

# **Hope Valley-Wattleup Redevelopment Project Master Plan**

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**Western Australian Land Authority (LandCorp)**

**Report and recommendations  
of the Environmental Protection Authority**

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 1133  
May 2004**

### **Environmental Impact Assessment Process Timelines**

<b>Date</b>	<b>Progress stages</b>	<b>Time (weeks)</b>
<b>28 April 2003</b>	<b>EPA decision to assess scheme</b>	<b>3</b>
<b>19 May 2003</b>	<b>Instructions for the Environmental Review issued</b>	
<b>4 December 2003</b>	<b>Responsible Authority Environmental Review document released for public comment</b>	<b>28</b>
<b>4 March 2004</b>	<b>Public comment period closed</b>	<b>13</b>
<b>21 April 2004</b>	<b>Preliminary draft Responsible Authority response to the issues raised</b>	<b>7</b>
<b>29 April 2004</b>	<b>Final Responsible Authority response to the issues raised</b>	<b>1</b>
<b>14 May 2004</b>	<b>EPA report to the Minister for the Environment</b>	<b>2</b>

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## Summary and recommendations

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for the Environment on the environmental factors relevant to the Hope Valley-Wattleup Redevelopment Project Master Plan, and the conditions to which the scheme should be subject. The Master Plan is a scheme pursuant to the *Environmental Protection Act 1986* and subject to the environmental impact assessment provisions of Division 3 of Part IV of that Act.

The Hope Valley-Wattleup Redevelopment Project Proposed Master Plan has been prepared by the Western Australian Land Authority (LandCorp) pursuant to the *Hope Valley-Wattleup Redevelopment Act 2000* to "promote the orderly and proper planning, development and management of the redevelopment area, including any provision that may be made by a town planning scheme under the Town Planning Act" (clause 11 *Hope Valley-Wattleup Redevelopment Act 2000*).

### Relevant environmental factors

The EPA decided that the following environmental factors relevant to the Master Plan required detailed evaluation in this report

ISSUE	FACTORS
Protection of the water quality of Cockburn Sound	Groundwater and surface water
Management of emissions and potentially conflicting land uses	Air quality, odour, noise, land groundwater and surface water
Protection of natural areas	Wetlands, flora, fauna, bushland, ecological linkages

### Conclusion

The EPA has considered the Hope Valley-Wattleup Redevelopment Project Master Plan prepared by the Western Australian Land Authority (LandCorp) to provide land use planning and development control for the Hope Valley-Wattleup Redevelopment Area.

#### *Protection of the water quality of Cockburn Sound*

The EPA notes that the site is in the groundwater catchment of Cockburn Sound where a significant issue is inputs of nitrogen and other contaminants via groundwater from land uses in the catchment. For most of the Redevelopment Area, the Master Plan proposes a change in land use to phase out the unsewered townsites and rural land uses, some of which are associated with the direct application of nutrients to the land. The EPA considers that the proposed land use changes to regulated industrial and commercial developments should facilitate an improvement over time in the

quality of groundwater exported from the Redevelopment Area. While the proposed Master Plan sets out objectives and requirements that include the protection of Cockburn Sound and water management, the EPA considers that these need to be further developed to ensure that the EPA's environmental objectives for Cockburn Sound are met. The EPA has therefore recommended conditions requiring the further development of the Water Management Strategy referred to in the Master Plan; each use and development within the Master Plan area to be subject to a Water Management Plan; and modification to specified Master Plan provisions.

*Management of emissions and potentially conflicting land uses*

The Redevelopment Area is in the buffer to the Kwinana Industrial Area, Western Australia's main heavy industrial area. While changing the land use of the Redevelopment Area to mainly industrial will assist in resolving some land use conflicts, new land use compatibility issues arise. New development will need careful management to protect the land uses that remain, to avoid unacceptable external impacts, to protect natural areas, and to protect the amenity of new industrial and commercial uses.

Emissions that may affect the environment and the community include but are not limited to emissions to air, water and land, noise, odour and light. The EPA considers that the comprehensive Master Plan provisions addressing emissions, contamination, water resource management and land use compatibility, in combination with a range of other regulatory processes, will enable the EPA's objectives for the management of emissions and potentially conflicting land uses to be met, provided that the recommended conditions on water management are imposed, and there is satisfactory implementation and enforcement of the provisions of the Master Plan.

After the public review period, the Western Australian Land Authority advised that it proposes that Precinct 13 will remain rural. This precinct is within the Kwinana Industrial Area buffer, although its inclusion in the buffer is subject to review. The EPA considers that sensitive uses or uses that attract large numbers of people are generally inappropriate in the buffer. So as not to compromise the outcomes of the Kwinana air quality buffer review, it is recommended that there is no increase in rural residences in this precinct above what is currently allowed. Accordingly, a condition is recommended that prohibits more than one dwelling per lot in the proposed Rural Precinct. However, if the buffer is to have even a low density of emissions-sensitive premises, emissions levels at these premises should meet recognised criteria eg in the case of air emissions, the National Environment Protection Measure (NEPM) criteria and criteria for other air pollutants.

As the proposed Master Plan proposes a large industrial area in proximity to the Kwinana Industrial Area with some emissions-sensitive premises remaining, the EPA considers that it is essential that land use planners remain informed on, and consider, issues associated with emissions, to ensure appropriate responses through land use planning processes.

*Protection of natural areas*

The EPA notes that native vegetation remains on approximately 16.5 per cent of the Redevelopment Area. Key environmental issues include the protection of wetlands and their buffers, ecological linkages, and the under-reserved vegetation complex

Karrakatta Complex - Central and South. Detailed biological surveys have not been completed, and are needed to address the potential for the threatened ecological community 26a; the potential for rare, threatened and other significant flora and fauna; as well as to provide key information on fauna, fauna habitat, flora, vegetation and related biophysical attributes to assist in the identification of the natural areas to be protected. The EPA considers its objectives for the protection of natural areas can be met provided that a comprehensive Biodiversity Strategy is completed as the next step in planning for the Redevelopment Area, and subsequently implemented. To ensure due protection of natural areas before the Biodiversity Strategy is finalised, the EPA recommends a condition setting out interim requirements to apply to any subdivision, use and development near wetlands, in areas of native vegetation in good or better condition as shown on Figure 5 of this Bulletin (from WALA 2003a), and at threatened ecological community sites.

In addition to the recommended environmental conditions, the EPA provides advice in this report on a range of matters as set out in Section 5. The advice includes the identification of deferred environmental factors that the EPA may assess at the appropriate later stage of the planning process. The identified deferred factors for the Hope Valley-Wattleup Redevelopment Project Master Plan are:

- All pollution management factors (eg air, soil, groundwater and surface water quality and noise) in relation to new use and development. It is expected that most developments associated with emissions can be adequately managed through Part V of the *Environmental Protection Act 1986*, land use planning and other legislative requirements. However, the EPA will retain the ability to assess major or otherwise significant proposals.
- All environmental factors on land subject to the Cockburn Cement Agreement Act.

The EPA has concluded that it is unlikely that the EPA's objectives would be compromised provided that the recommended conditions set out in Appendix 4, and summarised in Section 4 are incorporated into the Hope Valley-Wattleup Redevelopment Project Master Plan, and that the EPA's advice provided in Section 5 is duly considered during land use planning processes.

### **Recommendations**

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

1. That the Minister notes that the scheme being assessed is the Hope Valley-Wattleup Redevelopment Project Master Plan that provides for the planning, development and management of the Hope Valley-Wattleup Redevelopment Area.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided the recommended conditions set out in Appendix 4, and summarised in Section 4, are incorporated into the Hope Valley-Wattleup Redevelopment Project Master Plan.

4. That the Minister imposes the conditions recommended in Appendix 4 of this report.
5. That the Minister notes that the EPA has deferred the assessment of a number of environmental factors as shown in Section 5, so that the EPA would have the opportunity to assess proposals impacting on these environmental factors in more detail at the appropriate stage of the planning process.
6. That the Minister notes that where any development proposal complies with the Master Plan and raises no additional environmental factors and does not impact on the deferred factors, the development proposal will not normally be subject to further assessment under Part IV of the *Environmental Protection Act 1986*. However, future development proposals may still require works approval and licensing under the *Environmental Protection Act 1986* where applicable.

### **Conditions**

Having considered the Master Plan documentation and information provided in this report, the EPA has developed a set of conditions that the EPA recommends be imposed if the scheme is approved. These conditions are presented in Appendix 4. Matters addressed in the conditions include the following:

- (a) The Water Management Strategy which all use and development is required to comply with, to be further developed prior to the finalisation of the first precinct structure plan.
- (b) Each land use and development within the Redevelopment Area to be carried out in accordance with a Water Management Plan addressing the management of ground and surface water quality and quantity and potential contaminants to meet the objectives and requirements of the Water Management Strategy.
- (c) A Biodiversity Strategy for the Redevelopment Area to be prepared incorporating specified requirements before the finalisation of the first precinct structure plan, and to be subsequently implemented.
- (d) Prior to the finalisation of the Biodiversity Strategy, interim requirements to apply to any subdivision, use and development near wetlands, in areas of native vegetation in good or better condition, and at threatened ecological community sites.
- (e) Specified Master Plan provisions to be modified to reflect the EPA's objectives for the protection of the water quality of Cockburn Sound.
- (f) The construction of more than one house on a lot in the Rural Precinct to be prohibited.

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# **1. Introduction and background**

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to the Hope Valley Wattleup Redevelopment Project Master Plan prepared by the Western Australian Land Authority (LandCorp).

The Hope Valley Wattleup Redevelopment Project Master Plan is a scheme pursuant to the *Environmental Protection Act 1986*. In accordance with the requirements of the *Hope Valley-Wattleup Redevelopment Act 2000*, the scheme was referred to the EPA for the EPA to make a decision on whether or not to assess the scheme.

The Redevelopment Area is close to coastal industrial development that includes the Kwinana Industrial Area, Western Australia's main heavy industry location.

The Master Plan proposes a change in land use for the Redevelopment Area to predominantly industrial and commercial land uses. Current land uses are mixed and include two townsites, extractive industries, other industry, waste disposal, market gardens, turf farms, nurseries and other rural uses, rural residential, cleared land and bushland.

The EPA decided to assess the Master Plan taking into account that the Redevelopment Area is:

- within the buffer of the State's main heavy industrial area;
- within the catchment of Cockburn Sound, the State's most used embayment, where water quality is of significant concern; and
- an area where environmental issues are of high concern to the community.

Further details of the Master Plan are presented in Section 2 of this report. Section 3 discusses the relevant environmental factors. The environmental conditions to which the Master Plan should be subject, if approved, are outlined in Section 4 and set out in Appendix 4. Section 5 provides other advice by the EPA, Section 6 presents the EPA's conclusions and Section 7, the EPA's recommendations.

Appendix 3 contains a summary of submissions and identification of relevant environmental factors. The Responsible Authority's response to submissions is in Appendix 6 (a CD attached to this report). The response to submissions is included as a matter of information only and does not form part of the EPA's report and recommendations. Appendix 5 contains the main environmental provisions of the Master Plan as assessed by the EPA.

## **2. The proposed Master Plan**

The Hope Valley-Wattleup Redevelopment Project Proposed Master Plan sets out the proposed land use planning and development requirements for the Hope Valley-Wattleup Redevelopment Area. The Master Plan has been prepared pursuant to the

*Hope Valley-Wattleup Redevelopment Act 2000* to “promote the orderly and proper planning, development and management of the redevelopment area, including any provision that may be made by a town planning scheme under the Town Planning Act” (clause 11 *Hope Valley-Wattleup Redevelopment Act 2000*).

The Hope Valley-Wattleup Redevelopment Project Proposed Master Plan has been prepared by the Western Australian Land Authority (WALA) and will be administered by the Western Australian Planning Commission (WAPC).

