chevron / WAMSI	Chevron, WAMSI, OEPA	\$3.2 million over 2 years
<b>Project B</b> Improving the understanding of west Pilbara marine habitats, connectivity and recovery potential following natural and human induced disturbance.	\$300,000 by 30 Jan 2012; \$300,000 by 30 Jan 2013; \$300,000 by 30 Jan 2014; \$300,000 by 30 Jan 2015.	DEC	Chevron, DEC, OEPA	\$1.2 million over 4 years
<b>Project C</b> Identification and improved management of critical habitat for the following threatened marine species: 1) humpback whales; 2) dugongs; and 3) snubfin dolphins in Pilbara waters.	\$875,000 by 30 Jan 2012; \$875,000 by 30 Jan 2013; \$875,000 by 30 Jan 2014; \$875,000 by 30 Jan 2015.	DEC	Chevron, DEC, OEPA	\$3.5 million over four years
<b>MANAGEMENT</b>				
<b>Project D</b> Managing the impacts and risks associated with potential increased visitation to island nature reserves managed under the <i>Conservation and Land Management Act 1984</i> within vicinity of the Proposal.	\$770,000 by 30 Jan 2012; \$770,000* by 30 Jan 2013; \$770,000* by 30 Jan 2014; \$770,000* by 30 Jan 2015; \$770,000* by 30 Jan 2016;  (* indexed to CPI)	DEC	Chevron, DEC	\$3.85 million over 5 years (*indexed to CPI)  Note: if the construction of the Foundation Project extends beyond 5 years, the Proponent will continue to provide resources to DEC on a pro-rata basis until the date of first shipment of product from the LNG plant.

**Schedule 3: Proponent Residual Impacts and Risk Management Measures - Wheatstone Proposal (Condition 22) (cont'd)**

Project	Value & Timeframe	Responsibility to implement	Governance	Cost
<b>MANAGEMENT (Cont'd)</b>				
<p><b>Project E</b> Management of potential additional recreational fishing pressure within vicinity of the Proposal.</p>	<p>\$220,000 by 30 Jan 2012; \$220,000* by 30 Jan 2013; \$220,000* by 30 Jan 2014; \$220,000* by 30 Jan 2015; \$220,000* by 30 Jan 2016  (* indexed to CPI)</p>	DoF	Chevron, DoF	<p>\$1.1 million over 5 years (*indexed to CPI)</p> <p>Note: if the construction of the Foundation Project extends beyond 5 years, the Proponent will continue to provide resources to DoF on a pro-rata basis until the date of first shipment of product from the LNG plant.</p>
<p><b>Project F</b> Managing the impacts and risks associated with potential increased visitation to the Cane River Conservation Park and proposed extensions.</p>	\$300,000 by 30 Jan 2012	DEC	Chevron, DEC	\$300,000
<b>CONTINGENCY</b>				
<p><b>Project G</b> Contingency fund for the purposes of remediating potential impacts to offshore islands and the Cane River Conservation Park and proposed extensions where impacts can be reasonably attributed to the Proposal.</p>	<p>\$250,000*, to be maintained by the Proponent until one year after the date of first shipment of product from the LNG plant.  (*Indexed to CPI)</p>	Chevron to maintain and administer fund; DEC to implement remediation.	Chevron, DEC, OEPA	\$250,000



## Schedule 4 Definition of terms and acronyms used in this Statement

### General

“**area temporarily disturbed**” means disturbed areas not required for permanent Proposal infrastructure, unless otherwise approved by the CEO.

“**best practice**” has the meaning outlined in the Environmental Protection Authority’s Guidance 55 *Implementing Best Practice in proposals submitted to the Environmental Impact Assessment process (2003)*.

“**CEO**” – means the Chief Executive Office of the Office of the Environmental Protection Authority.

“**commissioning**” – is defined as the period prior to the commencement of steady state operations

“**construction**” – means construction and commissioning of a Facility and includes any excavation and/or dredging but excludes temporary, minor, preliminary and investigatory works, geotechnical, geophysical, biological and cultural heritage surveys, staging works, baseline surveys, monitoring, technology trials, and works consented to by OEPA.

“**DEC**” – means the Department of Environment and Conservation.

“**environmental weeds**” means are plants that establish themselves in natural ecosystems (marine, aquatic and terrestrial) and proceed to modify natural processes, usually adversely, resulting in the decline of the communities they invade. Impacts of environmental weeds on ecosystem function include:

- resource competition,
- prevention of seedling recruitment,
- alteration to geomorphological processes,
- alteration of hydrological cycle,
- changes to soil nutrient status,
- alteration of fire regime,
- changes to the abundance of indigenous fauna, and
- genetic changes.

(Carr et al., 1992; Humphries et al., 1993, Csurhes and Edwards, 1998).

“**facilities**” means the elements of the Proposal listed in Schedule 1 of this statement, but excluding the Port Facilities.

“**Fauna-Rescue Personnel**” means employees or contractors of the Proponent whose responsibility it is to walk the open trench to recover and record fauna found within the trench.

“**Foundation Project**” means the initial 2 Trains of a Liquefied Natural Gas (LNG) facility and associated Domestic Gas (Domgas) facility. The Proposal is described in detail in the Draft Environmental Impact Statement/Environmental Review and Management Program and the Final Environmental Impact Statement/Response to Submissions on the Environmental Review and Management Program for the Proposed Wheatstone Proposal. Key components of the Proposal are summarised within Schedule 1 of this statement.

