



## **1 INTRODUCTION**

The locale of Alkimos lies on the coast of Western Australia, around 40 km north-north-west of the Perth CBD and adjacent to the existing suburbs of Quinns Rocks, Mindarie, Merriwa and Ridgewood (Figure 1-1). The Alkimos Wastewater Scheme is proposed to cater for anticipated population growth in the Alkimos catchment, which is expected to reach around 150,000 by 2030 (Water Corporation 2008). The Alkimos Wastewater Scheme will dispose of treated wastewater to the ocean.

Construction of the ocean outlet associated with the scheme is proposed to commence in late 2008. A 3.7 km pipeline (including a 300 m diffuser at the ocean end) will be laid following excavation and clearing of the pipeline route.

Following advice from the Environmental Protection Authority (EPA) on the level of assessment required for approval of the Alkimos Wastewater Scheme, a Public Environmental Review (PER) document was prepared for the proposal (Water Corporation 2005) and submitted to the EPA. Bulletin 1239 was subsequently published by the EPA, which provided advice and recommendations to the Minister for the Environment on the environmental factors and principles relevant to the proposal. These recommendations then formed the basis for the conditions of Ministerial Statement 755, dated 12 November 2007 (Appendix A). The proposal will be implemented as documented and described in schedules 1, 2 and 3 of the Ministerial Statement, subject to the conditions and procedures of the statement.

This document comprises the Management Plan for Construction and ongoing Presence of the Ocean Outlet Pipeline (MPCOOP) for the Alkimos Wastewater Scheme and was prepared to address conditions 8 and 9 of Ministerial Statement No. 755. Condition 8 requires the preparation and implementation of an Ocean Outlet Pipeline Construction Management Plan (Marine), while Condition 9 requires the preparation and implementation of a Seabed and Benthic Habitat Monitoring and Management Plan. To decrease repetition and increase practicality for implementation, these documents have been combined into a single document. As required by Condition 8, all relevant environmental elements likely to be impacted during construction are also addressed in the MPCOOP.

The MPCOOP sources information from the PER, Bulletin 1239 and additional information gathered after publication of those documents. This method produces a robust assessment of the primary and secondary impacts and allows development of effective management and monitoring measures to reduce the project's footprint on the environment adjacent to the proposed ocean outlet pipeline. The MPCOOP has been developed to predict and assess the potential impacts of construction of the Alkimos ocean outlet and to ensure that activities associated with the construction of the ocean outlet are undertaken and managed in a way that minimises impacts on the marine environment.

The operational management and monitoring plan has been developed based on the implementation outcomes of the MPCOOP and also informs the development of Standard Operating Procedures (SOPs), which will be prepared for each component of the operational activities to ensure that they are consistently carried out in a way that minimises impacts to the environment.



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**ALKIMOS WASTEWATER TREATMENT SCHEME**

**MANAGEMENT PLAN FOR THE CONSTRUCTION AND ONGOING PRESENCE OF THE OCEAN  
OUTLET PIPELINE**

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The proponent for the Alkimos Wastewater Scheme is the Water Corporation of Western Australia. However, the Alkimos Water Alliance (AWA) was formed to complete the design and construction of the project. The AWA is a commercial venture involving the Water Corporation and a joint venture from the private sector involving Multiplex, McMahon and Züblin, and various sub-contractors, which brings together experts in the fields of engineering, environment, procurement, construction and management.



