



WESTERN AUSTRALIA  
MINISTER FOR THE ENVIRONMENT

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

JANDAKOT GROUNDWATER SCHEME, STAGE 2 (196)

WATER AUTHORITY OF WESTERN AUSTRALIA

This proposal may be implemented subject to the following conditions:

1. **Proponent Commitments**  
In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Public Environmental Review and included as Appendix 1 in Environmental Protection Authority Bulletin 587 (A copy of the commitments is attached).
2. **Implementation**  
Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.
3. **Operation of the Wellfield**
  - 3-1 Prior to 1 December each year, the proponent shall determine anticipated public water supply abstraction limits and shall advise the Environmental Protection Authority of those limits, the period to which the limits apply and details of the actual and anticipated environmental effects of abstraction.
  - 3-2 The proponent shall operate within the limits and the period specified in condition 3-1.
  - 3-3 The proponent shall inform the Environmental Protection Authority immediately of any proposed change to the anticipated abstraction limit and period. Changes made after 1 December each year shall be to the satisfaction of the Environmental Protection Authority.
4. **Monitoring, Reporting and Auditing**  
Monitoring is to be conducted by the proponent in order to assess the environmental impacts of the project and to provide feedback for future management. On-going monitoring and reporting requirements will be reviewed by the Environmental Protection Authority after submission of the third triennial report.

Published on

29 APR 1992

4-1 Prior to commissioning the wellfield, the proponent shall prepare a detailed environmental monitoring plan, to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Conservation and Land Management. This monitoring plan shall include, but not be limited to monitoring the following:

- 1 vegetation ;
- 2 fauna ;
- 3 habitat ; and
- 4 groundwater levels.

4-2 The proponent shall submit brief annual and more detailed triennial reports addressing, but not limited to the following:

- 1 the quantity of water abstracted for public use and estimated quantity for private use;
- 2 environmental monitoring results;
- 3 compliance with the environmental criteria and the commitments;
- 4 compliance with the environmental objectives;
- 5 a review of the effectiveness of the criteria in meeting the environmental objectives; and
- 6 any proposed changes to management, monitoring or mitigation of wetland impacts,

to the satisfaction of the Environmental Protection Authority.

4-3 The proponent shall submit the reports required by condition 4-2 to the Environmental Protection Authority and shall make them publicly available. The annual reports shall be submitted by 1 December and the triennial reports by 1 March, following commencement of the operation of the scheme.

4-4 The proponent shall report any breach or anticipated breach of the environmental criteria or environmental objectives to the Environmental Protection Authority immediately.

4-5 If impacts are detected which are deemed to be unacceptable by the Environmental Protection Authority, the proponent shall modify sub-area water allocations and abstraction strategies for the Jandakot Public Water Supply Area to the satisfaction of the Environmental Protection Authority.

## 5. Wetland Management

Wetlands are to be protected, except in those instances where it is not practical to protect the wetland function and area, in which case these losses shall be mitigated by the proponent.

5-1 Prior to commissioning the wellfield, the proponent shall prepare a plan to mitigate losses of wetland area and wetland function that are likely to occur as a consequence of the development and operation of the wellfield, based initially on the anticipated impacts associated with the likely future land use/abstraction scenario for the area, to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority. This plan shall include but not necessarily be limited to:

- 1 a description of the processes used for identifying the likely wetland impacts;
- 2 the identification of individual wetlands that will be affected, quantification of the likely changes in water level expected to occur, and the likely impacts of these changes on the areas and functions of the wetlands;

- 3 identification of wetlands that are likely to be dry on 1 December each year as a result of abstraction (ie. the area of free water is less than 1000 square metres or less than 20 percent of the wetland area);
- 4 the existing importance of the areas that will be affected (eg rare and endangered flora and fauna present, number of breeding waterbird species);
- 5 a strategy to mitigate losses of wetland area and function, including details of compensatory action. This should include details of the strategy to mitigate against impacts on Twin Bartram and Solomon Road Swamps, using all reasonable and practicable means;
- 6 a commitment to modify the plan to the satisfaction of the Environmental Protection Authority, based on the results of future environmental impact monitoring; and
- 7 a commitment to modify the plan to the satisfaction of the Environmental Protection Authority, if impacts are detected which are deemed to be unacceptable by the Environmental Protection Authority.