These include a:

- subsea gas trunkline to bring produced gas onshore to the LNG facility;
- Product loading facility (PLF);
- Materials offloading facility (MOF);
- LNG processing facility Located in the Ashburton North Strategic Industrial Area (ANSIA);
- Accommodation facility; and
- Domgas pipeline to transport natural gas to the Dampier to Bunbury Natural Gas Pipeline.

**“Independent Specialist”** means an external auditor commissioned by the Proponent and approved by the CEO.

**“management actions”** means management activities, measures, actions, strategies, undertakings or directives which may, depending on the context in which the term is used in these conditions:

1. Correct or improve upon management actions which have been ineffective;
2. Attenuate, minimise, mitigate impacts the Proposal would otherwise have on the environment if the action were not taken; or
3. Ensure compliance with conditions, or any monitoring or management triggers established by those conditions.

**“marine drilling and blasting activities”** excludes micro-tunnelling for the trunkline shore crossing.

**“non-trading vessel”** – for the purposes of condition 12 the term ‘non-trading vessel’ refers to those vessels included in the definition of non-trading vessels outlined in the *National System for the Prevention and Management of Marine Pest Incursions, National Biofouling Management Guidance for Non-Trading Vessels*; and known invasive marine species are considered to be those species listed by the Consultative Committee on Introduced Marine Pest Emergencies (CCIMPE) within the Revised CCIMPE Trigger List.

**“peer review”** means a documented, critical review performed by peers (where “peer” is defined as a person having technical expertise in the subject matter being reviewed which is at least equivalent to that needed for the original work) who are independent of the work being reviewed. The peer review should determine whether the material being reviewed is of reasonable quality and whether any conclusions or findings are supported by the evidence.

**“port facilities”** means any facilities under the operational; control of the Dampier Port Authority.

#### Definitions for terms used in condition 6, 7 and 8

For a monitoring occasion, the **“change in live coral cover”** is determined by subtracting the baseline live coral cover from the ‘live coral cover’ measured on that monitoring occasion.

The term **“live coral cover”** means, for a given total area of sea bed, the area of the sea bed occupied by live tissues of species of scleractinian corals expressed as a percentage of the given total area of sea bed.

The term “**baseline live coral cover**” means the live coral cover at the time of the last survey before the commencement of marine works.

The term “**net live coral cover**” is the result of subtracting the change in live coral cover at the assigned reference site(s) from the live coral cover at the monitoring site.

For each designated reef formation, the term “**protection of at least 70% of baseline live coral cover**” means net live coral cover is at least 70% of the baseline live coral cover for that designated reef formation.

For the purpose of condition 6-2, the term “**protection of at least 50% of baseline live coral cover**” means net live coral cover is at least 50% of the baseline live coral cover for that designated reef formation.

The term “**benthic habitats**” means all functional ecological communities that inhabit the seabed, including benthic primary producer habitats as defined in the Environmental Protection Authority’s Environmental Assessment Guideline Number 3 (2009). Benthic communities covered by this definition include but are not restricted to those with predominant components being hard corals, filter feeders including soft corals, sponges and other non-coral benthic macro-invertebrates, seagrass, macroalgae and mangroves.

In respect of Benthic Primary Producer Habitats the terms “**irreversible loss**” and “**serious damage**”, are defined in the Environmental Protection Authority’s Environmental Assessment Guideline Number 3 (2009).

Paroo Shoal, Gorgon Patch, SW of Gorgon Patch and Hastings Shoal shown in Figure 2 of Schedule 1 are each referred to as a “**designated reef formation**”.

The term “**detectable**” refers to the smallest statistically discernable effect size that can be achieved with a monitoring strategy designed to achieve a statistical power value of at least 0.8 or an alternative value as determined by the CEO.

The term “**turbid water overflow from dredging equipment**” means the intentional discharge to the ambient marine environment of sediment-laden excess sea water during the act of loading for the purposes of dumping.

The term “**loading for the purposes of dumping**” means where material or substances of any kind are loaded on any vessel, platform or aircraft for the purpose of being dumped into the sea (Australian Government, 2009).

The term “**turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities**” means capital dredging, and dredge spoil disposal required for the construction of nearshore or offshore marine facilities listed in Schedule 1, and construction activities for the offshore produced water outfall pipeline which generate and/or release sediment into marine waters.

The term “**turbidity-generating activities which are part of the maintenance of nearshore and offshore marine facilities**” means maintenance dredging and disposal of dredge spoil required to maintain operability of nearshore or offshore marine facilities listed in Schedule 1.

The term “**nearshore and offshore marine facilities**” means the marine facilities listed in Schedule 1 under the headings Nearshore facilities and Offshore facilities.

The “**overflow control zones**” referred to in conditions 6-13, 6-14 and 6-15 are described by the geographic co-ordinates set out in Table 2 of Schedule 1.

The term “**turbidity-generating activities**” without further qualification, applies to “**turbidity-generating activities which are part of the construction of the nearshore and offshore marine facilities**” and “**turbidity-generating activities associated with trunkline installation activities**” as defined in Schedule 4. .

The term “**trunkline installation activities**” means the key activities undertaken in the marine environment required for the installation of the trunkline in State waters.

The term “**trunkline infrastructure**” means the key components of the actual trunkline pipe to be installed.

The term “**turbidity-generating activities associated with trunkline installation**” is a subset of trunkline installation activities and means dredging and trenching for trunkline installation, dredge spoil disposal and rock/sediment dumping for pipeline stabilisation.