The Redevelopment Area comprises approximately 1426 ha and is located immediately inland of the Kwinana to Henderson coastal industrial area as shown in Figure 1. The Redevelopment Area is land that was identified for expansion of industry in the Fremantle-Rockingham Industrial Area Regional Strategy (FRIARS) (WAPC 2000). The EPA provided advice to the Western Australian Planning Commission on the draft Fremantle-Rockingham Industrial Area Regional Strategy in 1999 (EPA 1999).

The stated aims of the Master Plan are to:

- “(a) protect the Kwinana Industrial Area ... by resolving surrounding land use conflicts;
  - (b) protect significant heritage in the Redevelopment Area;
  - (c) conserve areas of local and regional environmental significance;
  - (d) minimise sources of pollution;
  - (e) distribute the cost of common infrastructure;
  - (f) ensure the development and use of land within the Redevelopment Area complies with accepted standards and practices;
  - (g) ensure that future development and use of land within the Redevelopment Area occurs in a proper and orderly way;
  - (h) promote sustainable development;
  - (i) facilitate development generally in accordance with the *Fremantle Rockingham Industrial Area Regional Strategy* (Final Report, April 2000).”
- (Section 1.7 WALA 2003c)

The Master Plan is supplemented by:

- the Planning Strategy – This sets out the long-term direction for land use planning and development control for the Redevelopment Area. Determinations of the Western Australian Planning Commission are generally required to be consistent with the Planning Strategy; and
- planning policies and design guidelines – These are used to assist the Commission in making decisions under the Master Plan but are not part of the Master Plan.

The Master Plan also requires land use and development to comply with a Water Management Strategy.

The Master Plan identifies 14 planning precincts in the redevelopment area (see Figure 1) and sets out the proposed purpose of each precinct and the requirements

with which new development and land use must comply. Generally a structure plan is to be prepared before development occurs in a precinct. The Master Plan also identifies and sets out provisions for reserves in the Redevelopment Area.

A detailed description of the Master Plan is provided in the Master Plan Report (WALA 2003b).

The potential environmental impacts that may result from the implementation of development in accordance with the Master Plan as initially predicted by the Western Australian Land Authority and the proposed management mechanisms are described in the Western Australian Land Authority's Environmental Review document (WALA 2003a).

A summary of the purpose and intended land uses of each of the precincts is provided in Table 1 below (WALA 2003a).

**TABLE 1: Description of Planning Precincts**

No.	Name of Precinct	Intent of Precinct	Possible Land Uses
1	Southern Industrial	It is intended this precinct be developed for general industrial purposes and open space.	It is envisaged uses associated with the adjacent 'Motorplex' and transport area (Precinct 2) will occur in the precinct. The precinct is also well located to accommodate bulk goods handling and storage associated with the existing bulk cargo port at Kwinana.
2	Southern Transport	It is intended this precinct be developed for transport industry and related purposes. This reflects its proximity to the existing Kwinana bulk cargo port and the proposed outer harbour.	Bulk goods handling and freight related industries are envisaged in the precinct. Proximity to the freight rail line will also create potential for transport related development in association with this infrastructure.
3	Long Swamp Industrial	It is intended this precinct be developed for general industrial purposes. Development adjacent to Precinct 14, Long Swamp and Postans Park, should be compatible with this setting.	An emphasis towards small-scale light and service industrial development. In this regard, development should be less dense and low in scale, consisting of high quality buildings set amongst landscaping.
4	Central Transport	It is intended this precinct be developed as a major transport hub, taking advantage of existing and proposed regional transport links in the vicinity.	It is envisaged containerisation and related activities such as distribution centres, transport depots and large scale warehousing will establish in the precinct.
5	Wattleup Commercial	It is intended this precinct develop as a centralised commercial service centre, providing services to the general area and its workforce.	Built on existing infrastructure, this recognised centre will provide for the development of general commercial and service related uses in addition to retail (shops) and office uses.
6	Eastern Gateway	It is intended this precinct be developed as a gateway eastern	Business park uses in high quality (landmark) buildings and landscaped

No.	Name of Precinct	Intent of Precinct	Possible Land Uses
		entrance to the Redevelopment Area.	settings are anticipated to be developed in this area. Industrial uses which achieve positive environmental and social outcomes may also be permitted in this Precinct.
7	Northern Transport	It is intended this precinct will be developed for transport and related industry, with a stronger general commercial component.	In contrast to Precinct 4, service and light industrial uses directly related to transport and similar industries are also considered suitable for development in this precinct.
8	Resource Recovery	It is intended this precinct will be developed as an integrated waste management and resource recovery area.	The area will develop from its current waste disposal land use to an area that treats domestic and commercial waste in a manner that recycles waste such that it can be reused.
9	North-East Gateway	It is intended this precinct be developed as a second gateway entry point on the eastern side of the Redevelopment Area.	Business park uses in high quality (landmark) buildings and landscaped settings are anticipated to be developed in this area. Industrial uses which achieve positive environmental and social outcomes may also be permitted in this precinct.
10	Russell Road Industrial	It is intended this precinct be developed for general industrial purposes.	Uses and industry within the precinct will serve other businesses and industry in the Redevelopment Area, the Kwinana Industrial Area, and commercial and industrial centres in the south west corridor. Medium to large scale development is anticipated with the precinct.
11	Northern Industrial	It is ultimately intended this precinct be developed for general industrial purposes. In the interim however, the existing use of land is expected to continue.	Similar to Precinct 10, medium to large-scale development is anticipated adjacent to Russell Road. In the northern part of the precinct, where it adjoins the boundary of the Redevelopment Area, particular emphasis will be placed on a reduced scale, treatment and appearance of development. Upon cessation, a high degree of emphasis will be placed on the remediation of existing uses and development, providing for effective future development.
12	Northern Gateway	It is intended this precinct be developed as a gateway northern entry point, similar in terms of envisaged development to the eastern entry precincts.	Given the proximity of the precinct to ship building and related industries located within Henderson and Jervoise Bay to the west, the precinct is also intended to house a mix of land uses with a marginal balance towards marine related industry.

No.	Name of Precinct	Intent of Precinct	Possible Land Uses
13	Purpose stated as "to be determined" in the Master Plan as released for public comment	Following the end of the public comment period, LandCorp advised that "Precinct 13 is proposed to retain and continue existing rural uses in order to preserve potential options for future development."	Indicative land use list provided by LandCorp.
14	Long Swamp	It is intended Long Swamp and environs be retained, enhanced and maintained as a wetland and area of open space. This will provide the southern part of the Redevelopment Area with a place of natural value and amenity.	Passive recreational pursuits in association with the protection of the conservation value of the lake and remnant vegetation through the precinct will be encouraged.

Since the end of the public comment period for the Master Plan and Environmental Review the main modifications and commitments made by the Western Australian Land Authority include:

- Precinct 13 (the eastern precinct) to be Rural (designated as "to be determined" during the public review period). A draft land use table has been provided;
- an annual review of the Master Plan is proposed (non-statutory) to consider cumulative effects, latest policies and current best management practices;
- further reservation of vegetation for conservation and ecological linkages in Precinct 1 is supported;
- "creche" changed from a permitted use in all precincts to prohibited or discretionary use (in Eco-Industry Development Precincts and Rural Precinct);
- Master Plan processes will embrace initiatives for the protection of Cockburn Sound water quality, including the Local Authorities' Local Planning Policy for the Cockburn Sound catchment;
- modifications to the Water Management Strategy, the Water Management Planning Policy and the Landscaping Planning Policy will be made; and
- minor modification proposed to the air quality provisions (see Appendix 5 clause 7.3.4).

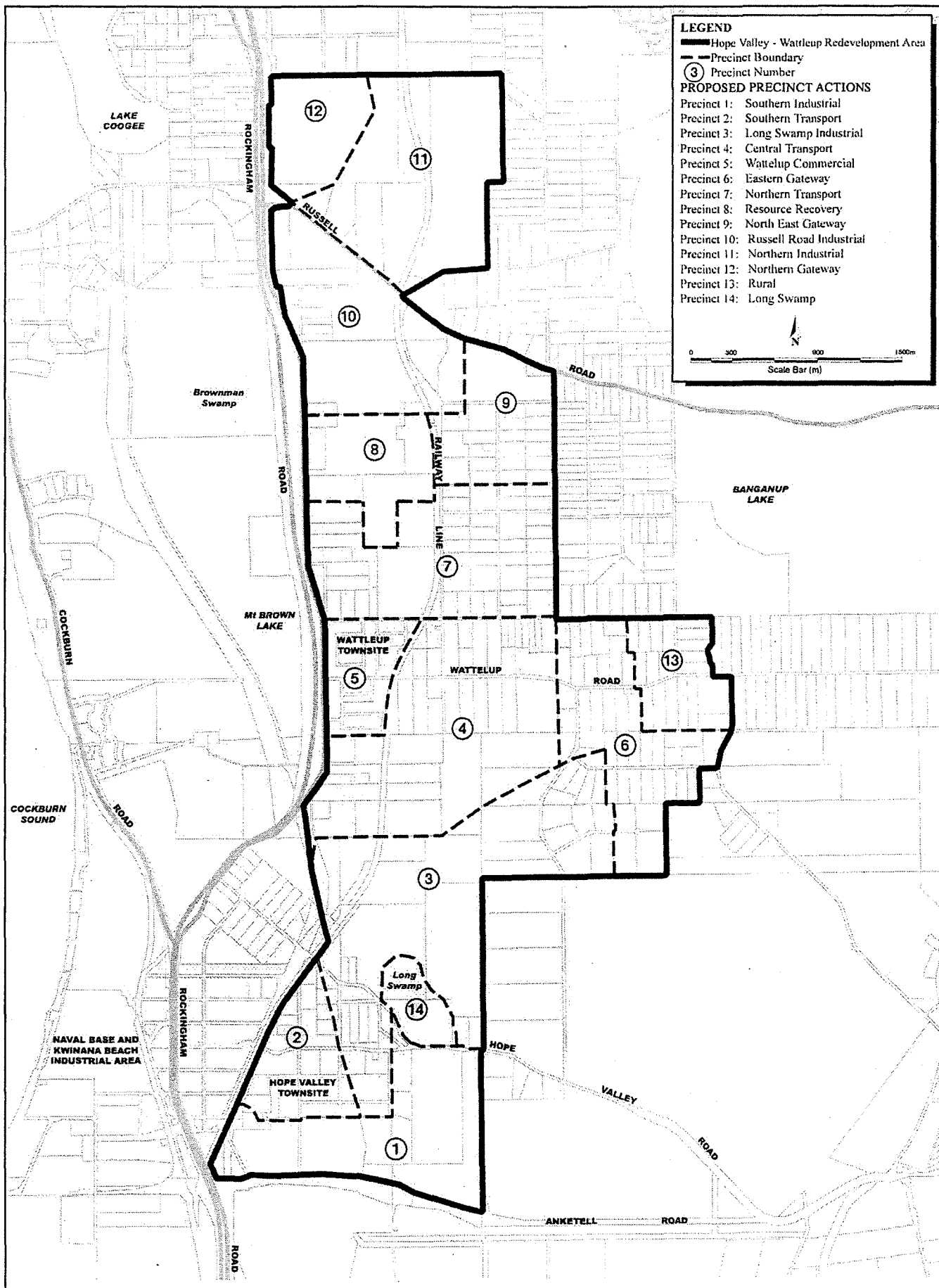


Figure 1: Hope Valley-Wattleup Redevelopment Area and Proposed Precincts

### 3. Relevant environmental factors

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposed scheme and the conditions, if any, to which the scheme should be subject. In addition, the EPA may make recommendations as it sees fit.

The public comment period for the Master Plan and the Environmental Review resulted in the lodging of submissions from 47 individuals, agencies or organisations.