## ALKIMOS WASTEWATER TREATMENT SCHEME

### MANAGEMENT PLAN FOR THE CONSTRUCTION AND ONGOING PRESENCE OF THE OCEAN OUTLET PIPELINE

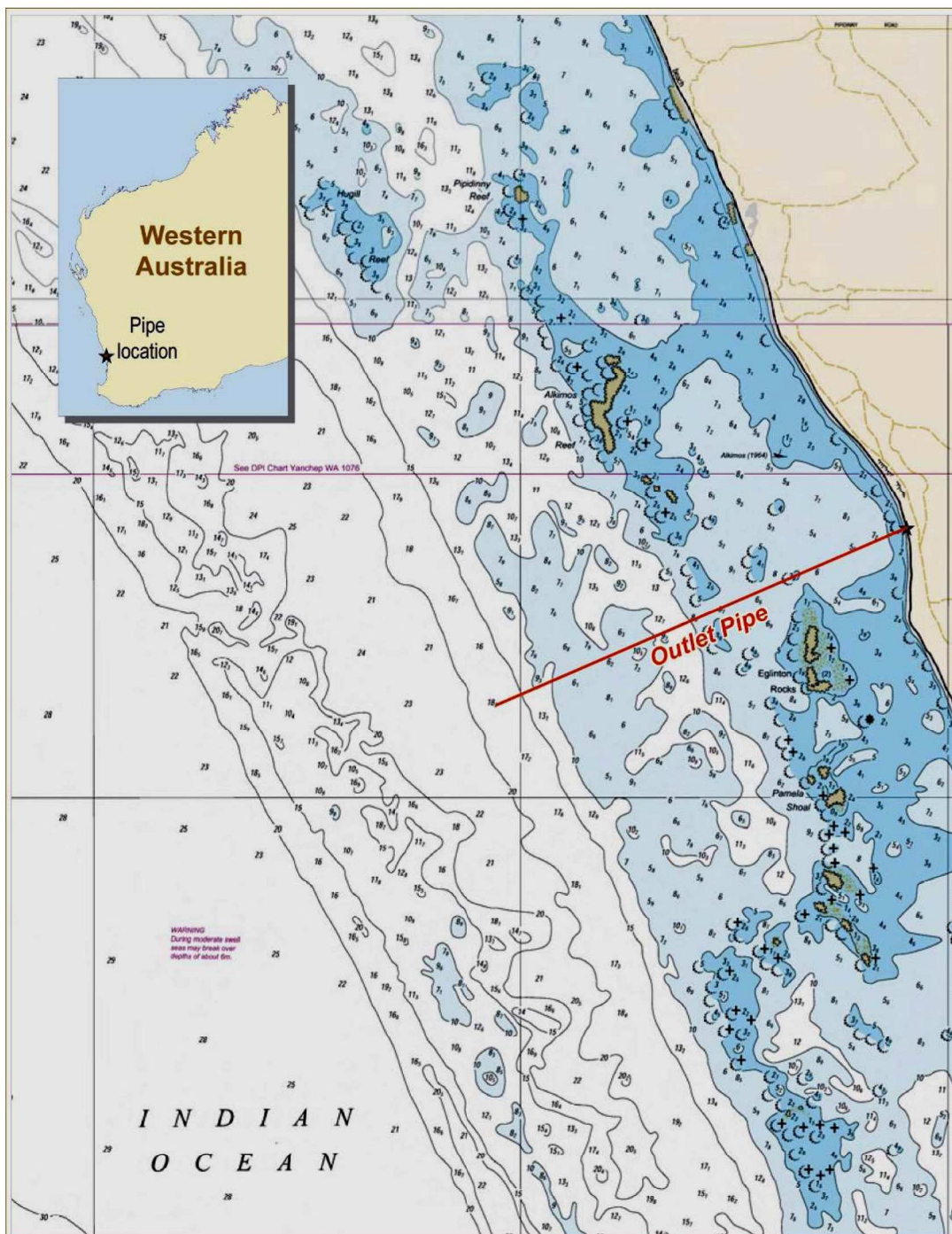


Figure 1-1: Project location



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The AWA was formed specifically to progress the design and construction of:

- earthworks for the wastewater treatment plant
- ocean outfall and launch site
- land-based connection between the wastewater treatment plant and the launch site
- part of the Quinns main sewer.

#### 1.1 Objectives

This MPCOOP provides details on the predicted environmental impacts, monitoring program and management procedures to be implemented during construction of the Alkimos ocean outlet. Furthermore, it outlines how these measures and monitoring program will be effectively implemented by the Alkimos Water Alliance. The objectives of the MPCOOP are consistent with those of the Ministerial Statement for the proposal and the Water Corporation's Environmental Policy (Appendix C) and Sustainability Principles (Appendix D). This document has been independently reviewed by two specialists, Professor Eric Paling and Mr Ian LeProvost (Appendix L). Responses to their comments have been incorporated into the document where appropriate and the final table in Appendix L notes how the original document has been modified.