The term “**marine works**” means all activities undertaken to construct the Nearshore, Offshore and Other marine facilities referred to in Schedule 1, including but not limited to turbidity-generating activities associated with construction of those facilities.

The term “**near-real time dredge and dredge overflow management**” refers to the practice of acquiring monitoring data *in situ* and interpreting those data where the time lag between acquiring data and responding to those data in a management sense is sufficiently short to be considered as immediate as practicable.

The term “**realised Zone of Influence**” is the maximum detectable extent of turbidity associated with the turbidity generating activities which are part of marine works, measured at any point in time.

Attachment 1 to Ministerial Statement 873

Change to proposal under s45C of the *Environmental Protection Act 1986*

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**Proposal:** Wheatstone Development – Gas Processing, Export Facilities and Infrastructure

**Proponent:** Chevron Australia Pty Ltd

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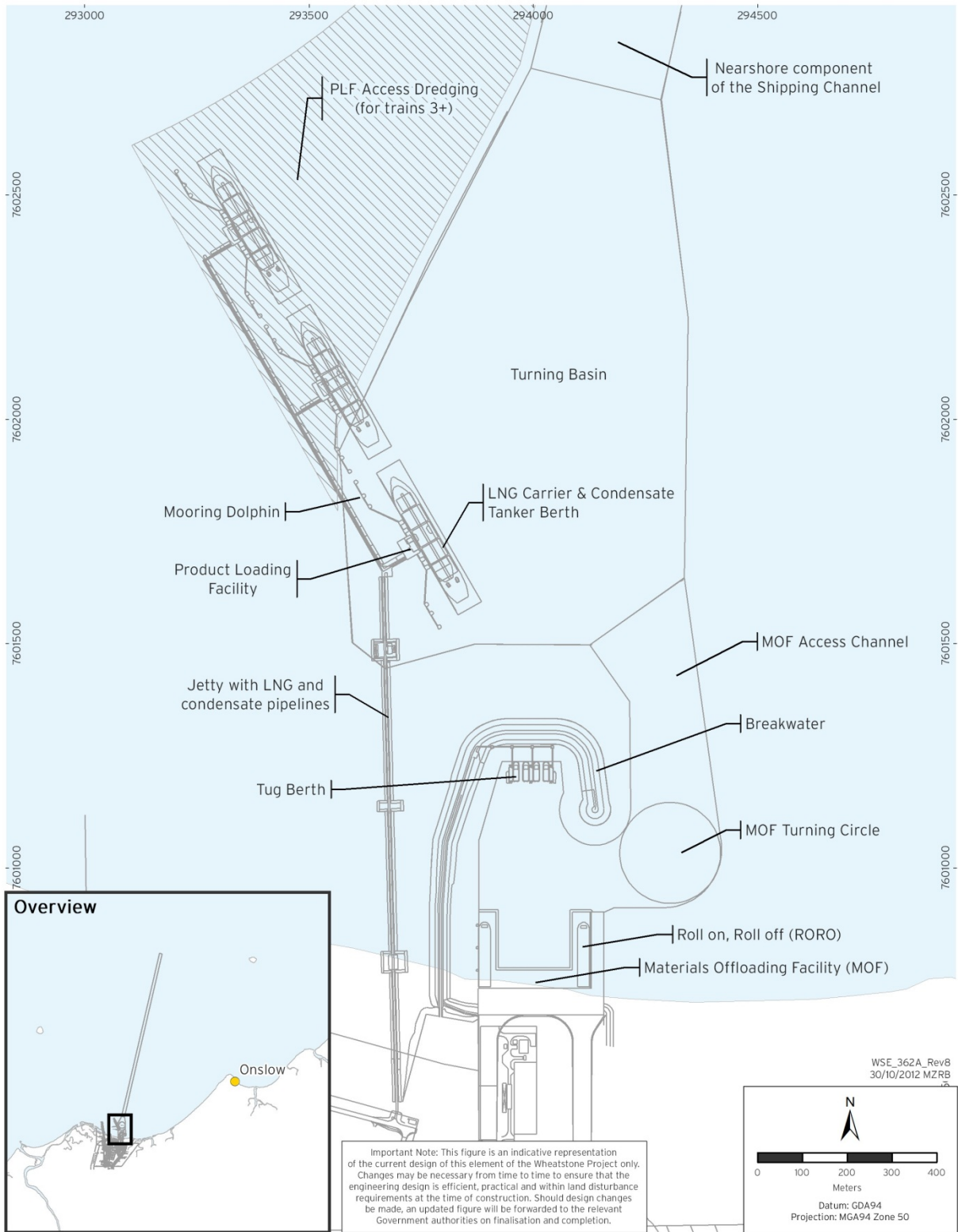
**Change:** Change to Schedule 1

Figure 6 of Attachment 1 to Ministerial Statement 873, replaces Figure 6 of Schedule 1 to Ministerial Statement 873.