The identification process for the relevant factors selected for detailed evaluation in this report is summarised in Appendix 3. The reader is referred to Appendix 3 for the evaluation of factors not discussed below. A number of these factors are very relevant to the Master Plan, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation.

It is the EPA's opinion that the environmental factors listed in the table below are relevant to the Master Plan and require evaluation in this report. The factors are grouped into issues.

ISSUE	FACTORS	EPA OBJECTIVES
Protection of the water quality of Cockburn Sound	Groundwater and surface water	To ensure that emissions will not adversely impact on the integrity, ecological functions, and environmental values of Cockburn Sound, and are conducive to the improvement of the water quality of the Sound to meet the objectives of the Environmental Protection (Cockburn Sound) Policy.
Management of emissions and potentially conflicting land uses	Air quality, odour, noise, land, groundwater and surface water	To ensure that emissions do not adversely affect environmental values or the health, welfare and amenity of people and land uses by meeting statutory requirements and acceptable standards.
Protection of natural areas	Wetlands, flora, fauna, bushland, ecological linkages	To maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge.  To maintain the integrity, ecological functions, and environmental values of wetlands and bushland.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors generated from the environmental review document and the submissions received, in conjunction with the characteristics of the Master Plan.

Details on the relevant environmental factors and their assessment are contained in Sections 3.1 - 3.3. In the section on each issue is:

- a description of the potential environmental impacts;
- a summary of the grounds of submission;
- the assessment of the factors. This is where the EPA decides whether or not the Master Plan is likely to enable the environmental objectives set for the factors to be met; and
- a summary of the EPA's opinion.

### **3.1 Protection of the water quality of Cockburn Sound**

#### **Description**

The Hope Valley-Wattleup Redevelopment Area is within the groundwater catchment of Cockburn Sound, Western Australia's most intensively used marine embayment. The Redevelopment Area in relation to Cockburn Sound and the policy area of the Draft *Environmental Protection (Cockburn Sound) Policy* is shown at Figure 2.

The Redevelopment Area is underlain by transmissive Safety Bay Sand and karstic Tamala limestone through which groundwater moves in a generally westerly direction towards Cockburn Sound. The western boundary of the Redevelopment Area is approximately 1.5 to 3 kilometres from Cockburn Sound.

D.A. Lord & Associates (2001) reports that one of the two main environmental concerns for Cockburn Sound is nutrient-related water quality. The key nutrient of concern is nitrogen. In recent years, with the improvement of the management and licensing of industries contributing "point" source pollution, there has been a marked decline in nutrient inputs to the Sound. Lord (2001) reports that diffuse inputs from human activities via groundwater, and sediment nutrient cycling, are considered to be the main factors determining water quality. It is expected that further reduction in nitrogen inputs from diffuse human activities will be important in reducing localised effects on water quality. However, there appears to be little information on the contribution of diffuse land use sources in various parts of the catchment. Sources of diffuse pollution include stormwater drainage in industrial, urban and agricultural areas, agricultural land use, and unsewered residential development. Lord (2001) also notes that industrial loads have decreased so much the relative contribution of rural groundwater is starting to become significant.

A range of land uses in the Redevelopment Area currently involve the direct application of nutrients and other contaminants to the ground and are likely to be affecting groundwater quality. Potentially contaminating activities currently in the Redevelopment Area include industry in the northern portion of the site, landfill, flyash disposal, the townsite uses through nutrient contributions from on-site effluent disposal systems, garden fertilisers and pets, and a range of agricultural uses including

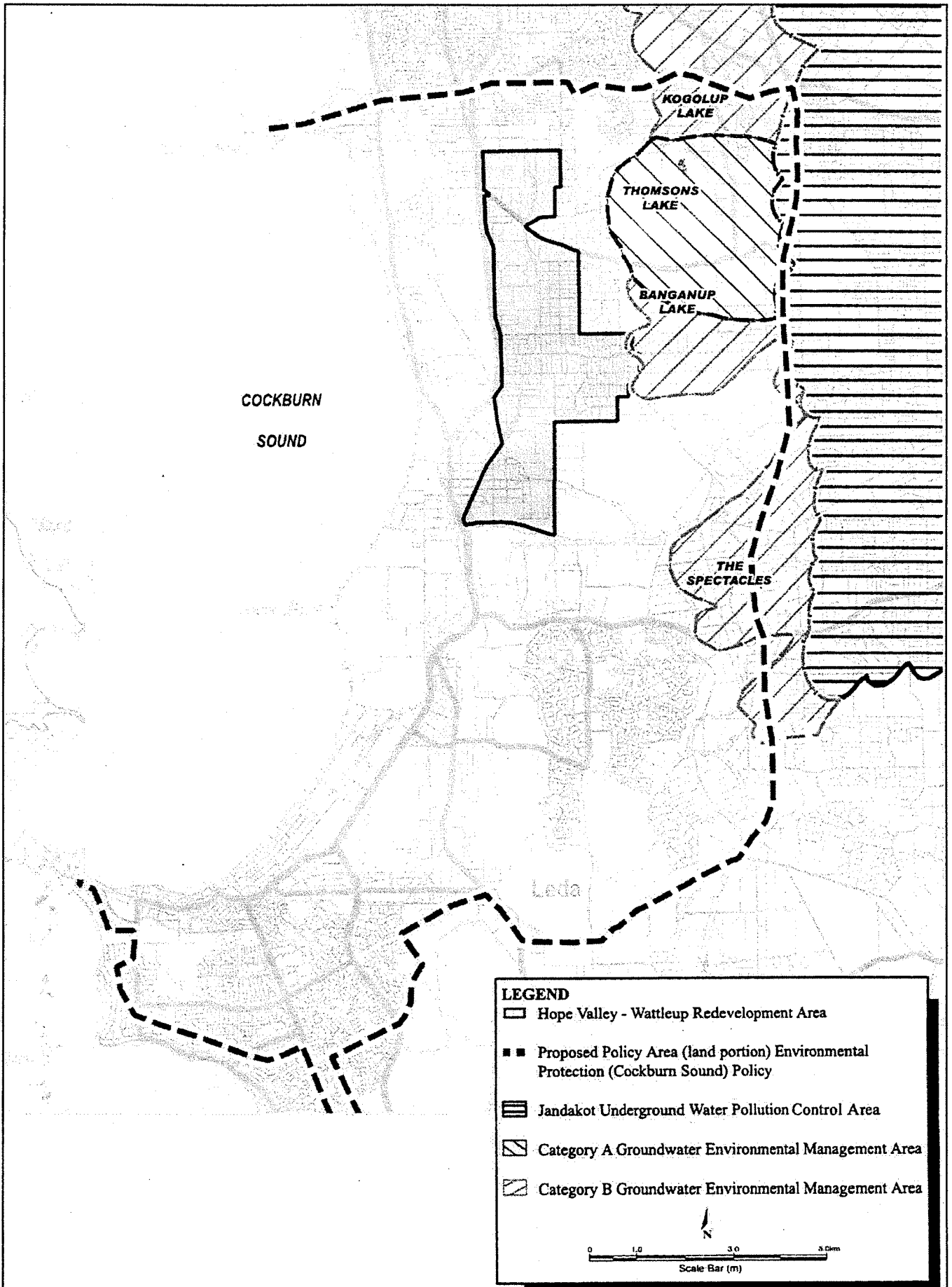


market gardens, turf farms, nurseries and a poultry farm. Land use in 2001 is shown in Figure 3.

With the exception of the eastern Precinct 13, the Master Plan aims to eventually replace most of the above uses with new industrial and commercial developments.

The proposed Master Plan provisions that assist in the management of potential soil, groundwater and surface water contamination from new land use and development include the following:

- Land use and development are required to meet specified environmental objectives and development requirements with respect to water resource management and site contamination, as set out in clause 1.7 and Part 7 of the Master Plan (7.1, 7.2, 7.3.1, 7.3.2) including but not limited to the following:  
*“Protect the water quality of Cockburn Sound by ensuring that no inappropriate level of nutrient load or other contaminant leaves the Scheme Area and enters the Sound”* (clause 7.2 (h)).
- The water resource management provisions include connection to sewerage and the need to comply with the Water Management Strategy.
- The draft Water Management Strategy includes the requirements that more detailed assessment is to occur at the precinct planning level, and that each component of development is to prepare a Drainage, Nutrient and Construction Management Plan that addresses the objectives and criteria of the Water Management Strategy.
- Environmental information is to be provided to the Western Australian Planning Commission on each application to include but not be limited to information on the receiving environment, all activities and processes to be carried out, all products, wastes and emissions and their management, dangerous and hazardous goods, site contamination assessment, water management, and any other information required to assess the application in accordance with the environmental provisions of Part 7.
- Use and development is to be consistent with the overarching planning strategy and relevant planning policies and development guidelines. These include a Water Management Planning Policy.



*Figure 2: Proposed Cockburn Sound Environmental Protection Policy Area*

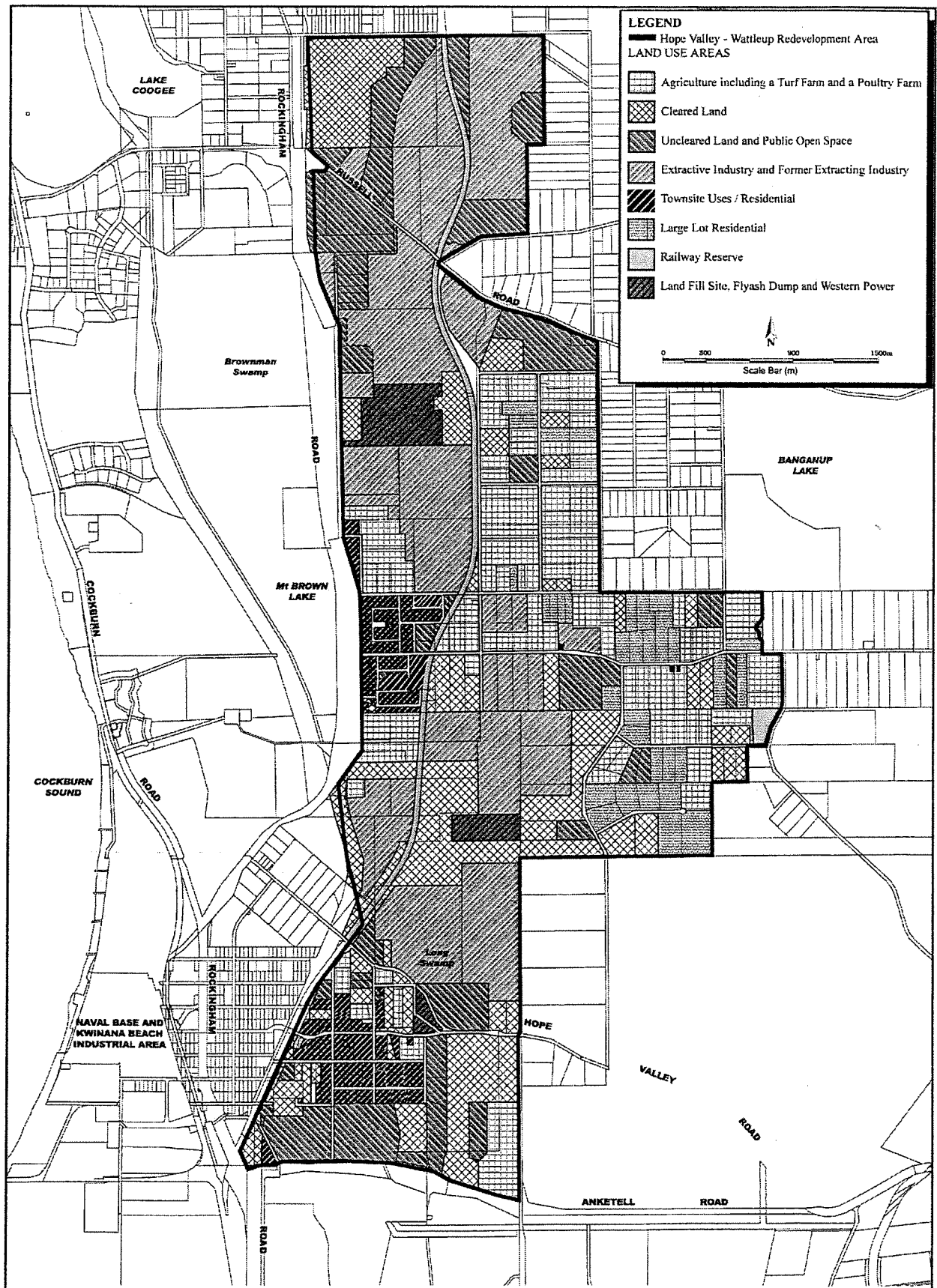


Figure 3: Land Use Plan - 2001 (from WALA)

## Submissions

Grounds raised in submissions relevant to the protection of the water quality of Cockburn Sound include those below and in Section 3.2 (see submissions on water and soil quality).