5-2 The plan required by condition 5-1 shall be made available for public comment.

5-3 Subsequent to conditions 5-1 and 5-2, the proponent shall commence implementation of the approved wetland management plan within two years of commissioning the wellfield, to the satisfaction of the Environmental Protection Authority.

## 6. Environmental Management Programme

6-1 Prior to the commissioning of the wellfield, the proponent shall prepare a comprehensive environmental management programme to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority. This programme shall reflect the anticipated future land use/abstraction scenario for the area and shall include, but not necessarily be limited to:

- 1 an environmental monitoring plan as required by condition 4, and
- 2 a wetland management plan as required by condition 5.

6-2 The proponent shall implement the comprehensive environmental management programme required by condition 6-1, to the satisfaction of the Environmental Protection Authority.

## 7. Decommissioning

The proponent is responsible for decommissioning and removal of the public water supply installations and rehabilitating the site and its environs.

7-1 At least six months prior to decommissioning the wellfield, the proponent shall prepare a decommissioning and rehabilitation plan, to the satisfaction of the Environmental Protection Authority.

7-2 The proponent shall implement the decommissioning and rehabilitation plan required by condition 7-1, to the satisfaction of the Environmental Protection Authority.

## 8. Proponent

No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

9. **Time Limit on Approval**

If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced. Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority).

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Bob Pearce, MLA  
MINISTER FOR THE ENVIRONMENT

29 APR 1992

## Summary of Environmental Management Commitments

The environmental management commitments in this PER are summarised in Table A12.1. The criteria developed in Chapter 7 are summarised in Table A12.2.

**Table A12.1 Environmental Management Commitments**

No.	SECTION	COMMITMENT
1	10.1	To prepare a Management and Monitoring Programme, satisfactory to the EPA, prior to commissioning of the Stage 2 Scheme.
2	10.2	To ensure that groundwater abstraction satisfies the environmental criteria presented in this PER.
3	10.5.1	To mitigate impacts associated with construction of the Stage 2 Scheme the Water Authority will ensure:
4		• clearing of vegetation at well sites will be restricted to the area of the enclosure (approximately 25 metres square) in non-urban areas, and the immediate area of the well head in the case of wells located in public open space in urban areas,
5		• where practical the collector main will be located within existing road reserves
6		• on Crown Land, top-soil from the collector main trench will be separately stripped, stock-piled and re-spread on completion of pipe laying.
7		• on private land, the collector main route will be left in a state agreed to by the land owner/occupier,
8		• where feasible, well site compounds will be used for the storage of materials and for contractors' facilities, in preference to the establishment of separate short-term sites,
9		• where temporary construction sites are established, the area will be returned either to its original state, in the case of Crown Land, or to a state agreed to by the land owner/occupier.
10		• all work on extensions to and modifications of the Jandakot Treatment Plant will be undertaken on existing cleared areas within the boundary of the Plant site, and
11	10.5.1	• all workers involved in project construction in natural areas will be instructed on environmental protection procedures before work proceeds
		In the event that monitoring indicates that there will be significant impacts of a nature not predicted in this evaluation or a breach of the specified criteria, then as discussed in sections 6.9 and 7 the Water Authority must undertake one or more of the following:
		• demonstrate to the satisfaction of the EPA that the breach in criterion is not a result of groundwater abstraction, or
		• satisfy the EPA that the breach of criterion is transient and not of permanent significance, or
		• take the relevant action as specified in section 7:
		— modify pumping from any well where such changes can have a measurable effect (say raise water levels 1 centimetre or more), except in extenuating circumstances such as where significant economic hardship would occur, or CALM declare that the low water levels would be beneficial.
		— in the case of a wetland, artificially maintain the 'action minima' water level (see Table 7.5), and
		— implement a short-term detailed monitoring programme to establish the condition of agreed species in the affected area.
12	10.5.1	To modify the chlorine withdrawal system to a liquid process prior to commissioning of the Stage 2 line of wells.
13	10.5.1	To operate the treatment plant with established buffer zones so that:
14		• the personal risk hazard of fatality associated with chlorine release is less than one in a million in any year, and
15		• hydrogen sulphide levels attributable to plant operation will be below noticeable levels of 5 parts per billion.
16	10.5.2	To continue to manage private water abstraction by:
17		• regularly reviewing the bulk allocations for private abstraction, as part of the total water abstraction allocation for the Jandakot PWSA, with regard to the sustainable yield of the superficial aquifer, including consideration of the environmental impacts of that abstraction.
18		• restricting the issuing of licences for private water abstraction to the limits set by the bulk allocations, for both the Jandakot PWSA in its entirety and the licensing sub-areas, and
19		• investigating and implementing efficient mechanisms for groundwater allocation.
20		• Conduct pump tests on Stage 2 wells and liaise with nearby private users of groundwater prior to commissioning to assess the impact of Stage 2 wells on private wells.
21	10.5.3	To protect the groundwater resource by active participation in:

- 19 • the development of Environmental Protection Policies to protect groundwater.
  - 20 • the review of Regional Plans proposed by the Department of Planning and Urban Development, Local Government Town Planning Schemes, and rezoning and development applications, and
  - 21 • review of development submissions to EPA.
  - 22 10.5.3 To work with the Department of Planning and Urban Development to prepare an integrated Land Use and Water Management Strategy for the Jandakot Mound.
  - 23 10.5.4 To actively pursue programmes in both supply and demand management. This includes ongoing public information programmes and, where appropriate, regulation for design changes and regular reviews of pricing to conserve water. Improvements in the Authority's supply system will also be pursued.
  - 24 10.5.5 To actively participate in integrated management of the Jandakot catchment.
  - 25 10.5.5 To review the management criteria and strategies, with the agreement of the EPA, as knowledge of the Jandakot environment and its interaction with groundwater improves.
  - 26 10.5.5 To review opportunities for reducing the radius of the buffer zone required around the treatment plant to achieve acceptable personal risk and hydrogen sulphide levels.
  - 27 10.6.1 To monitor water levels in groundwater monitoring wells and North, Bibra, Yangebup, Kogolup, Thomsons, Forrestdale Lakes, The Spectacles and Twin Bartram Swamp, as well as some other small wetlands.
  - 28 10.6.2 To monitor vegetation transects on a triennial basis to establish significant changes in the condition, floristics or structure of vegetation communities.
  - 29 10.6.2 To continue to fund the research projects 10.6.3 listed in Appendix 2 for the duration of the studies.
  - 30 10.6.2 To use aerial photographs on a triennial basis to detect habitat shifts in North, Bibra, Yangebup, Kogolup, Thomsons and Forrestdale Lakes.
  - 31 10.6.3 To develop a fauna monitoring programme, prior to the commissioning of the Stage 2 Scheme, which will focus on:
    - waterbird species diversity and breeding success, and
    - number of families of aquatic invertebrate and at infrequent intervals, species richness.
  - 32 10.6.4 To hold meetings at least annually with a Jandakot Consultative Committee which will be established in consultation with the EPA. This Committee will be informed on the scheme's operation and will provide feed-back to the Water Authority.
  - 33 10.6.4 To continue to monitor community response as reported by the media and maintain the current practice of public accessibility of Water Authority officers. Upon request and adequate notice, officers will address community groups on issues associated with groundwater management.
  - 34 10.7 After the commissioning of the Stage 2 Scheme, written reports to the EPA will consist of:
    - annual reports addressing compliance with the environmental protection criteria, and
    - triennial reports including, in addition to a review of compliance with the criteria, an evaluation of the effectiveness of the criteria in meeting the environmental protection objectives.
  - 35 10.7 To advise the EPA immediately upon becoming aware that specific environmental protection criteria might be breached. Details of the actions taken to avoid such a breach of criteria, or in the event of a breach occurring, its consequences, will be reported to the EPA at the earliest feasible date.
  - 36 9.5.1 Undertake a study of Banganup Lake, in conjunction with CALM and the University of WA, to establish management criteria and consider the effectiveness of artificial maintenance of water levels.
  - 37 9.5.7 Undertake a study of Twin Bartram Swamp to consider the feasibility and effectiveness of artificial maintenance of water levels.
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