



**MINISTER FOR THE ENVIRONMENT AND HERITAGE;  
WATER RESOURCES**

Statement No.

**000567**

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

**DESALINATED WATER AND SEAWATER SUPPLIES PROJECT  
BURRUP PENINSULA, SHIRE OF ROEBOURNE**

**Proposal:** The construction of a seawater supply and desalination system to service the requirements of new industrial developments on the Burrup Peninsula, Shire of Roebourne, as documented in schedule 1 of this statement.

**Proponent:** Water Corporation

**Proponent Address:** 629 Newcastle Street, Leederville WA 6007

**Assessment Number:** 1378

**Report of the Environmental Protection Authority:** Bulletin 1014

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures:

*Procedural conditions*

**1 Implementation**

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Published on

**22 JUN 2001**

## **2 Proponent Commitments**

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

## **3 Proponent**

- 3-1 The proponent for the time being nominated by the Minister for the Environment and Heritage under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment and Heritage has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 3-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

## **4 Commencement**

- 4-1 The proponent shall provide evidence to the Minister for the Environment and Heritage within five years of the date of this statement that the proposal has been substantially commenced.
- 4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment and Heritage will determine any question as to whether the proposal has been substantially commenced.
- 4-3 The proponent shall make application to the Minister for the Environment and Heritage for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.
- 4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

## **5 Compliance Audit**

- 5-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.
- 5-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.
- 5-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment and Heritage.

### *Environmental conditions*

## **6 Environmental Management System**

- 6-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to ground-disturbing activity, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:
  - 1 An environmental policy and corporate commitment to it;
  - 2 Mechanisms and processes to ensure:
    - (1) planning to meet environmental requirements;
    - (2) implementation and operation of actions to meet environmental requirements;
    - (3) measurement and evaluation of environmental performance; and
  - 3 Review and improvement of environmental outcomes.
- 6-2 The proponent shall implement the environmental management system referred to in condition 6-1.

## **7 Decommissioning Plans**

- 7-1 Prior to construction, the proponent shall prepare a Preliminary Decommissioning Plan which provides the framework to ensure that the site is left in a suitable condition, with no liability to the State, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

The Preliminary Decommissioning Plan shall address:

- 1 rationale for the siting and design of plant and infrastructure and conceptual plans for its / their removal or, if appropriate, retention;

- 2 conceptual rehabilitation plans for all disturbed areas and a process to agree on the end land use(s); and
- 3 management of noxious materials to avoid the creation of contaminated areas.

7-2 At least six months prior to the anticipated date of decommissioning, or at a time agreed with the Department of Environmental Protection, the proponent shall prepare a Final Decommissioning Plan designed to ensure that the site is left in a suitable condition, with no liability to the State, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

The Final Decommissioning Plan shall address:

- 1 removal or, if appropriate, retention of plant and infrastructure;
  - 2 rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and
  - 3 identification of contaminated areas, including provision of evidence of notification to relevant statutory authorities.
- 7-3 The proponent shall implement the Final Decommissioning Plan required by condition 7-2 until such time as the Minister for the Environment and Heritage determines that decommissioning is complete.
- 7-4 The proponent shall make the Final Decommissioning Plan required by condition 7-2 publicly available, to the requirements of the Environmental Protection Authority.

## **8 Work Practices**

- 8-1 Prior to commencement of construction, the proponent shall prepare a written prescription for contractor work practices covering plant and pipeline construction and operation, to ensure that work practices are carried out at the level of international best practice, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and the Department of Minerals and Energy.
- 8-2 The proponent shall ensure that all plant and pipeline construction and operation complies with the prescription referred to in condition 8-1.