- The 'Strong Planning Provisions' to combat risk of surface and groundwater contamination need to be defined (Town of Kwinana). The environmental principles and measures that address potential impacts on the Cockburn Sound catchment should be identified (City of Cockburn).
- Important to maintain a consistent high standard of management and control of nutrient and contaminant issues through all levels of the planning process. The Master Plan should ensure that where appropriate, structure plans, strategy and policy should be done in consultation with Local Governments and the Department of Environment (Cockburn Sound Management Council (CSMC)).
- Management of existing nutrients and contamination, and construction or future use on such sites will require further consideration in consultation with the relevant agencies (CSMC).
- The Master Plan and Water Management Strategy should require applicants to provide environmental information demonstrating how they are addressing nutrient and contamination issues and their commitment to minimising additional nutrient and contamination risk or loading, to achieve the objective of ensuring improved environmental outcomes for Cockburn Sound (CSMC).
- The proposed water quality management objectives in all relevant documents should relate more closely to the Interim Environmental Management Plan for Cockburn Sound 2002 (CSMC).
- To assist in natural nutrient attenuation, native local vegetation should be maintained or increased, including in wetland areas (CSMC).
- The Redevelopment Area is immediately adjacent to environmentally sensitive sites (Cockburn Sound, wetlands, Jandakot groundwater mound). Pollution from everyday industrial activities and emergency events has a high likelihood of contaminating these sites (individual submission).
- Checks need to be carried out to ensure pollution minimisation features are working (individual submission).
- Groundwater contamination from mining/processing wastes from Alcoa within the development area is of concern (individual submission).
- The statement that the Tamala Limestone and Spearwood sands do not have high nutrient absorption capacity is possibly true with respect to nitrogen, but these sands are extremely retentive for phosphorus (Water Corporation).
- All development should be connected to a comprehensive sewerage system in accordance with the Government Sewerage Policy Perth Metropolitan Area. The Master Plan and other documents should reflect this (Water Corporation).
- On-site disposal of process water should only be considered on a case by case basis if no other options are available and where strict management measures can be proved (City of Cockburn).

- The Master Plan and Water Management Strategy should adopt the Local Planning Policy for the Cockburn Sound Catchment (Town of Kwinana, City of Cockburn, CSMC).
- How will horticulture, turf farming, landfills, extractive industries and septic systems be phased out? (Town of Kwinana).
- Submitters raised concerns about the long term impacts on Cockburn Sound and the areas immediately adjoining the Redevelopment Area. It should be clearly identified how the long term management objectives for Cockburn Sound will be met through implementation of the project (Kwinana Air Buffer Zone Community Group, City of Cockburn, Cockburn Sound Management Council).
- All environmental approvals, including approvals for significant discharges into Cockburn Sound should be assessed by the EPA on a case-by-case basis (Water Corporation).

### **Assessment**

The area considered for assessment of this factor is Cockburn Sound and its catchment.

The EPA's environmental objectives are to ensure that emissions:

- will not adversely impact on the integrity, ecological functions, and environmental values of Cockburn Sound; and
- are conducive to the improvement of the water quality of the Sound to meet the objectives of the Environmental Protection (Cockburn Sound) Policy.

Protection of the environmental values of Cockburn Sound is a focus of the EPA and the State Government. The environmental values largely depend on water quality. The EPA is developing the *Environmental Protection (Cockburn Sound) Policy* for managing the Cockburn Sound environment and, in particular, its water quality. The Government has established the Cockburn Sound Management Council as a coordinating body for the management of Cockburn Sound and the implementation of the Cockburn Sound Environmental Protection Policy.

As outlined above, a range of current land uses in the Redevelopment Area involving direct application of nutrients and other contaminants to the ground are believed to be affecting local groundwater quality and hence over time the water quality of Cockburn Sound. The Master Plan proposes that eventually most of the existing land uses of the Redevelopment Area including the unsewered townsites and agricultural land uses will be replaced by regulated industrial and commercial land use.

Improvements in time of ground water quality flowing from the area to Cockburn Sound are therefore possible and expected, providing that new use and development is carefully managed to meet clear water management objectives through enforceable controls. In the absence of such controls, as historical experience in the Cockburn Sound catchment demonstrates, significant contamination of ground and surface water may occur. Aspects of industrial and commercial development requiring appropriate management include stormwater; liquid and solid wastes and byproducts; storage, transport and handling of materials; and previously contaminated land.

Groundwater quality may potentially be affected by impacts on the water balance from stormwater. However, it is not expected that the water balance will be adversely affected by stormwater in new developments provided that water sensitive design principles are applied (Bill Till, Department of Environment, pers com, March 2004). The Stormwater Management Manual for Western Australia (Department of Environment 2004) will incorporate up to date principles and mechanisms.

The EPA notes that land use planning and approval processes together with a range of other processes can significantly influence outcomes for water regimes. Other processes include licensing, works approvals and other requirements pursuant to the *Environmental Protection Act 1986*; hazardous and dangerous goods legislation; water regulation; stormwater management by government agencies; and Cockburn Sound Management Council, industry and individual initiatives.

The importance of land use planning processes in protecting catchments is recognised in the State Water Quality Management Strategy (Government of Western Australia 2001). The Strategy states: "Groundwater and surface water supply catchment protection is achieved through land use strategies and controls and consideration of water sensitive design through planning approvals".

The EPA therefore expects that water management issues will be duly addressed at each stage of the land use planning process and that planning actions will integrate with other processes that manage water.

The EPA notes that the provisions that address water management in the Master Plan are more comprehensive than have typically been included in planning schemes, and that LandCorp have been proactive in initiating a Water Management Strategy and a Water Management Planning Policy.

However, to meet the EPA's objectives for the protection of the water quality of Cockburn Sound, the EPA recommends that the above initiatives are further developed, as outlined below.

#### ***Water Management Strategy***

The EPA recommends that more detailed guidance is incorporated into the Water Management Strategy to ensure that land use planning and development meet water quality objectives, targets and criteria at the precinct planning and development stages. The document should contain clear requirements to assist its implementation. The recommended wording for an environmental condition to address the further development of the Water Management Strategy is in Appendix 4 (condition 1), and includes the following requirements:

- Further develop the identification of environmental values and water related issues, threatening processes, priorities, water management objectives, the strategies, initiatives and processes applying to water management in the Redevelopment Area, processes to establish water regime targets and criteria; investigation of water reuse and recycling schemes; and processes to ensure integration between land use planning and other water management mechanisms.

- A summary of technical information sources relevant to the hydrology of the Redevelopment Area and land characteristics that may influence water regimes; identification of additional technical information that will assist land use planning processes; and procedures for obtaining this information and incorporating it into planning decision-making at the appropriate time.
- A strategy to manage major flooding.
- An implementation and monitoring program to include a more detailed schedule of actions, timing, and responsibilities for actions. The implementation program shall include the preparation and implementation of precinct water management plans, and individual development water management plans, and include effective contingency provisions in the event that targets or criteria established for water quality and quantity are not met.
- A process to periodically review the Water Management Strategy and the proposed Water Management Planning Policy.

#### ***Water Management Plan***

LandCorp's proposed Water Management Strategy contains a provision that all components of development be in accordance with a plan to manage drainage, construction and nutrients. To assist in achieving its objectives for the protection of water quality, the EPA considers it important that all use and development in the Redevelopment Area is in accordance with a site specific plan to manage water and potential contaminants.

The EPA recommends that the above requirement in the Water Management Strategy is further developed through the setting of a condition that "each use and development within the Redevelopment Area shall be carried out in accordance with a Water Management Plan addressing the management of ground and surface water quality and quantity and potential contaminants to meet the objectives and requirements of the Water Management Strategy" (recommended condition 1-4).

It is expected that all uses and developments including those classified as "P" (permitted) would need to comply with a Water Management Plan that addresses the management of all potential contaminants of water having regard for (but not limited to) any existing contamination; materials stored, produced, transported; wastes and effluent; all processes and maintenance; stormwater; site conditions and hydrology; ground disturbance and potential groundwater disturbance during and after construction; compliance with objectives and criteria; monitoring, and monitoring follow-up actions; contingency plans; and periodic review.

#### ***Master Plan water management objectives***

While the general thrust of the objectives in the Master Plan relating to the protection of Cockburn Sound is acceptable, it is considered that the wording of some provisions should be modified to more closely align with the EPA's objectives for Cockburn Sound that use and development will protect, and where practicable improve, ground and surface water quality and quantity through water-sensitive design and management, to contribute to an overall improvement in the water quality of Cockburn Sound. It is recommended that conditions 4-1 and 4-2 in Appendix 4 are

imposed requiring that clauses 7.2(d) and 7.3.2(b) of the proposed Master Plan are modified.

### ***Precinct 13***

A provisional land use table for Precinct 13, the proposed Rural Precinct, has been made available to the EPA. Intensive agricultural uses are shown as prohibited. However some rural uses that may involve the direct application of nutrients and agricultural chemicals to the ground are proposed "P" (permitted) uses. The recommended condition 1-4 requiring that all use and development within the Redevelopment Area is carried out in accordance with a Water Management Plan, as outlined above, will assist in meeting the EPA's objectives for the protection of the water quality of Cockburn Sound.

### ***The planning strategy and planning policies***

Following finalisation of the environmental conditions, the EPA recommends that the Planning Strategy and Planning Policies supporting the Master Plan are reviewed to ensure that they reflect the conditions (see advice in Section 5.2 and 5.4).

Additional advice relevant to the protection of the water quality of Cockburn Sound is provided in Section 5.

## **Summary**

Having particular regard to:

- (a) the aim of the Master Plan to eventually replace most of the existing land uses of the Redevelopment Area associated with direct application of nutrients and other contaminants to the ground, with regulated industrial and commercial development;
- (b) the ability and purpose of the Master Plan to regulate land use change; and
- (c) the advice of the Cockburn Sound Management Council and the Department of Environment confirming the need for careful management of water and potential contaminants;

it is the EPA's opinion that the Redevelopment Area can be managed to meet the EPA's environmental objective for the protection of the water quality of Cockburn Sound provided that the Master Plan incorporates the environmental conditions recommended in Appendix 4 requiring that the Water Management Strategy is further developed, all use and development complies with a Water Management Plan, and some provisions in the Master Plan are modified. Additional advice is also provided in Section 5.

## **3.2 Management of emissions and potentially conflicting land uses**

### **Description**

This section addresses general issues associated with the management of emissions and potentially conflicting land uses, with particular reference to the environmental factors air quality, odour, noise, land, groundwater and surface water. As the characteristics of industries that may seek to locate in the Redevelopment Area are not



known, the EPA retains the capacity to assess individual industries associated with significant emissions, as addressed in Section 5.1.