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**Dr Paul Vogel**  
CHAIRMAN  
Environmental Protection Authority  
under delegated authority

Approval date: 14 January 2013



**Figure 6** *Nearshore Marine Facilities*

Attachment 2 to Ministerial Statement 873

Change to proposal under s45C of the *Environmental Protection Act 1986*

**Proposal:** Wheatstone Development – Gas Processing, Export Facilities and Infrastructure

**Proponent:** Chevron Australia Pty Ltd

**Change:** Deletion of construction utilities, discharges and capacity elements detailed in Table 1, Schedule 1

**Key Characteristics Table:** Table 1, Schedule 1 is deleted and replaced with a revised Table 1.

Element	Description of proposal	Description of approved change to proposal
<b>Nearshore Facilities</b>	(Figure 6)	(Figure 6)
Shipping channel	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).
Product loading facility (PLF)	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.
Materials Offloading Facility (MOF)	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.
Dredge Spoil disposal site A	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>
Discharge lines	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.
<b>Offshore Facilities</b>		
Shipping Channel	Up to 18 km long navigation channel and turning basin for access to the PLF (offshore component of the	Up to 18 km long navigation channel and turning basin for access to the PLF (offshore component of the

	shipping channel not shown in Figure 6).	shipping channel not shown in Figure 6).
Dredge Spoil disposal sites B C D E	<p>Up to 3 Mm<sup>3</sup> in 5 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 24 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 9 km<sup>2</sup></p> <p>Contingency only</p> <p>Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm<sup>3</sup>, the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm<sup>3</sup>.</p>	<p>Up to 3 Mm<sup>3</sup> in 5 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 24 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 9 km<sup>2</sup></p> <p>Contingency only</p> <p>Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm<sup>3</sup>, the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm<sup>3</sup>.</p>
Produced Water Outfall	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.
<b>Other Marine Facilities</b>		
Dredging	<p>Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm<sup>3</sup> of dredge spoil.</p> <p>Up to 3 Mm<sup>3</sup> dredge spoil for the trunkline.</p>	<p>Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm<sup>3</sup> of dredge spoil.</p> <p>Up to 3 Mm<sup>3</sup> dredge spoil for the trunkline.</p>
Trunkline	One subsea partially buried pipeline to the shore crossing	One subsea partially buried pipeline to the shore crossing
Trunkline shore crossing	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.
Offshore Accommodation Vessel	Vessel for accommodation for marine construction workers.	Vessel for accommodation for marine construction workers.
<b>Onshore Facilities</b>		
Footprint	<p>Total disturbance onshore – approximately 3,300 ha comprised of:</p> <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> </ul>	<p>Total disturbance onshore – approximately 3,300 ha comprised of:</p> <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> </ul>



	<ul style="list-style-type: none"> <li>Roads and fill sources approximately 980 ha; and</li> <li>Domgas line approximately 320 ha.</li> </ul>	<ul style="list-style-type: none"> <li>Roads and fill sources approximately 980 ha; and</li> <li>Domgas line approximately 320 ha.</li> </ul>
<b>LNG plant</b>	Located in Ashburton North Strategic Industrial Area (ANSIA)	
Throughput	Up to 25 MTPA (foundation plant up to 9 MTPA)	Up to 25 MTPA (foundation plant up to 9 MTPA)
Components	Up to 6 LNG trains	Up to 6 LNG trains
No. of storage tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks
	Up to 4 x 120,000 m <sup>3</sup> condensate tanks	Up to 4 x 120,000 m <sup>3</sup> condensate tanks
No. of flares	Up to 8 elevated flare structures: <ul style="list-style-type: none"> <li>3 x high pressure (approximate height 125 m);</li> <li>3 x low pressure (approximate height 45 m); and</li> <li>2 marine flares (approximate height 45 m).</li> </ul>	Up to 8 elevated flare structures: <ul style="list-style-type: none"> <li>3 x high pressure (approximate height 125 m);</li> <li>3 x low pressure (approximate height 45 m); and</li> <li>2 marine flares (approximate height 45 m).</li> </ul>
Utilities	<p>Construction power generation – approximately 15 MW from on site diesel generators.</p> <p>Operations power generation – approximately 400 MW.</p> <p>Construction water usage – approximately 6,134,000 m<sup>3</sup> (excluding hydro test water).</p> <p>Operations water usage – approximately 150 m<sup>3</sup>/hr potable water.</p>	<p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p>Operations power generation – approximately 400 MW.</p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p>
Discharges	<p>Produced Water (PW) offshore outfall approximately 13,200 m<sup>3</sup>/day (starting from commissioning of LNG trains 3 to 6).</p> <p>Storm water – approximately 9,600 kL/day.</p> <p>Cooling water – none (air cooled).</p> <p>Flaring – no routine flaring other than pilot.</p>	<p>Produced Water (PW) offshore outfall approximately 13,200 m<sup>3</sup>/day (starting from commissioning of LNG trains 3 to 6).</p> <p><b>Removed - not environmentally significant.</b></p> <p><b>Removed - not environmentally significant.</b></p> <p><b>Removed - not environmentally significant.</b></p>

	<p>Construction sewage – approximately 78 m3/hr.</p> <p>Operations sewage – approximately 18 m3/hr.</p> <p>Construction RO Brine – approximately 433 m3/hr.</p> <p>Operations RO Brine – approximately 234 m3/hr.</p> <p>Construction waste – up to 11,800 tonnes/year disposed of to a licensed 3rd party waste facility (no onsite incineration).</p> <p>Operations waste – up to 1,600 tonnes/year disposed of to a licensed 3rd party waste facility (no onsite incineration).</p>	<p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p>
<b>Domgas plants</b>	Up to four	
Capacity	Approximately 15% of heating value of LNG produced	Approximately 15% of heating value of LNG produced
Domgas pipeline	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).
<b>Accommodation village</b>		
Location	Approximately 12 km inland from LNG Plant by road.	Approximately 12 km inland from LNG Plant by road.
Capacity	<p>Construction - approximately 5000 people.</p> <p>Operations – approximately 400 people</p>	<p><b>Removed - not environmentally significant.</b></p> <p><b>Removed - not environmentally significant.</b></p>