## **9 Performance Review**

- 9-1 Each five years following the commencement of construction, the proponent shall submit a Performance Review Report to the Department of Environmental Protection:
- to document the outcomes, beneficial or otherwise;
  - to review the success of goals, objectives and targets; and
  - to evaluate the environmental performance over the five years;

relevant to the following:

- 1 environmental objectives reported on in Environmental Protection Authority Bulletin 1014;
- 2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;
- 3 environmental management system environmental performance targets;
- 4 environmental management programs and plans; and/or
- 5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment and Heritage following consideration of the Performance Review Report.



DR JUDY EDWARDS MLA  
MINISTER FOR THE ENVIRONMENT AND HERITAGE

**22 JUN 2001**

## **Schedule 1**

### **The Proposal (1378)**

The proposal is to construct and operate a seawater supply and desalination system to service the requirements of new industrial developments on the Burrup Peninsula, approximately 1,300 kilometres north of Perth (See Figure 1 following Table 1). The desalination plant and associated equipment will occupy an area of approximately 0.6 hectares and is to be located within the confines of the proposed Syntroleum natural gas to synthetic hydrocarbons plant. The pipeline route and location of the seawater inlet and brine outlet are shown in Figure 2. The general arrangement of the desalination plant is shown in Figure 3.

The desalination plant requires a maximum of 38.1 megalitres per day of seawater to produce 6.5 megalitres per day of high quality process water. The maximum extraction rate of seawater will be 100 megalitres per day, resulting in a brine stream of 77 megalitres per day. The surplus supply of seawater (62 megalitres per day) will be available for other industrial projects.

The main proposal characteristics are summarised in Table 1.

**Table 1 - Key Proposal Characteristics (Assessment No. 1378)**

Element	Description
Project Purpose	To provide high quality water to the Syntroleum project and seawater for cooling purposes to other proposed industries on the Burrup Peninsula.
Project Life	25 + years.
Major Project Components	<ul style="list-style-type: none"> <li>▪ Seawater intake pump system.</li> <li>▪ Nominal 6.5 megalitre/day thermal desalination plant.</li> <li>▪ Brine cooling tower and water storage facilities.</li> <li>▪ Seawater supply pipeline (approximately 4.6 kilometres long).</li> <li>▪ Brine discharge pipeline (approximately 4.6 kilometres long).</li> <li>▪ Brine outfall and diffusers.</li> </ul>
Project Location	<p>Seawater intake pump system – within the Mermaid Marine harbour development</p> <p>Desalination plant and cooling tower – within the Syntroleum site, King Bay-Hearson Cove Industrial Area</p> <p>Pipelines – within easements on the eastern side of Burrup Road, northern side of King Bay Road and western side of the Mermaid Marine access road and property</p> <p>Brine outfall and diffuser – extending approximately 500 metres from the Mermaid Marine groyne to a point midway between the Mermaid Marine and Woodside shipping channels at 2.5 metres CD (chart datum).</p>
Plant Operation	Continuous – up to 24 hours per day, 365 days per year.
Plant Storage Capacities	<p>Approximately 2 megalitres (1.5 hours) seawater storage.</p> <p>Approximately 4 megalitres (15 hours) distilled water storage.</p>
Inputs: - Seawater  - Power Supply	<p>Initially - Approximately 18 megalitres/day (winter) to approximately 38 megalitres/day (summer).</p> <p>Finally - up to 100 megalitres/day.</p> <p>Approximately 1MW to 1.5MW, supplied from Syntroleum.</p>
Discharges: - Brine  - Antiscalant - Biocide - Sulphamic Acid	<p>Initially – up to 38 megalitres/day at 52,500 milligrams/litre total dissolved solids. Typically at 2°C above ambient seawater temperature.</p> <p>Final - up to 77 megalitres/day at 55,500 milligrams/litre total dissolved solids. Typically at 2°C above ambient seawater temperature.</p> <p>Approximately 100 kilograms/day.</p> <p>Normally, nil; decomposed by addition of sodium metabisulphite.</p> <p>Nil to discharge.</p>
Noise: - Construction: - Operation:	<p>Less than 30 dB(A) at the nearest permanent residence (Dampier)</p> <p>Seawater intake system: Less than 70 dB(A) at 1 metre from pump well.</p> <p>Desalination plant: Less than 30 dB(A) at the nearest permanent residence (Dampier).</p>
Construction Period	Approximately 15 months.
Construction Workforce	Peak 50 persons.
Operational Workforce	Estimated 6 persons.