The Redevelopment Area is in the buffer to the Kwinana Industrial Area. The boundary of the buffer adopted for general planning purposes has been the outer boundary of Area B of the policy area of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*. This planning buffer is being reviewed to establish whether contractions or expansion are justified. A final report on the review of the Kwinana air quality buffer is yet to be released. The draft report (WAPC 2000) proposed the deletion of Precinct 13 from the buffer. However, until the review is finalised, the buffer is considered to comprise all of the Redevelopment Area.

A key reason why the Redevelopment Area was identified for the expansion of industry in the Fremantle-Rockingham Industrial Area Regional Strategy (WAPC 2000) was to resolve existing and potential land use conflicts in the buffer between industrial and other land uses, particularly residential development in the townsites of Hope Valley and Wattleup.

However, as the townsites and other areas of the Redevelopment Area convert to industrial and commercial uses there is a potential for new types of conflicts between the new land uses and the existing land uses that include residential, industry, extractive industry, agriculture and waste disposal.

Emissions from future and existing development with the potential to affect other land uses or the environment include, but are not limited to, emissions to air, water and land, noise, light and odour. Emissions of the following types are of concern:

- emissions from new land uses that have the potential to impact on the health, welfare and amenity of occupants who remain. While this may be a transitional issue, there appears to be a potential for some existing uses to continue for a long time;
- emissions from new land uses that have the potential to impact on the environment generally and conservation areas;
- emissions from existing industries inside and outside the Redevelopment Area (eg extractive industries, Kwinana Industrial Area industries and Cockburn Cement) that have the potential to impact on new uses;
- emissions from new land uses that have the potential to impact outside the Redevelopment Area on the community or the environment; and
- emissions from new land uses that may adversely affect other new land uses that have particular amenity or environmental quality requirements.

The factors air, soil, water and noise are discussed below. Other factors may also apply eg off-site risk of a fatality from an accident. On the basis that risk is currently being addressed through a range of statutory processes including land use planning processes (provisions addressing risk are in the proposed Master Plan (Part 7.3.6)), and the EPA is no longer the lead agency on assessing individual risk issues, this factor is not assessed in the EPA's report. The EPA expects that the advice of agencies that deal with aspects of risk eg the Department of Industry and Resources, will be duly considered during the finalisation of the Master Plan.

### ***Air***

The site is within the policy area of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (Kwinana EPP). It is mostly within Area B (buffer), with the northern part of the Redevelopment Area in Area A (industrial). It has been the EPA's position that sensitive land uses are generally not appropriate in Areas A and B of the policy area of the Kwinana EPP.

The future form of the Kwinana EPP is likely to be influenced by the application of the National Environment Protection Measure for Air Quality (Air NEPM) which Western Australia has committed to implement.

The Environmental Review document notes: "In general, based on existing information, there does not appear to be any evidence that levels of air contaminants addressed by the Air NEPM exceed the NEPM standards outside the Kwinana EPP industrial area." However, the Environmental Review also notes that the comprehensiveness of the existing information has been questioned, and that further studies are underway. "These studies may indicate requirements for reductions in emissions from existing industries and/or identify new issues required to be addressed in future development proposals" (WALA 2003a).

In addition to emissions from existing and future developments, transportation and transport planning will influence air quality.

### ***Soil and water***

Cumulatively, or in some cases individually, a number of existing land uses in the Redevelopment Area have the potential to affect, or are affecting, soil, groundwater and surface water quality. These uses include animal-based industries, municipal waste landfill, horticultural land use including market gardens and turf farms, unsewered residential areas, fuel outlets, electricity generation solid waste (fly-ash) disposal, pipelines (oil, fly-ash, shell sand), and the cement works.

Before development or a change in use, some sites will warrant investigation of soil and groundwater contamination, appropriate remediation in accordance with an approved management plan, and validation of remediation. Contaminated sites will be subject to the provisions of the *Contaminated Sites Act 2003* when that Act is proclaimed.

The area is proposed for use by industrial and commercial developments with rural use in the eastern precinct. Many new developments will have the potential to contaminate the soil, surface water and groundwater. Issues of concern include direct, indirect and cumulative impacts on ecologically sensitive environments such as wetlands, bushland and conservation areas, the export of nutrients via groundwater to Cockburn Sound, and maintaining land and water quality generally.

While some impacts are managed through Part V of the *Environmental Protection Act 1986* and other legislation, non-planning legislation does not comprehensively cover all new land use and development as can planning controls.

### ***Noise and vibration***

Special provisions in Schedule 3 clause 2(4) of the *Environmental Protection (Noise) Regulations 1997* apply to the portion of the Redevelopment Area within Area B of the Policy Area of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (ie most of the Redevelopment Area). These provisions allow higher noise levels to be received at noise sensitive premises in Area B than the Regulations normally allow. The special provisions were introduced in recognition of the status of the Kwinana Industrial Area as the State's main heavy industrial area and will continue to apply to Area B upon gazettal of the Master Plan.

The Noise Regulations ensure that noise sensitive, commercial, industrial and utility premises in and outside the new industrial areas will have some protection from excessive noise. However, Schedule 3 clause 2(4) means that the noise levels that can be received at noise sensitive premises within most of the Redevelopment Area before a contravention of the Regulations occurs will be higher than would be the case in other industrial zones in Perth.

Noise issues that may arise and require resolution include concerns from residents remaining in the Redevelopment Area who may find noise from neighbouring industry of concern and, conversely, industry may find it constraining to operate in an industrial area where houses remain. It is noted, however, that amendments to the Noise Regulations to allow the setting of special noise levels in specific situations, eg interim noise levels for areas undergoing land use change, are under consideration.

Noise impacts that may be associated with the proposed redevelopment include impacts from construction, ongoing operational noise from new developments, and road and rail transport noise, dependent on port and freight network planning in the region. Traffic noise is not managed through the Noise Regulations.

### ***Proposed Master Plan provisions***

The proposed Master Plan provisions include:

- Provisions setting out the overall aims and objectives of the Master Plan in clause 1.7 including minimisation of sources of pollution.
- Provisions in Part 7 "Environment" comprising the environmental intent, objectives, development requirements and environmental information required to accompany an application, as well as clauses 10.2 (accompanying material) and 11.2 (matters to be considered by the Commission). Environmental development requirements are under the headings site contamination, water resource management, wetlands, air quality, noise, and land use compatibility and risk. In determining applications the Western Australian Planning Commission is required to take into account the statement of environmental intent (clause 7.1) as follows:

*"It is intended that land in the Redevelopment Area be developed in accordance with best known environmental practice, as follows.*

- (a) *The nature of industrial development is to be conducive to surrounding land uses outside the Redevelopment Area;*
- (b) *The Redevelopment Area is to comprise a transitional buffer between the residential areas to the north and east and the heavy industry within the KIA;*

- (c) *The use or development of land is not to have individual or cumulative adverse environmental or social impacts on:*
- *residential areas outside the Redevelopment Area;*
  - *other land uses and amenities within or outside the Redevelopment Area;*
  - *Conservation Category Wetlands or any sensitive environments within or outside of the Redevelopment Area;*
  - *Cockburn Sound;*
  - *soil, groundwater and surface water;*
  - *air quality; and*
  - *future land uses within and surrounding the Redevelopment Area.”*
- Provisions requiring development to be generally consistent with the Planning Strategy and to take into account applicable Planning Policies and Design Guidelines, including a Water Management Planning Policy and an Energy Conservation Planning Policy.

## **Submissions**

Grounds of submission relevant to emissions and potentially conflicting land uses include the following.

### ***Potential land use conflicts***

- Location of further industry close to residential areas will mean more exposure to industrial pollution from both everyday and emergency activities, which will result in negative social and health outcomes. Location of general industry in Precinct 14 may attract complaints from neighbouring uses (i.e. housing and market gardens) and should be addressed (Department of Environment, individual submission).
- It is inappropriate for land use areas and/or precincts to be determined prior to a scientifically complete Environmental Buffer review. The review should not include land uses that will not be there indefinitely (KABZ community group).
- It is essential that the Buffer Review and the Master Plan are based on accurate constraints information. Concern that a scientific review of the Kwinana Air Quality Buffer is being overridden by a desire to protect the Kwinana Industrial Area (KIA) ahead of residents, and to provide industrial land. KABZ supports contraction of the KIA Buffer where scientifically evaluated modelling and no health issues. Precinct 13 should be left to develop according to normal planning (KABZ community group).
- Some land owners may operate a de-facto quarry for a number of years under the guise of 'levelling' their site for industrial development. Neighbours who are continuing to live in their rural settings should not be expected to tolerate this. Also other activities are likely to affect rural living (individual submission).
- A transitional buffer should extend the length of the periphery of the redevelopment area to integrate existing and proposed development. Non-industrial land uses to be located on the periphery (Town of Kwinana).

- Concerned if the land that is currently zoned semi-rural immediately east of the Redevelopment Area was rezoned to allow more intensive residential development as the increase in residents would raise the potential for land use conflicts (Chamber of Commerce and Industry (CCI)).
- Absolute minimum buffer distances need to be specified, together with a range of larger values that might be more appropriate, enforcement procedures to ensure that the buffers distance are adhered to, and buffer review procedures (individual submission).
- Buffer distances around extractive industries must not be too large. CCI recommends a maximum buffer distance of 200m is imposed around the identified extractive industry sites within the Master Plan area (CCI).
- Reconciliation of the Cockburn Cement operations with redevelopment requires a buffer area involving resolution of the extent of the buffer and the uses to which the buffer area can be put, following a buffer definition study. The Master Plan should make it clear that when considering proposed development regard must be had to potential land use conflicts and compatibility with surrounding land use. Any dust particulate and noise sensitive uses should be prohibited. The following use classes should be prohibited: Crèches; Trade display (if includes outdoor trade display); Industry - Service; and Educational establishment – Tertiary (industry submission).
- Retail and recreational facilities are not appropriate for this heavy industry buffer. Educational facilities, recreation centres and sports grounds are also not suited. Low key, passive recreation may be acceptable. Non-industrial land uses that attract many people should be discouraged (Department of Industry and Resources (DOIR)).
- The development of Precincts 5, 6, 7, 9, 12 and 13 as a transition buffer zone is supported. The industrial focus of the HVWRA should be retained. Commercial, light industrial, and other non-industrial uses in the HVWRA should be subsidiary uses (Kwinana Industries Council).
- Residential Building, Home occupation and Crèche should not be permitted in any precinct (Kwinana Industries Council).
- Commercial/Service Centre for Precinct 5 is inappropriate because it is only 2 km from Alcoa alumina refinery and the Kwinana Power Station (individual submission).
- Object strongly to the classification of Precinct 1 as an area where extractive industries are not permitted (individual submission).

***Water (also see Section 3.1 submissions)***

- The proponent should prepare a Water Management Strategy in close liaison with the Department of Environment (DOE).
- The Water Management Strategy and Planning Policy 1.8 should address the objectives of the State Water Strategy and how it is proposed compliance will occur (Water Corporation (WC)).
- The Water Management Strategy should demonstrate further commitment and description of the types of monitoring, auditing and management responses to monitoring. Such monitoring should form part of broader reporting to ensure management objectives and targets are being met. Where those objectives are not

being made, adequate management responses need to be in place (Cockburn Sound Management Council (CSMC)).

- The Water Management Strategy and Environmental Review should place appropriate emphasis on managing stormwater due to significant areas of the catchment being impervious, resulting in increased collection of rainfall. This should be explored in further detail during subsequent structure plans and development planning to ensure adequate management of nutrients and other contaminants (CSMC, individual submission).
- The Water Management Strategy should include a stormwater management plan formulated and implemented to the satisfaction of the DOE and consistent with water sensitive urban design best management practices and Water Quality Protection Note: Stormwater Management at Industrial Sites (CSMC, DOE).
- The approach to the consideration of water resources is supported, in particular the cascading of provisions related to the protection and enhancement of water (including drainage) via the land use planning process from precinct structure plans to development and subdivision applications (WC).
- Mechanisms are required in the Master Plan and Water Management Strategy to ensure proper maintenance and operation of stormwater control measures. These should be supported by educational programs, inspection programs, periodic audits, databases and appropriate enforcement action (WC).
- The HVWRA needs to focus significant effort post construction to ensure water objectives (particularly drainage) are achieved (WC).
- The use of treated wastewater should be promoted (WC).
- The Water Management Strategy needs to specify the capacity of systems that capture and manage on-site surface runoff. On-site disposal of industrial process water is of concern. (City of Cockburn).
- There needs to be continual monitoring of surface water, stormwater, wastewater and groundwater by a reasonably funded responsible agency. This should be preceded by baseline monitoring (individual submission).