Utilities	<p>Construction power generation - approximately 10 MW from onsite diesel generators</p> <p>Operations power generation – electrical power delivered from LNG facility.</p> <p>Construction and operations water usage – included LNG facility figures.</p>	<p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p>
Discharges	<p>Construction sewage - approximately 76 m<sup>3</sup>/hr recycled where possible for dust suppression</p> <p>Operations sewage – approximately 18 m<sup>3</sup>/hr to waste water outfall</p> <p>Construction waste disposal – approximately 5,500 tonnes/year disposed of to a licensed 3rd party waste facility (no onsite incineration).</p> <p>Operations waste – approximately 175 tonnes/year disposed of to a licensed 3rd party waste facility (no onsite incineration).</p>	<p><b>Removed as regulated under Part V of the <i>Environmental Protection Act</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p> <p><b>Removed as regulated under Part V of the <i>Environmental Protection Act 1986</i>.</b></p>

### Abbreviations

ha	hectares	m	metres
hr	hour	m <sup>3</sup>	cubic metres
kg	kilograms	Mm <sup>3</sup>	million cubic metres
km	kilometres	MW	megawatts (10 <sup>6</sup> watts)
km <sup>2</sup>	square kilometres		

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**Dr Paul Vogel**  
CHAIRMAN  
Environmental Protection Authority  
under delegated authority

Approval date: 28 February 2013

Attachment 3 to Ministerial Statement 873

Change to proposal under s45C of the *Environmental Protection Act 1986*

**Proposal:** Wheatstone Development – Gas Processing, Export Facilities and Infrastructure

**Proponent:** Chevron Australia Pty Ltd

**Change:** Inclusion of offshore Sand Borrow Area for trunkline installation detailed in Table 1, Schedule 1

**Key Characteristics Table:** Table 1, Schedule 1 is deleted and replaced with a revised Table 1.

Element	Description of proposal	Description of approved change to proposal
<b>Nearshore Facilities</b>	(Figure 6)	(Figure 6)
Shipping channel	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).
Product loading facility (PLF)	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.
Materials Offloading Facility (MOF)	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.
Dredge Spoil disposal site A	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>
Discharge lines	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.
<b>Offshore Facilities</b>		
Shipping Channel	Up to 18 km long navigation channel	Up to 18 km long navigation channel

	and turning basin for access to the PLF (offshore component of the shipping channel not shown in Figure 6).	and turning basin for access to the PLF (offshore component of the shipping channel not shown in Figure 6).
Dredge Spoil disposal sites B C D E	<p>Up to 3 Mm<sup>3</sup> in 5 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 24 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 9 km<sup>2</sup></p> <p>Contingency only</p> <p>Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm<sup>3</sup>, the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm<sup>3</sup>.</p>	<p>Up to 3 Mm<sup>3</sup> in 5 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 24 km<sup>2</sup></p> <p>Up to 40 Mm<sup>3</sup> in 9 km<sup>2</sup></p> <p>Contingency only</p> <p>Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm<sup>3</sup>, the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm<sup>3</sup>.</p>
Produced Water Outfall	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.
<b>Other Marine Facilities</b>		
Dredging	<p>Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm<sup>3</sup> of dredge spoil.</p> <p>Up to 3 Mm<sup>3</sup> dredge spoil for the trunkline.</p>	<p>Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm<sup>3</sup> of dredge spoil.</p> <p>Up to 3 Mm<sup>3</sup> dredge spoil for the trunkline.</p>
Trunkline	One subsea partially buried pipeline to the shore crossing	One subsea partially buried pipeline to the shore crossing
Trunkline shore crossing	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.
Offshore Accommodation Vessel	Vessel for accommodation for marine construction workers.	Vessel for accommodation for marine construction workers.
<b>Offshore Sand Borrow Area</b>		<b>Up to 2.5 Mm<sup>3</sup> from an area of 6.51 km<sup>2</sup></b>
<b>Onshore Facilities</b>		
Footprint	Total disturbance onshore –	Total disturbance onshore –

	<p>approximately 3,300 ha comprised of:</p> <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> <li>• Roads and fill sources approximately 980 ha; and</li> <li>• Domgas line approximately 320 ha.</li> </ul>	<p>approximately 3,300 ha comprised of:</p> <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> <li>• Roads and fill sources approximately 980 ha; and</li> <li>• Domgas line approximately 320 ha.</li> </ul>
<b>LNG plant</b>	Located in Ashburton North Strategic Industrial Area (ANSIA)	
Throughput	Up to 25 MTPA (foundation plant up to 9 MTPA)	Up to 25 MTPA (foundation plant up to 9 MTPA)
Components	Up to 6 LNG trains	Up to 6 LNG trains
No. of storage tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks
	Up to 4 x 120,000 m <sup>3</sup> condensate tanks	Up to 4 x 120,000 m <sup>3</sup> condensate tanks
No. of flares	<p>Up to 8 elevated flare structures:</p> <ul style="list-style-type: none"> <li>• 3 x high pressure (approximate height 125 m);</li> <li>• 3 x low pressure (approximate height 45 m); and</li> <li>• 2 marine flares (approximate height 45 m).</li> </ul>	<p>Up to 8 elevated flare structures:</p> <ul style="list-style-type: none"> <li>• 3 x high pressure (approximate height 125 m);</li> <li>• 3 x low pressure (approximate height 45 m); and</li> <li>• 2 marine flares (approximate height 45 m).</li> </ul>
Utilities	<p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p>	
Discharges	Produced Water (PW) offshore outfall approximately 13,200 m <sup>3</sup> /day (starting from commissioning of LNG trains 3 to 6).	Produced Water (PW) offshore outfall approximately 13,200 m <sup>3</sup> /day (starting from commissioning of LNG trains 3 to 6).