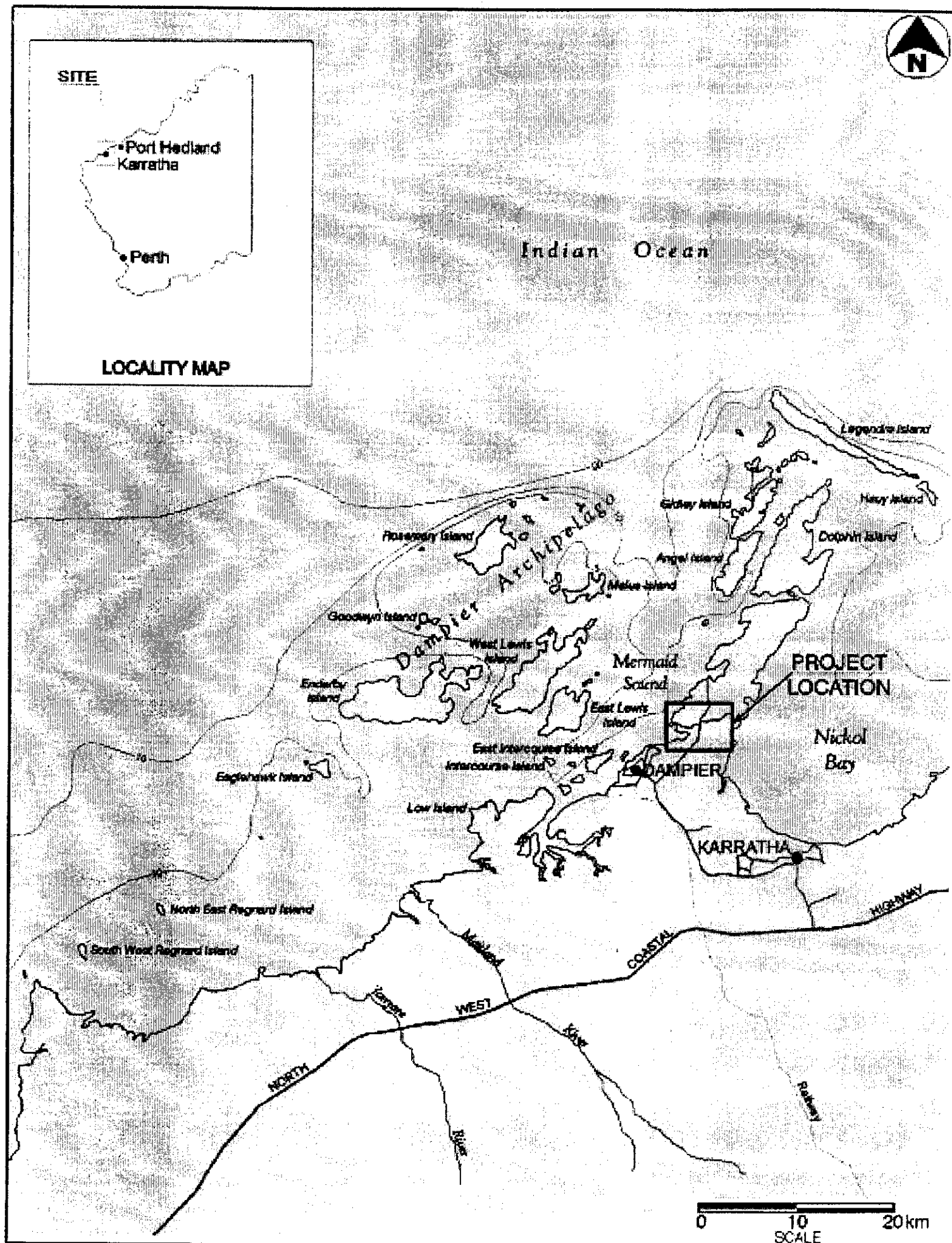


Figure 1. Project Location - Regional Map (Source: Figure 1.2 HLA - Envirosciences, 1999a).