#### *Air quality*

- The issue of how the likely impacts of cumulative emissions on air quality will be managed should be clarified. Assurance is sought that existing operations and licensed air emission levels are recognised, and that future development will be managed so as to not impact on existing operations (Kwinana Industries Council).
- Little to none of the Kwinana EPP allowable emissions should be allocated to the Master Plan area to ensure the ongoing viability and optimisation of the existing KIA for heavy industry, and ensure that industrialisation within the buffer does not lead to further expansion of the buffer (Town of Kwinana, individual submission).
- Concerned that Section 7.3.4 (e) of the Proposed Master Plan will prohibit developments that causes 'atmospheric pollution'. Industries that generate emissions, whether atmospheric or otherwise should be permitted to develop, provided they meet their licensed conditions and all other relevant regulations (CCI).
- DOIR agrees that an understanding of atmospheric emissions are key to the planning of the redevelopment.

- Industries which generate airborne emissions and high risk profiles should not be allowed in the area. Industry within Precincts 10, 11 and 12 need to be restricted to industries with very low risk for atmospheric pollution (Town of Kwinana, individual submission).
- Concerned with the practicality of monitoring and reporting greenhouse emissions (individual submission).
- Emissions need to be independently monitored and enforced by fines (individual submission).
- With the DOE's Gap Emissions study and the Air Toxic study still incomplete it is unlikely atmospheric emissions are fully understood (DOIR, individual submission).
- EPP standard for Area B is 700 micrograms per cubic metre, not 500 as stated in the Master Plan (individual submission).
- The air quality section of the Master Plan will be very difficult to implement and monitor (City of Cockburn).

#### ***Soil quality***

- Procedures for identifying contamination and remedial action need to be specified. Further information is required on how horticulture, turf farming, landfills, extractive industries and septic systems will be phased out and which agency will be responsible for getting landowners to remediate their sites when these land uses disappear. Safeguards need to be put in place to ensure that industrial sites are cleaned up when businesses close. (DOIR, Town of Kwinana, individual submission).
- Preliminary investigations show some areas within the HVWRP boundary pose a high and medium risk for acid sulfate soils. Proposals that may disturb acid sulfate soils should be planned and managed to avoid adverse effects on the natural and built environment, including human health and activities (DOE).
- The site contamination requirements are significant and could place limits on development (City of Cockburn).

#### ***Pollution other***

- Industries are encouraged to adopt the Cleaner Production Program initiated by Curtin University and supported by the DOE (DOE).
- The Master Plan sets out an aim of maintaining or improving the quality of air, water and noise. But is it actually achievable or empty rhetoric? (individual submission).
- There is already groundwater contamination, dust from quarries and smell (individual submission).
- Attention needs to be paid to the release of life forms (accidental or deliberate) by biotech industries that could be potentially devastating to human health and the environment, and also to the release of accidentally imported insects, fungi and seeds that will undoubtedly occur in a transport hub (individual submission).
- Procedures need to be in place to address cumulative effects (individual submission).

- Better protection of the environment would result from addressing the cumulative impacts of the overall rezoning of the land within the study area sooner rather than later in the planning process (DOE).
- The Kwinana Industries Council supports the environmental objectives of the Master Plan but there are existing industrial uses in the HVWRA which may not be able to comply with all the provisions in Part of 7 of the Master Plan. These existing uses should be permitted to continue operations provided that they continue to comply with all operational licensing and development approval controls (Kwinana Industries Council).

Also see other submissions in Appendix 3.

### **Assessment**

The area considered for the assessment of the management of emissions from new land use and development and potentially conflicting land uses is the Policy Area of the *Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1999* (Areas A, B and C).

The EPA's environmental objective for this issue is to ensure that emissions do not adversely affect environmental values or the health, welfare and amenity of people and land uses by meeting statutory requirements and acceptable standards.

The EPA notes that:

- The use of the Redevelopment Area generally for industrial purposes has previously been considered through strategic planning for the region. The EPA in providing advice on the Fremantle-Rockingham Industrial Area Regional Strategy (EPA 1999) advised that option 4 (which, with the exception of Precinct 13, is generally being pursued in relation to the Redevelopment Area) would provide an adequate buffer between the existing/proposed heavy industrial area and surrounding sensitive landuses provided that additional planning controls are implemented to manage the remaining rural/residential areas within the buffer, and industry is carefully managed to avoid cumulative impacts.
- The proposed Master Plan provisions are comprehensive and contain categorical statements that use and development must prevent unacceptable adverse environment impacts, protect sensitive environments and areas of environmental significance, and ensure emissions are kept within acceptable limits, in relation to both the Redevelopment Area and land beyond the Redevelopment Area.
- In addition to planning controls, a range of legislation applies to use and development to manage emissions, including but not limited to licensing, works approval and other requirements of the *Environmental Protection Act 1986*, regulations pursuant to the *Environmental Protection Act 1986* including the Noise Regulations, *Explosives and Dangerous Goods Act 1961* and *Dangerous Goods (Transport) Act 1998*.
- A range of environmental criteria exists, or is being developed, that will assist or complement land use planning, including criteria for contamination, air quality criteria under the Kwinana EPP or the proposed Air EPP, noise criteria,



water criteria to be developed through the Water Management Strategy and Cockburn Sound catchment management work.

- Updates to the State industrial buffer policy (a Statement of Planning Policy) and the EPA guidance on industrial-residential buffer guidelines are well advanced, and will provide useful guidance for planning when finalised. Also, the preparation of a Statement of Planning Policy for the Kwinana Industrial Area and environs has been commenced to provide guidance for planning controls that will protect the Kwinana Industrial Area.
- The noise provisions of the Master Plan will be helpful in ensuring the desired level of noise amenity in each precinct is maintained. Maintenance of noise amenity in the Redevelopment Area is likely to be mainly dependent on the application of the Master Plan provisions and the Noise Regulations. Ultimately, amendments to the Noise Regulations may also assist by enabling the setting of special noise levels to apply to specific areas eg interim noise criteria for areas going through land use change. It is recommended that land use planning processes regularly evaluate noise and noise management measures as development progresses. In addition to construction and operational noise, the management of noise and vibration from road, rail and freight transportation are likely to warrant investigation at appropriate times.
- The EPA supports the requirement in the proposed Master Plan provision 7.3.4 (b) that use and development is required to implement the concepts of “best practice” emissions minimisation as described in EPA Guidance No. 55.
- The EPA notes that studies on air emission issues are underway, and that on-going monitoring will continue to provide information. As the Master Plan proposes a large industrial area in proximity to the Kwinana Industrial Area, it is essential that land use planning keeps abreast of air issues, to ensure appropriate responses where possible through land use planning processes. While a range of regulatory processes manage aspects of air emissions eg environmental and extractive industry licensing, the EPA observes that it is the Master Plan that is likely to shape proponents’ and the community’s overall expectations on the land use and development that may proceed in the area. It is strongly urged that land use planners maintain an awareness of the role and limitations of other air quality management processes to ensure that land use change and development can and will be readily managed. It is noted that if the buffer is to have even a low density of emissions-sensitive premises (and these may include premises where produce is grown), that emissions levels at these premises should meet recognised criteria eg the NEPM criteria and criteria for other air pollutants.
- The EPA’s recommended conditions for the Water Management Strategy (condition 1) and Water Management Plans (condition 1-4) are intended to be sufficiently comprehensive to embrace all aspects of water management and the potential contamination of water resources, for example, management to address pollution risks from industrial development in the catchments of wetlands both in and external to the Redevelopment Area.
- In the response to submissions, the Western Australian Land Authority proposes an annual consolidation review of the Master Plan to consider such matters as cumulative effects, latest policies and current best management practices. This is strongly supported by the EPA.

- The planning concept of transitional use within each industrial area with industries associated with emissions located farther from the boundaries of the industrial area than activities without off-site emissions, is supported. It is expected that this principle will be employed through the precinct planning and development approval phases in the Redevelopment Area.

The environmental provisions that have been developed for the proposed Master Plan are generally more detailed than typically appear in planning schemes for industrial areas to address protection of the environment and the community's health, welfare and amenity. The EPA considers that such detailed provisions are essential for the Redevelopment Area given its particular characteristics and setting, and supports LandCorp's initiative in developing the comprehensive environmental provisions.

The draft land use table for the Rural Precinct includes Dwelling as a "P" use. This precinct is within the Kwinana Industrial Area buffer, although its inclusion in the buffer is subject to review. So as not to compromise the outcomes of the review, it is recommended that there is no increase in residential use above what is currently allowed in the rural part of the buffer. Accordingly a condition is recommended that prohibits more than one dwelling per lot (condition 5).

To assist in achieving the environmental objectives of the Master Plan and the EPA, advice is provided on issues relating to the management of emissions and potentially conflicting land uses in Sections 5.1, 5.2, 5.4, 5.6, 5.7 and 5.9.

## Summary

Having particular regard to the:

- (a) need to ensure compatible land use around the Kwinana heavy industrial area;
- (b) the comprehensive Master Plan provisions addressing emissions and potential land use conflicts; and
- (c) other processes and legislation that will assist in meeting the Master Plan and the EPA's objectives;

it is considered that the EPA's objectives can be met for this issue provided that the Master Plan incorporates the environmental conditions recommended in Attachment 4 requiring the further development and implementation of the Water Management Strategy, all use and development to comply with a Water Management Plan, and prohibition of more than one dwelling per lot in the proposed Rural Precinct, and there is satisfactory implementation and enforcement of the provisions of the Master Plan. To assist in achieving environmental objectives, advice is provided in Section 5.

## 3.3 Protection of natural areas

### Description

The area of native vegetation fragments remaining in the Redevelopment Area is estimated at 235 ha or 16.5 per cent of the total Redevelopment Area (Table 5.2 WALA 2003a as amended). Wetlands in and near the Redevelopment Area are shown in Figure 4, and larger fragments of native vegetation as identified in the Environmental Review are shown in Figure 5.

### ***Environmental impacts***

The Master Plan as released for public comment proposed the reservation of 33.43 ha of remnant vegetation (2.3 per cent of the Redevelopment Area) as Parks and Recreation Reserves. A further 47.56 hectares (3.3 per cent of the Redevelopment Area) was identified as “vegetation subject to further environmental investigation” (Table 5.2 WALA 2003a as amended). The proposed Parks and Recreation Reserves, areas the subject of further environmental investigation and potential greenbelts, as shown in the documents released for public comment, are at Figure 6. The Environmental Review document indicates that the potential greenbelts and conservation areas are to be further investigated during structure planning for each precinct.

The impacts on bushland, fauna and natural areas arising from the Master Plan include the loss of native vegetation; increased edge effects and potential alteration to the surface and groundwater regimes supporting bushland and wetlands; increased fragmentation of bushland and loss of fauna habitat; potential effects on flora and fauna species, ecological communities and wetlands; change to landscape character; and indirect impacts on Regional Parks and Bush Forever sites.

### ***Proposed management through the Master Plan***

The Master Plan provides for the management of natural areas through the identification of Reserves on the Reserves Map, and provisions in the Master Plan. Further guidance is provided in the Planning Strategy and Planning Policies.