The objectives of the MPCOOP are to:

- predict direct and indirect impacts likely to result from construction of the ocean outlet through the input of high quality, detailed baseline data into calibrated and verified models
- use predicted impacts to develop relevant, thorough and effective monitoring and management strategies
- minimise direct and indirect impacts through the implementation of a hierarchy of proactive and reactive management actions
- ensure the maintenance of the ecological integrity of the marine waters surrounding the Alkimos ocean outlet
- ensure that the final area of disturbance from the construction of the ocean outlet (taking into account rehabilitation works and the ongoing presence of the pipeline) will be within the area defined in Schedule 4 of Ministerial Statement 755 (Appendix A)
- implement this plan to inform operational management plans for the Alkimos Wastewater Scheme.

#### 1.2 Ocean Outfall Environmental Assessment Process

The potential environmental issues associated with the Alkimos Wastewater Treatment Scheme were assessed in a Public Environmental Review (PER) (Water Corporation, 2006) in accordance with Part IV of the Environmental Protection Act 1986.



The key environmental and other factors assessed in the PER were:

- the precautionary principle
- intergenerational equity
- valuation, pricing and incentives
- waste minimisation
- conservation of biological diversity and ecological integrity
- terrestrial flora
- terrestrial fauna
- geo-heritage
- air quality
- marine ecosystem (sediment, benthic habitat and water column).

### 1.3 Environmental Aspects

The PER and Bulletin 1239 for the proposal identified the primary environmental aspects that may be impacted by the project. These aspects require detailed analysis and include:

- water quality
- benthic primary producers and their habitat
- seabed condition (subtidal, intertidal and beaches) and littoral drift
- marine fauna (marine mammals, fish and benthic fauna).

### 1.4 Legal and other Requirements

The state and Commonwealth legislation, policies and standards relevant to managing the environmental impacts of the ocean outlet construction are listed below. All construction works will be carried out in accordance with these documents. It is also a requirement under the Environmental Protection Act 1986 that the project be carried out in accordance with Ministerial Statement 755, issued by the Minister for the Environment.

#### 1.4.1 Legislation, regulations, policies and standards

- *Environmental Protection Act 1986*
- Environmental Protection Regulations 1987
- *Wildlife Conservation Act 1950*
- Wildlife Conservation Regulations 1970



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- *Pollution of Waters by Oil and Noxious Substances Act 1987*
- *Shipping and Pilotage Act 1967*
- *Marine and Harbours Act 1981*
- EPA Guidance Statement No. 29. Benthic Primary Producer Habitat Protection for Western Australia
- Environmental Quality Objectives (EQO) for the Perth coastal environment
- Supporting Document for the State Environmental (Cockburn Sound) Policy 2005.

#### **1.4.2 Commonwealth and international legislation, policies and standards**

- *Environment Protection and Biodiversity Conservation Act 1999*
- *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*
- Australian Quarantine Regulations 2000
- ANZECC /ARMCANZ marine water quality guidelines (2000)
- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the protocol of 1978 relating thereto (MARPOL 7/78).

#### **1.5 Proponent Contact Details**

The proponent for the construction and operation of the Alkimos Wastewater Treatment Plant and ocean outlet proposal is the Water Corporation, as identified in Condition 2-1 of Ministerial Statement 755. The contact details for the Water Corporation are shown in Table 1-1. As required by Condition 2-2 of the Ministerial Statement, the Chief Executive Officer of the Department of Environment and Conservation (DEC) will be notified by the Water Corporation of any change of name and address of the proponent within 30 days of any such change.



## ALKIMOS WASTEWATER TREATMENT SCHEME

### MANAGEMENT PLAN FOR THE CONSTRUCTION AND ONGOING PRESENCE OF THE OCEAN OUTLET PIPELINE

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**Table 1-1: Contact details for the proponent**

Proponent	Water Corporation
Location	629 Newcastle Street Leederville WA 6007
Postal Address	Water Corporation PO Box 100 Leederville WA 6902
Contact person	Michael Mulrennan Project Director, Major Metropolitan Wastewater Treatment Project Management Branch Water Corporation
Telephone	Switchboard Ph: (08) 9420 2420 Direct: (08) 9420 2193 Mob: 0408 098 890
Facsimile	(08) 9228 1070
E-mail	<a href="mailto:michael.mulrennan@watercorporation.com.au">michael.mulrennan@watercorporation.com.au</a>
Emergency Telephone	131375 (24 hours)