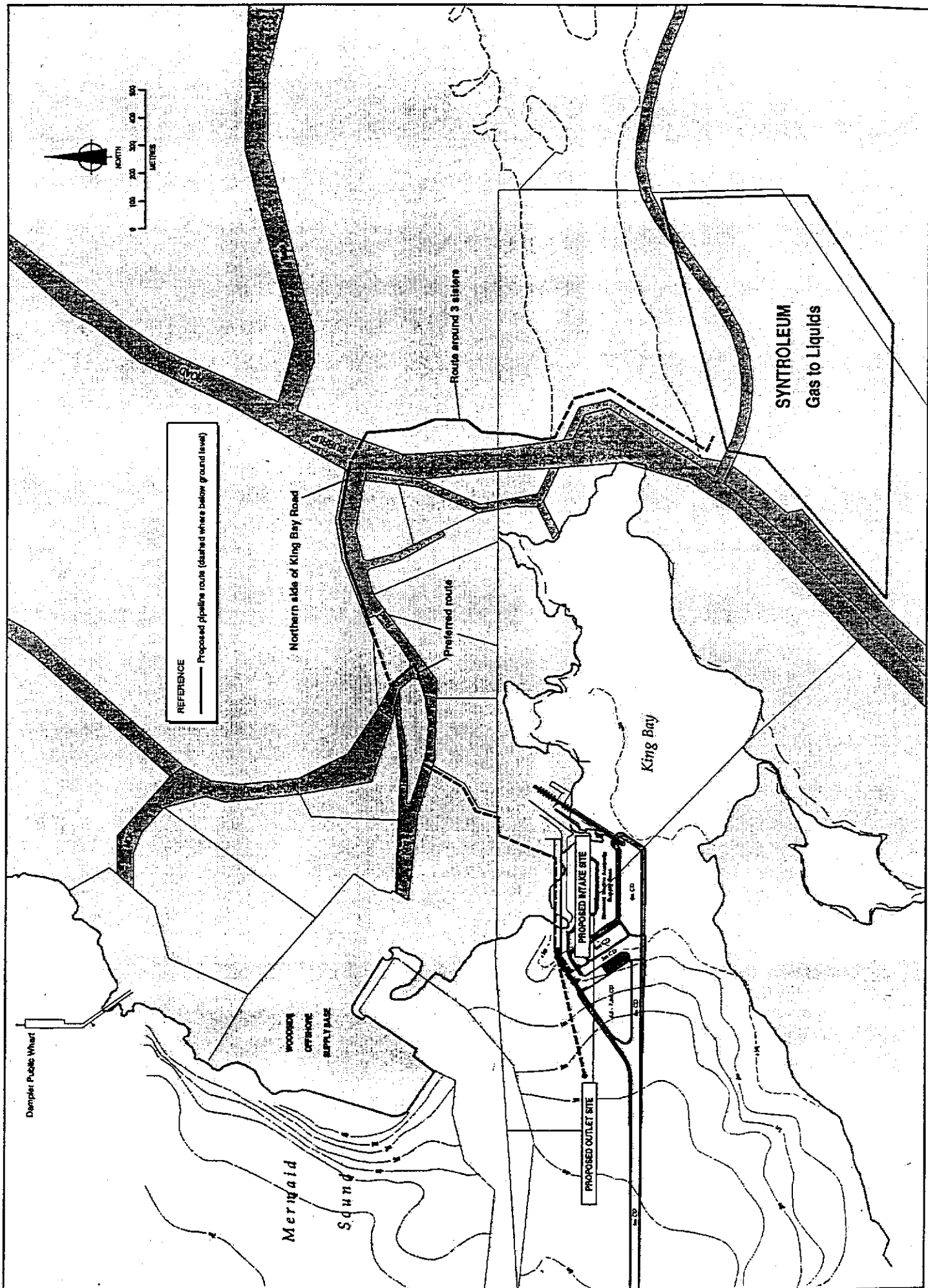


Figure 2. Pipeline route (Source: Burns & Roe Worley, April 2001).