The Master Plan proposes the following Parks and Recreation Reserves as shown on Figure 6:

- Long Swamp and adjoining land on the northern side of Hope Valley Road;
- part of Lot 30 Wattleup Road; and
- land in the southern portion of the Redevelopment Area connecting Conway Swamp, Anketell Road and extending to the proposed Fremantle-Rockingham Road Reserve.

The stated aims of the Master Plan include “Conserve areas of local and regional environmental significance” (clause 1.7(3) Master Plan). The stated intent includes “use and development is not to have individual or cumulative adverse environmental or social impacts on ... conservation category wetlands or any sensitive environments within or outside the Redevelopment Area” (clause 7.1(c)). Land in the Redevelopment Area is to be developed and managed to “maintain and or enhance linkages between fauna habitats and vegetation communities – such as remnant vegetation reserves and wetlands – to facilitate connectivity, accessibility and interaction of species” (clause 7.2 (1)).

Special provisions apply to wetlands and require inter alia “land use or development shall be set back from all wetlands according to a buffer which will be proposed by the Responsible Authority at the structure (precinct) planning stage on a case-by-case basis in accordance with surveyed environmental characteristics and values, and proposed buffer treatments, and agreed with the EPA Service Unit prior to adoption and implementation”. (clause 7.3.3(b))

Structure plans generally are required before development occurs in precincts and are to show “conservation and environmental values including remnant vegetation following survey in accordance with EPA Guidance Statements No. 51 and 56 wetlands, damplands, streams and water courses, (foreshore reserves) and any environmental policy areas.” Structure plans are required to address parkland provision and management.

Information that is required to be provided to the Western Australian Planning Commission with applications includes “information on the receiving environment following surveys in accordance with EPA’s Draft Guidance No. 51 and 56 and any significant features or characteristics, in a local and regional context” (clause 7.4.2(a)), “demonstration on how significant environmental areas such as wetlands, habitat corridors, remnant vegetation, reserves and conservation areas are to be protected” (clause 7.4.2 (m)), and “promotion of existing vegetation retention, revegetation, landscape enhancement and visual aesthetics” (clause 7.4.2 (n)), and management plans for the protection of significant environmental factors (clause 7.4.2 (o)).

### ***Flora and vegetation***

The Environmental Review document provides some information on flora, fauna and wetlands but notes detailed studies have not been carried out.

Mapping carried out for the Redevelopment Area showing vegetation complexes and the condition of the larger remnants is shown at Figure 5. The area supports remnants of the Karrakatta Complex – Central and South, and the Cottlesloe Complex – Central and South. The Karrakatta Complex – Central and South is of conservation interest. While it was estimated in the Bush Forever report (Government of Western Australia 2000) that approximately 18% of the complex remained, the proposed reservation of the Karrakatta Complex – Central and South through Bush Forever is below the 10 % target. The Environmental Review document estimates that the Redevelopment Area contains approximately 46 hectares of this complex.

The proposed Parks and Recreation Reserves include an area of Karrakatta Complex – Central and South. There are reports of recent clearing on this land.

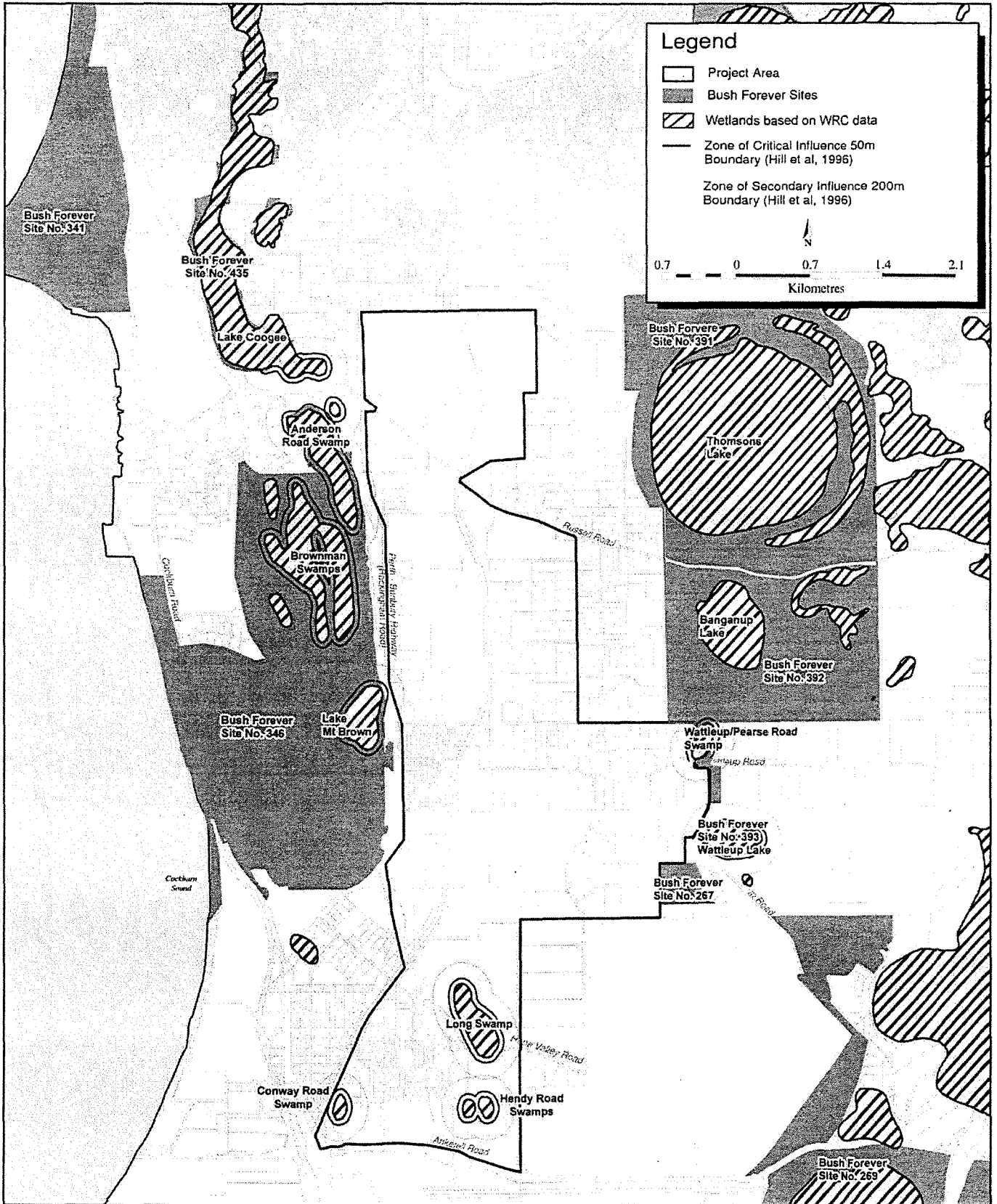


Figure 4: Bush Forever Sites and Wetlands

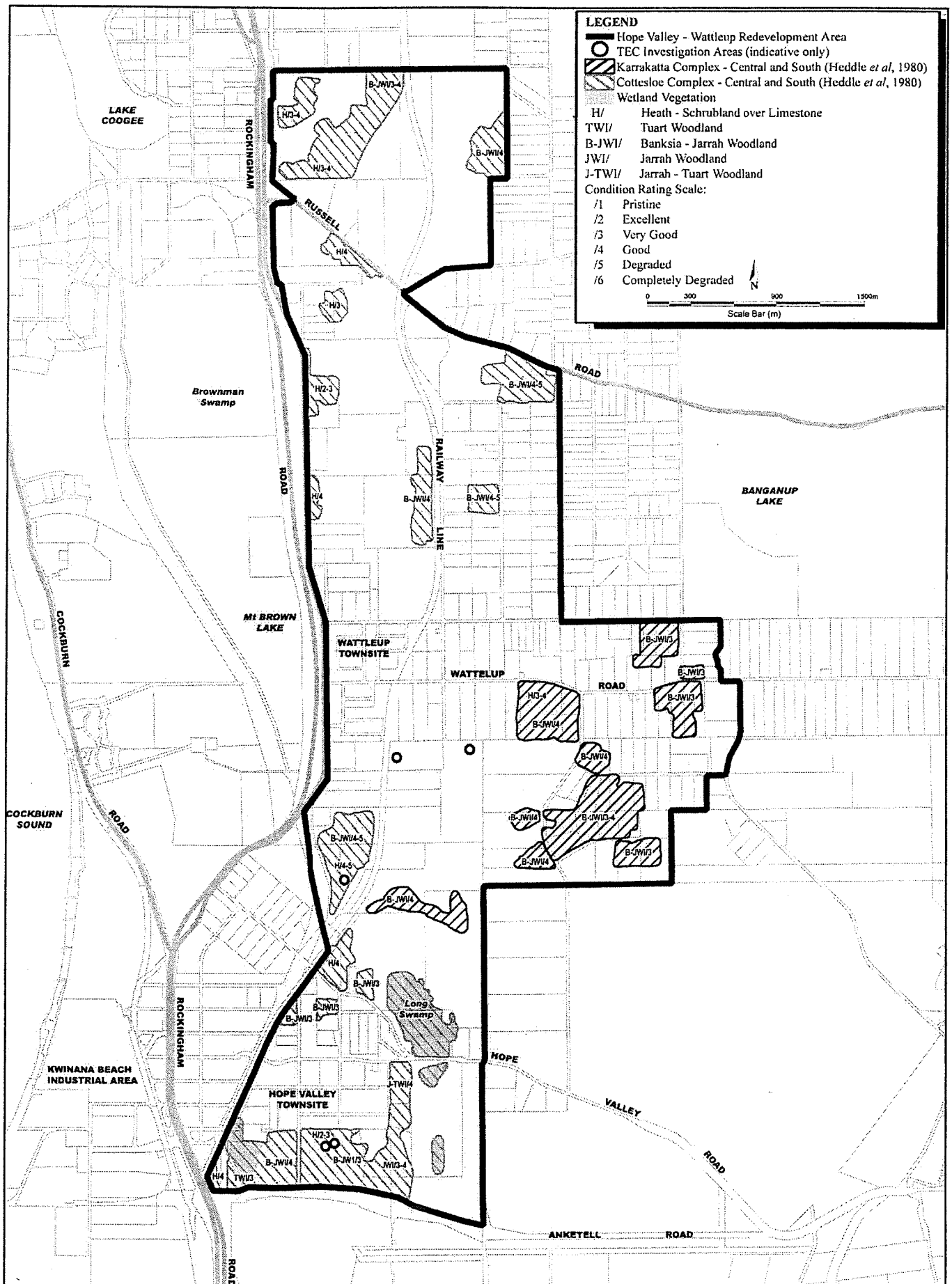
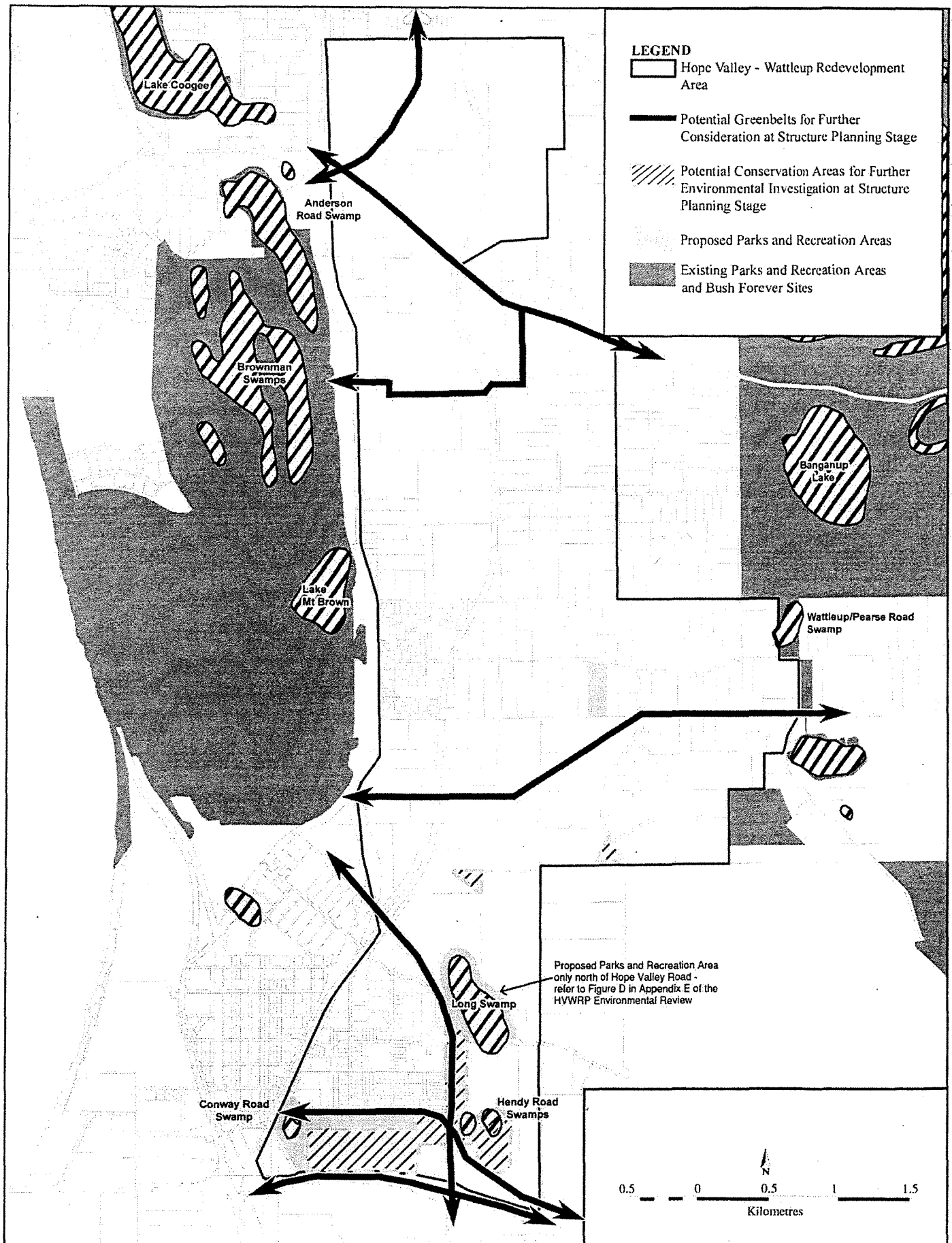