	<p>Removed - not environmentally significant.</p> <p>Removed - not environmentally significant.</p> <p>Removed - not environmentally significant.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p>	
<b>Domgas plants</b>	Up to four	
Capacity	Approximately 15% of heating value of LNG produced	Approximately 15% of heating value of LNG produced
Domgas pipeline	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).
<b>Accommodation village</b>		
Location	Approximately 12 km inland from LNG Plant by road.	Approximately 12 km inland from LNG Plant by road.
Capacity	<p>Removed - not environmentally significant.</p> <p>Removed - not environmentally significant.</p>	

Utilities	<p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p>	
Discharges	<p>Removed as regulated under Part V of the <i>Environmental Protection Act</i>.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p> <p>Removed as regulated under Part V of the <i>Environmental Protection Act</i> 1986.</p>	

### Abbreviations

ha	hectares	m	metres
hr	hour	m <sup>3</sup>	cubic metres
kg	kilograms	Mm <sup>3</sup>	million cubic metres
km	kilometres	MW	megawatts (10 <sup>6</sup> watts)
km <sup>2</sup>	square kilometres		

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**Dr Paul Vogel**  
CHAIRMAN  
Environmental Protection Authority  
under delegated authority

Approval date: 18 March 2013



Attachment 4 to Ministerial Statement 873

Change to proposal under s45C of the *Environmental Protection Act 1986*

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**Proposal:** Wheatstone Development – Gas Processing, Export Facilities and Infrastructure

**Proponent:** Chevron Australia Pty Ltd

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**Change:** Amendment to coordinates of Overflow Control Zones.

Table 2, Schedule 1 is replaced with Table 2 below.

**Table 2: Overflow Control Zones (Datum GDA94, Projection MGA94 Zone 50)**

Id	Overflow Zone	Description of proposal		Description of approved change to proposal	
		Easting	Northing	<b>Easting</b>	<b>Northing</b>
1	Zone 1	295343	7608380	<b>295321</b>	<b>7608385</b>
2	Zone 1	295626	7608316	<b>295550</b>	<b>7608334</b>
3	Zone 1	295174	7606420	<b>295112</b>	<b>7606434</b>
4	Zone 1	294885	7606485	<b>294882</b>	<b>7606485</b>
5	Zone 2	297003	7615260	<b>296913</b>	<b>7615281</b>
6	Zone 2	297269	7615198	<b>297142</b>	<b>7615228</b>
7	Zone 2	296576	7912289	<b>296469</b>	<b>7612314</b>
8	Zone 2	296299	7612353	<b>296240</b>	<b>7612364</b>

Note: Text in **bold** in the Table, indicates change/s to the proposal.

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**Dr Paul Vogel**  
CHAIRMAN  
Environmental Protection Authority  
under delegated authority

Approval date: 18 March 2013

## Attachment 5 to Ministerial Statement 873

### Change to proposal approved under Section 45C of the *Environmental Protection Act 1986*

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This Attachment replaces the proposal description, Table 1, and Figure 6 of Schedule 1, and Attachments 1, 2, and 3 of Ministerial Statement 873

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**Proposal:** Wheatstone Development – Gas Processing, Export Facilities and Infrastructure

**Proponent:** Chevron Australia Pty Ltd

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**Changes:**

Deletion of the Shipping Channel (both nearshore and offshore component), Materials Offloading Facility, access road located within the Port of Ashburton, and Dredge Spoil Disposal Site A, and a reduction in the associated disturbance footprint.

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#### Schedule 1

#### The Proposal (Assessment 2178)

The Proposal is to construct and operate a 25 million tonne per annum Liquefied Natural Gas (LNG) facility and associated Domestic Gas (Domgas) facility in the Ashburton North Strategic Industrial Area (ANSIA) 12 kilometres south-west of the town of Onslow. The Proposal includes:

- Subsea gas trunkline to bring produced gas onshore to the LNG and Domgas plants;
- Product loading facility (PLF);
- LNG and Domgas plants;
- Accommodation facilities; and
- Domgas pipeline to transport natural gas to the Dampier to Bunbury Natural Gas Pipeline.

The location of the various Proposal components is shown in Figures 1 to 7.