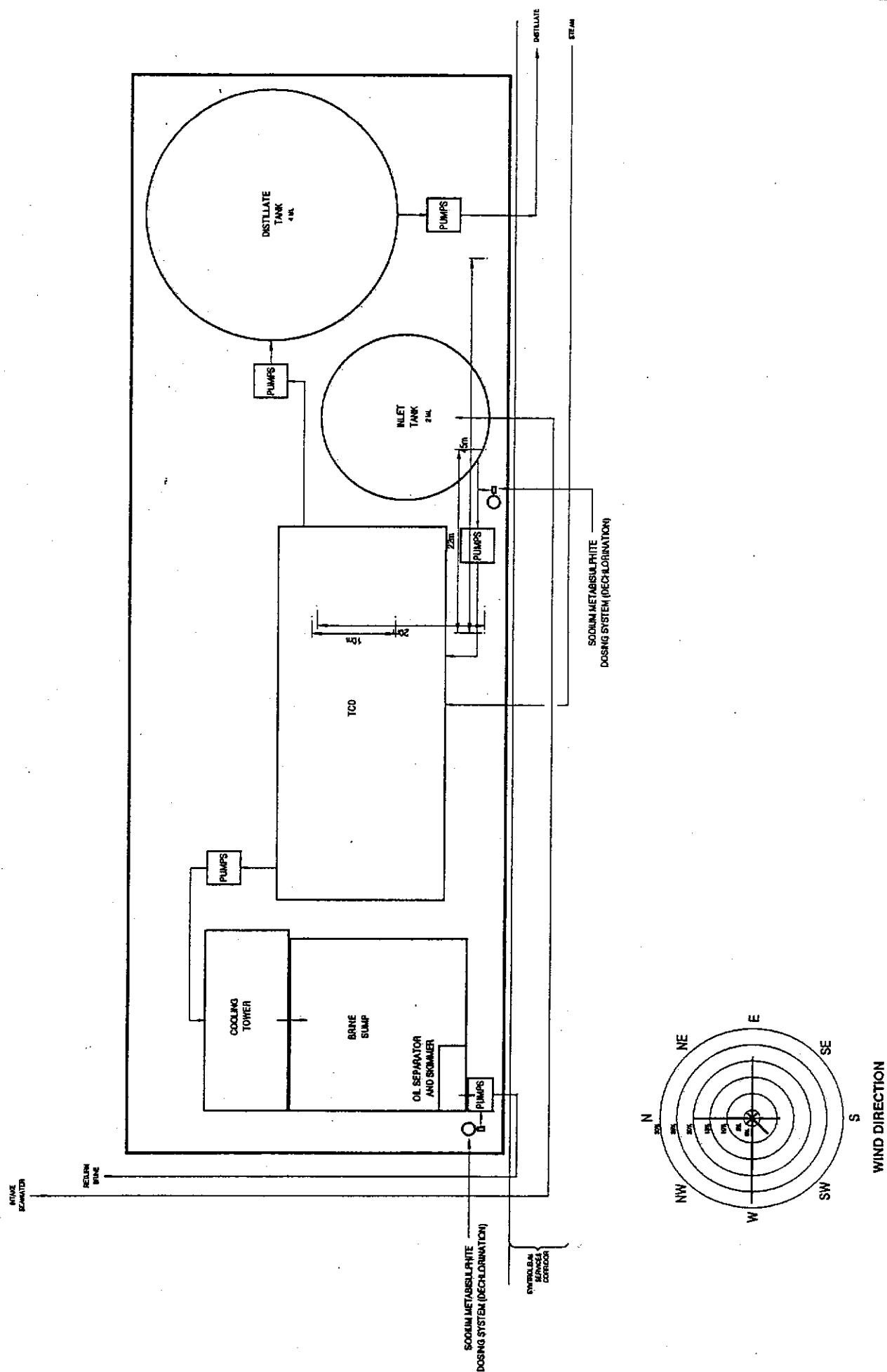


Figure 3. Desalination plant general arrangement (Source: Burns & Roe Worley, April 2001).

**Schedule 2**

**Proponent's Consolidated Environmental Management  
Commitments**

4 May 2001

**DESALINATED WATER & SEAWATER SUPPLIES  
PROJECT, BURRUP PENINSULA  
(Assessment No. 1378)**

**WATER CORPORATION**

## Schedule 2

### Proponent's Consolidated Environmental Management Commitments

#### Desalinated Water & Seawater Supplies Project, Burrup Peninsula (Assessment No. 1378)

No.	Topic	Action	Objective	Timing	Advice
1	Terrestrial Flora	1) Prepare a weed management plan. 2) Implement the weed management plan.	To prevent the introduction of new weeds. To control existing weeds.	Pre-construction Construction	CALM Agwest (for noxious weeds)
2	Terrestrial Flora	Conduct a detailed vegetation survey along the pipeline route, in the appropriate season.	To identify and protect sensitive flora.	Pre-construction	CALM
3	Terrestrial Flora	1) Prepare a flora and vegetation plan: • to quantify area of vegetation to be disturbed and the values that would be lost. 2) Implement the flora and vegetation plan.	To protect significant, rare and endangered flora. To protect significant vegetation assemblages.	Pre-construction Construction	CALM
4	Terrestrial Flora	1) Prepare a rehabilitation management plan for the construction and laydown areas: • to monitor vegetation assemblages. 2) Implement the rehabilitation management plan.	To measure and report on rehabilitation success.	Construction Annually for 5 years, then biannually for a further 10 years.	CALM
5	Terrestrial Fauna	Construct suitable fauna passages beneath the above-ground sections of the pipelines.	To protect significant fauna habitats and their access. To protect rare and endangered fauna.	Construction	CALM