**Table 1: Summary of Key Proposal Characteristics**

Element	Description of proposal	Description of approved change to proposal
<b>Nearshore Facilities</b>	(Figure 6)	(Figure 6)
Shipping Channel	Up to 18 km long navigation channel and turning basin for access to the PLF (nearshore component of the shipping channel shown in Figure 6).	<b>Transferred to the Ministerial Statement for the Wheatstone Development – Shipping Channel, Materials Offloading Facility, and Access Road proposal.</b>
Product Loading Facility (PLF)	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.	Up to 2.5 km long, with export facilities for up to 3 LNG tankers or up to 2 LNG tankers and 1 condensate tanker. Includes jetty and mooring dolphins.
Materials Offloading Facility (MOF)	Includes the associated breakwater, access channel, turning circle and basin, roll on, roll off facilities and tug berths.	<b>Transferred to the Ministerial Statement for the Wheatstone Development – Shipping Channel, Materials Offloading Facility, and Access Road proposal.</b>
Dredge Spoil Disposal Site A	Up to 1.5 Mm <sup>3</sup> in 4 km <sup>2</sup>	<b>Removed – no longer part of the proposal.</b>
Discharge Lines	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.	Up to 2 x wastewater lines from the onshore facilities to the PLF or within the area designated as Moderate Level of Environmental Protection.
<b>Offshore Facilities</b>		
Shipping Channel	Up to 18 km long navigation channel and turning basin for access to the PLF (offshore component of the shipping channel shown in Figure 6).	<b>Transferred to the Ministerial Statement for the Wheatstone Development – Shipping Channel, Materials Offloading Facility, and Access Road proposal.</b>
Dredge Spoil Disposal Sites B C D E	Up to 3 Mm <sup>3</sup> in 5 km <sup>2</sup> Up to 40 Mm <sup>3</sup> in 24 km <sup>2</sup> Up to 40 Mm <sup>3</sup> in 9 km <sup>2</sup> Contingency only  Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm <sup>3</sup> , the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm <sup>3</sup> .	Up to 3 Mm <sup>3</sup> in 5 km <sup>2</sup> Up to 40 Mm <sup>3</sup> in 24 km <sup>2</sup> Up to 40 Mm <sup>3</sup> in 9 km <sup>2</sup> Contingency only  Note: Although the combined available capacity of the approved Dredge Spoil disposal sites exceed 48 Mm <sup>3</sup> , the maximum of dredge spoil authorised for disposal by this Statement shall not exceed 48 Mm <sup>3</sup> .

Produced Water Outfall	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.	1 x produced water line up to 50 km long from onshore facilities to 20 m depth contour.
<b>Other Marine Facilities</b>		
Dredging	Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm <sup>3</sup> of dredge spoil.  Up to 3 Mm <sup>3</sup> dredge spoil for the trunkline.	Up to 18 km long navigation channel, turning basin and MOF and tanker berths with up to 45 Mm <sup>3</sup> of dredge spoil.  Up to 3 Mm <sup>3</sup> dredge spoil for the trunkline.
Trunkline	One subsea partially buried pipeline to the shore crossing.	One subsea partially buried pipeline to the shore crossing.
Trunkline Shore Crossing	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.	Up to 6 tunnels installed by micro-tunnelling technique up to 1,400 m long.
Offshore Accommodation Vessel	Vessel for accommodation for marine construction workers.	Vessel for accommodation for marine construction workers.
Offshore Sand Borrow Area	Up to 2.5 Mm <sup>3</sup> from an area of 6.51 km <sup>2</sup> .	Up to 2.5 Mm <sup>3</sup> from an area of 6.51 km <sup>2</sup> .
<b>Onshore Facilities</b>		
Footprint	Total disturbance onshore – approximately 3,300 ha comprised of: <ul style="list-style-type: none"> <li>• LNG plant approximately 1,010 ha;</li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> <li>• Roads and fill sources approximately 980 ha; and</li> <li>• Domgas line approximately 320 ha.</li> </ul>	<b>Total disturbance onshore – approximately 3,227 ha comprised of:</b> <ul style="list-style-type: none"> <li>• <b>LNG plant approximately 980 ha;</b></li> <li>• Shared Infrastructure Corridor (including construction village area) approximately 1,000 ha;</li> <li>• <b>Roads and fill sources approximately 927 ha; and</b></li> <li>• Domgas line approximately 320 ha.</li> </ul>
<b>LNG Plant</b>	Located in Ashburton North Strategic Industrial Area (ANSIA)	
Throughput	Up to 25 MTPA (foundation plant up to 9 MTPA).	Up to 25 MTPA (foundation plant up to 9 MTPA).
Components	Up to 6 LNG trains.	Up to 6 LNG trains.
No. of Storage Tanks	Up to 4 x 180,000 m <sup>3</sup> LNG tanks.	Up to 4 x 180,000 m <sup>3</sup> LNG tanks.
	Up to 4 x 120,000 m <sup>3</sup> condensate tanks.	Up to 4 x 120,000 m <sup>3</sup> condensate tanks.

No. of Flares	Up to 8 elevated flare structures: <ul style="list-style-type: none"> <li>• 3 x high pressure (approximate height 125 m);</li> <li>• 3 x low pressure (approximate height 45 m); and</li> <li>• 2 marine flares (approximate height 45 m).</li> </ul>	Up to 8 elevated flare structures: <ul style="list-style-type: none"> <li>• 3 x high pressure (approximate height 125 m);</li> <li>• 3 x low pressure (approximate height 45 m); and</li> <li>• 2 marine flares (approximate height 45 m).</li> </ul>
Discharges	Produced Water (PW) offshore outfall approximately 13,200 m <sup>3</sup> /day (starting from commissioning of LNG trains 3 to 6).	Produced Water (PW) offshore outfall approximately 13,200 m <sup>3</sup> /day (starting from commissioning of LNG trains 3 to 6).
<b>Domgas Plants</b>	Up to four	
Capacity	Approximately 15% of heating value of LNG produced.	Approximately 15% of heating value of LNG produced.
Domgas Pipeline	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).	Up to 2 pipelines in a 60 m wide corridor approximately 75 km long connecting to the existing Dampier to Bunbury Natural Gas Pipeline (DBNGP).
<b>Accommodation Village</b>		
Location	Approximately 12 km inland from LNG Plant by road.	Approximately 12 km inland from LNG Plant by road.