6	Marine Flora and Fauna	<p>1) Prepare a dredging and spoil disposal plan that incorporates the best practically available dredging construction methods and techniques:</p> <ul style="list-style-type: none"> <li>• to minimise generation of turbidity;</li> <li>• to minimise redistribution of contaminants;</li> <li>• to minimise visual impacts; and</li> <li>• to ensure seawater oxygen levels are not depleted.</li> </ul> <p>2) Implement the dredging and spoil disposal plan.</p>	<p>To protect benthic flora and fauna.</p> <p>To minimise the extent of disturbance of benthic flora and fauna.</p>	<p>Pre-construction</p> <p>Construction</p>	
7	Marine Flora and Fauna	<p>1) Prepare a brine discharge quality plan to monitor and control emissions:</p> <ul style="list-style-type: none"> <li>• Continuous on-line monitoring will include flow rate, temperature, conductivity, oxidation-reduction potential and turbidity.</li> <li>• Appropriate additional monitoring will be conducted to control discharge levels of any process additives and other environmental contaminants (such as heavy metals) as required by the DEP.</li> <li>• Brine discharge temperature to be less than 2° C* above the inlet seawater temperature for 80% of the time and not exceeding a maximum limit of 5° C above, unless otherwise agreed with the DEP.</li> <li>• The concentration of oxidising biocide in the brine discharge to be less than 0.1 mg/L.</li> <li>• The concentration of antiscalant in the brine discharge to be less than 2 mg/L, unless otherwise agreed with the DEP.</li> <li>• The proponent will design and operate the plant to minimize thermal loads to the marine environment as low as reasonably practicable.</li> </ul> <p>2) Implement the brine discharge quality plan.</p> <p>3) If monitoring identifies unacceptable impacts, modifications will be made to mitigate adverse effects.</p>	<p>To protect sessile flora and fauna.</p>	<p>Pre-commissioning</p> <p>Operation On-going</p>	

8	Marine Flora and Fauna	1) Conduct a research program to determine the chronic toxicity of antiscalant on appropriate marine biota. 2) Implement the findings.	To protect sessile flora and fauna.	Pre-commissioning  Operation  On-going	
9	Marine Flora and Fauna	Chemical additives described in the Environmental Protection Statement will not be changed without prior approval.	To protect sessile flora and fauna.		
10	Marine Flora and Fauna	1) Prepare a plan to monitor contaminants in the seawater, sediment and biota. 2) Implement the plan. 3) If monitoring identifies unacceptable impacts, modifications will be made to mitigate adverse effects.	To establish baseline data for the concentrations of heavy metals, process chemicals and other relevant contaminants. To identify long term effects on biota. To protect sessile flora and fauna.	Pre-commissioning  Operation  On-going	
11	Marine Flora and Fauna	1) Prepare a water quality monitoring plan that includes the monitoring of caged "sentinel" organisms around the brine outfall. 2) Implement the water quality monitoring plan. 3) If monitoring identifies unacceptable impacts, modifications will be made to mitigate adverse effects.	To establish baseline data. To identify effects on biota. To protect marine flora and fauna. To protect mangrove communities.	Pre-construction For a minimum of 18 months after commissioning.  On-going	
12	Marine Flora and Fauna	1) Prepare a coral management plan to ensure no adverse impacts on coral communities particularly the nearest corals to the discharge diffuser. The plan will include intensive monitoring of temperature at the intake and outfall, at appropriate locations between the outfall and the nearest coral community and at appropriate reference locations, over the months of December to April, following commissioning of the plant. 2) Implement the plan. 3) If monitoring identifies unacceptable impacts from the project, modifications will be made to mitigate adverse effects. Unacceptability of impacts will be in consultation with the DEP.	To protect local coral communities. To verify the dispersion modelling results. To interpret the results of any coral monitoring program.	Pre-commissioning  Operation  On-going	CALM

13	Visual Amenity	<p>1) Prepare a visual amenity plan that includes:</p> <ul style="list-style-type: none"> <li>• Mounding of excess soil and rock to form a visual screen where practicable;</li> <li>• Painting pipelines in colours that blend with the environment; and</li> <li>• No construction of a pipeline maintenance access road, unless otherwise agreed with the DEP.</li> </ul> <p>2) Implement the plan.</p>	<p>To provide a visual screen of the pipelines from Burrup Road.</p> <p>To prevent unacceptable visual impacts.</p>	Pre-construction	
14	Aboriginal Heritage	<p>1) Prepare an Aboriginal heritage plan to:</p> <ul style="list-style-type: none"> <li>• identify all sites of cultural significance;</li> <li>• provide guidelines for avoidance of and behaviour around sites; and</li> <li>• provide guidelines if artifacts are found.</li> </ul> <p>2) Implement the Aboriginal heritage plan.</p>	To minimise disturbance to sites of cultural significance.	Pre-construction	
15	Risk	Plant design and operation to be compliant with Syntroleum's Safety Management System and Emergency Plan.	To ensure safe operation in proximity to a major facility.	<p>Construction</p> <p>Design compliance - pre-construction. Operation compliance – prior to operation of Syntroleum plant.</p>	DME

\*The difference between the 24 hour average seawater intake temperature and the brine discharge temperature.

#### Abbreviations

Agwest = Agriculture Western Australia

CALM = Department of Conservation and Land Management

DEP = Department of Environmental Protection

DME = Department of Minerals and Energy