### Abbreviations

ha	hectares	LNG	Liquefied natural gas
hr	hours	m	metres
kg	kilograms	m <sup>3</sup>	cubic metres
km	kilometres	Mm <sup>3</sup>	million cubic metres
km <sup>2</sup>	square kilometres	MW	megawatts (10 <sup>6</sup> watts)

### Figures (attached)

Figure 6: Onshore, nearshore, and offshore facilities



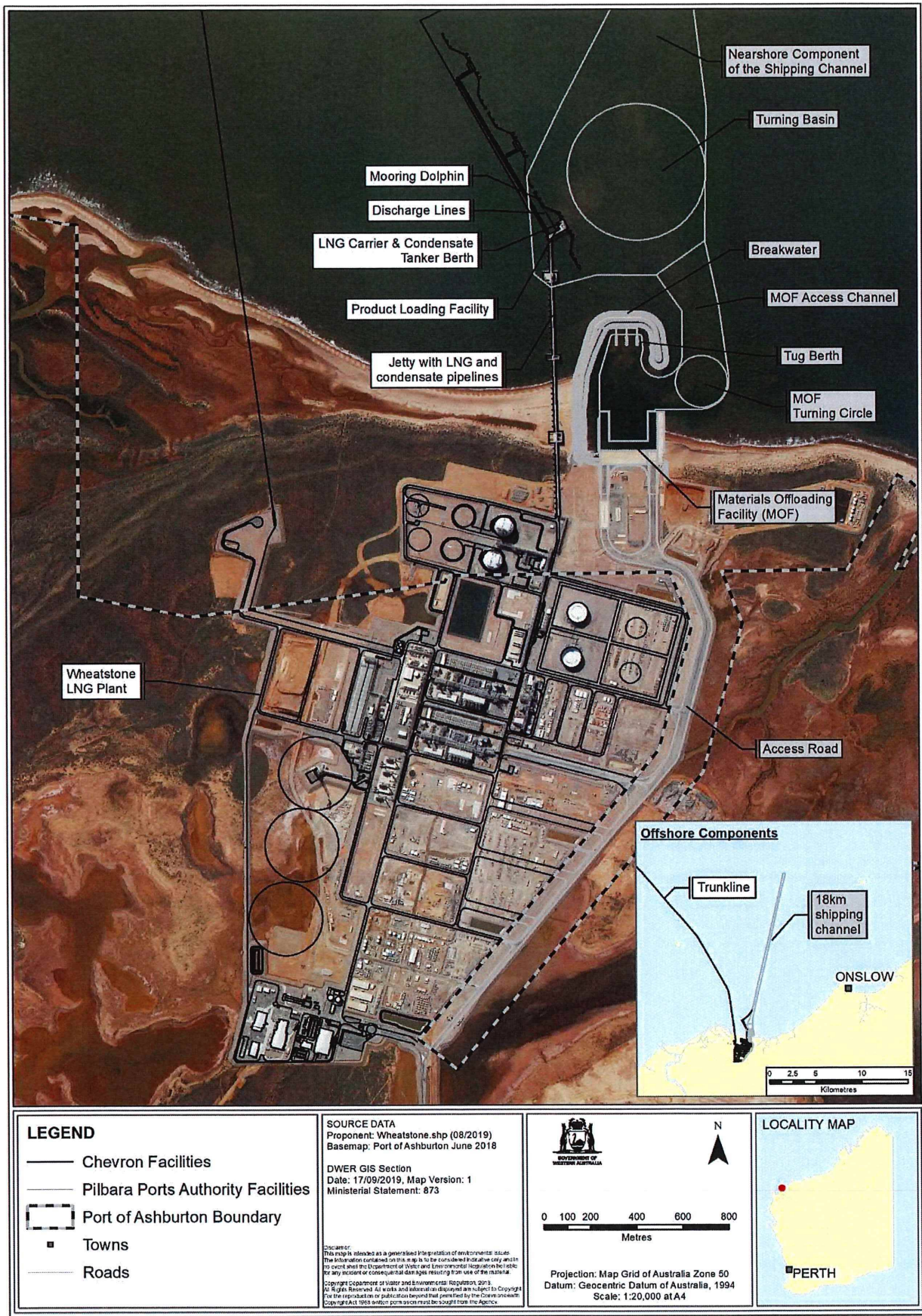


Figure 6: Onshore, nearshore, and offshore facilities

**Geographic spatial data coordinates**

Coordinates defining the following are held by EPA Services of the Department of Water and Environmental Regulation:

- the onshore, nearshore, and offshore facilities that are owned and operated by Chevron Australia Pty Ltd as depicted in Figure 6 – Document reference number (DWERDT222080), dated 8 November 2019; and
- the onshore, nearshore, and offshore facilities that are owned and operated by the Pilbara Ports Authority as depicted in Figure 6 – Document reference number (DWERDT222082), dated 8 November 2019.

A handwritten signature in blue ink, appearing to read 'Stephen Dawson', with a long horizontal flourish extending to the right.

Hon Stephen Dawson MLC  
**MINISTER FOR ENVIRONMENT**

21 APR 2020