Figure 5: Remnant Bushland and Threatened Ecological Community Investigation Areas (from WALA)



**Figure 6: Proposed and Potential Greenbelts and Conservation Areas Identified by WALA**

The preliminary vegetation assessment carried out for the Redevelopment Area identified a potential for Floristic Community Type 26a (using the classification of Gibson et al (1994)). This has been assigned to threatened ecological community status. A survey was carried out in March 2004 after the public comment period to determine the likelihood of Community Type 26a – *Melaleuca huegelii* – *M. acerosa* (now *M. systema*) Shrublands of Limestone Ridges. The survey found that three of the five sites of *Melaleuca* vegetation found on outcropping limestone shown indicatively on Figure 5 are potentially Community Type 26a, or, alternatively Community Type 24 (Weston 2004). Further work is required to check the conservation significance of these sites.

No detailed studies of the Redevelopment Area for Declared Rare and Priority Flora and other significant flora appear to have been carried out. On the basis of the information available there appears to be a limited potential for some rare, priority and other significant species to occur. The Environmental Review document states that “as the status of rare and priority flora species changes from time to time, and as the project area has not been systematically searched, at subsequent stages of precinct planning updated DCLM database requests and a systematic vegetation and flora survey will be undertaken”.

#### ***Fauna***

The Environmental Review document states that no fauna survey of the Hope Valley –Wattleup Redevelopment Area has been undertaken as part of this study and refers to generic information.

#### ***Wetlands***

The wetlands in and near the Redevelopment Area are shown on Figure 4. The Water and Rivers Commission geomorphic wetland mapping dataset identifies the wetlands of the Redevelopment Area and their management category as follows:

- Long Swamp - conservation;
- Conway Road Swamp – resource enhancement;
- Hendy Road Swamps – resource enhancement and multiple use.

Wetlands that abut or are near the Redevelopment Area and their Water and Rivers Commission dataset management category are as follows:

- Wattleup/Pearce Road Swamp (conservation next to Redevelopment Area) – this wetland is on the boundary of the Redevelopment Area and is within a Bush Forever site;
- Anderson Road Swamp (conservation), Lake Mt Brown (conservation) and Wattleup Lake (resource enhancement) – these wetlands are within 200 metres of the Redevelopment Area and are within Bush Forever sites; and
- Brownman Swamps (conservation) – these are in Bush Forever site 346.

Within the Redevelopment Area, Long Swamp is designated for protection under the *Environmental Protection (Swan Coastal Plain) Lakes Policy 1992*. Lakes adjoining the Redevelopment Area are also subject to the Lakes Environmental Protection Policy.



The Western Australian Land Authority commissioned a review of the boundaries of the wetlands in the southern portion of the Redevelopment Area during the Environmental Review process. However, the Department of Environment has pointed to deficiencies in the methodology used and on the basis of the information supplied has not agreed with the findings appended to the Environmental Review document.

### ***Conservation areas/linkages***

The Redevelopment Area abuts Bush Forever sites 267, 392 and 393 on the eastern side of the Redevelopment Area, and on the western side is separated from Bush Forever site 346 by Rockingham Road. The Redevelopment Area is between the two Beeliar Regional Park wetland chains that include Lake Mt Brown and the Brownman Lakes (Bush Forever site 346) to the west, and Thomsons Lake and Banganup Lake (Bush Forever sites 391 and 392) on the eastern side of the Redevelopment Area. The Redevelopment Area also contains land within 200 metres of the following wetlands within Bush Forever sites: Anderson Road Swamp, Lake Mt Brown, Wattleup/Pearce Road Swamp and Wattleup Lake.

Recent mapping of regional ecological linkages by the Perth Biodiversity Project identifies a linkage between the two Beeliar wetland chains through the Redevelopment Area, and a linkage between the southern end of Bush Forever site 346 and Bush Forever land to the south of Anketell Road.

The Redevelopment Area contains greenways/linkages identified in the strategic plan for Perth's Greenways (Tingay and Associates 1998) and by the Town of Kwinana.

## **Submissions**

A summary of grounds raised is below.

### ***Flora and vegetation***

- The Department of Conservation and Land Management (CALM) recommend a condition requiring appropriately timed and targeted flora and vegetation surveys prior to the project getting to the precinct/structure planning stage. No detailed vegetation and flora survey identifying threatened ecological communities has been undertaken (CALM).
- With only small areas to be reserved or identified for possible conservation, it cannot be claimed that actions documented in the Environmental Strategy for 'vegetation' have been or will be implemented or achieved by the Master Plan (CALM).
- Greater emphasis should be placed on the identification and protection of vegetation especially areas of Karrakatta Complex - Central and South (CALM and City of Cockburn). Disappointing only approximately 4.3ha of Karrakatta Complex - Central and South to be retained as Parks and Recreation. This is shown as an 'Extraction Area'. Early protection may be required (City of Cockburn).
- The Department of Industry and Resources (DOIR) support the general intent of Section 7.1(c) of the Master Plan, but there should be reference to targets on acceptable limits of the impacts, either qualitative where there are no benchmarks or quantitative where benchmarks exist. Guidance should be provided to

proponents on the value of the remnants identified in the Master Plan to ensure adequate protection of the values assigned to them.

- Existing vegetation to be identified and conserved at the structure planning, subdivision and development process (Town of Kwinana).
- There is no reference to the new 'clearing' requirements under the amended *Environmental Protection Act 1986* or CALM requirements for declared rare and priority flora and fauna (individual submission, Water Corporation).
- The identification and protection of remnant vegetation needs to be reassessed to ensure representative areas of heath and jarrah retained (City of Cockburn).

### ***Fauna***

- A fauna study needs to be undertaken (CALM, individual submissions).
- The fauna study should be undertaken to determine the abundance of species residing in the area, together with their habitats so that fauna pathways can be used to review the proposed Greenbelts and ecological linkages (City of Cockburn).
- In addition to quenda, frogs, reptiles and birds need to be considered. Planning cost-neutral strategies at this stage will preserve fauna and prevent expensive retrofitting latter - suggestions are provided (individual submissions).
- Translocation plans for animals such as quenda may be needed, to be developed in conjunction with CALM (CALM).
- Need to consider and plan for feral and nuisance animal control in the early stages of development (individual submission).
- The Water Management Strategy should consider how stormwater management practices will affect wildlife (individual submission).

### ***Wetlands***

- Insufficient detail on environmental impacts on the wetland ecosystems, and the impacts from development occurring outside the 200m zone of influence has been provided. The effect of any development within the prescribed area needs to consider the impact on all the surrounding wetlands, as well as Long Swamp (Department of Environment (DOE), individual submission).
- An assessment of wetlands in the Redevelopment Area should be undertaken to provide a benchmark to ensure that integrity, ecological function and environmental values are maintained following development (City of Cockburn).
- Geomorphology, hydrology and vegetation need to be considered when determining wetland boundaries. The extent of all wetlands and any variation to their boundaries needs to be submitted to the DOE's Wetlands Program for assessment and approval (DOE).
- All wetlands within and outside the Redevelopment area should have a 200 metre buffer unless a variation is approved by the Department of Environment (DOE, Town of Kwinana).
- Resource enhancement wetlands require protection (DOE, Town of Kwinana).
- CALM recommends that appropriate buffers for the wetlands and management strategies to address pollution risks from industrial spills, within and adjacent to the Master Plan area should be developed based on advice from DOE (CALM).

- The intent of the terms enhancement, creation, improvement, rehabilitation and landscaping should be clearly identified. Creation of artificial wetlands is not supported. Vegetated swales are supported. (DOE, Town of Kwinana).
- Drainage should not discharge into wetlands or their buffers. All development should be located outside the wetland buffer (DOE, Water Corporation, Town of Kwinana).
- The Draft Revegetation Management Plan for Long Swamp should be developed as a more comprehensive conservation plan to be approved by the Town of Kwinana and the DOE's Wetlands Program. Prior to any development Wetland Management Plans for all wetlands should be prepared (DOE, Town of Kwinana).
- Decision-making should take into account Long Swamp requires linkages and could become part of Beeliar Regional Park (Town of Kwinana).
- The boundary to Precinct 14 should be located outside the Long Swamp buffer to ensure that management of the wetland and buffer is within one lot (DOE).
- If Long Swamp is to be conserved then it should be properly managed (DOIR).
- Further information required on who is responsible for undertaking and financing wetland rehabilitation and maintenance. Scheme measures and planning measures proposed to protect the wetlands need to be provided for further comment (Town of Kwinana, individual submission).

#### *Conservation areas/linkages*

- The aim of the Master Plan is to conserve areas of local and regional environmental significance. The Environmental Review has not addressed this and cannot without more detailed consideration of biodiversity values (CALM). The assessment of wetlands, remnant vegetation, green belt linkages and fauna studies were not fully addressed in the Environmental Review (KABZ community group, DOE). Further explanation is required on the role of ecological linkages and how this issue will be addressed given the lack of site specific information, including information on fauna habitat (DOIR, DOE).
- Further information is required on the width of vegetation corridors and what existing vegetation should be retained. Limitations of road reserves should be recognised. A review of the proposed greenbelts and ecological linkages needs to be undertaken (City of Cockburn, Town of Kwinana).
- The intention to maintain wetlands and reserves is commended but if practicalities are not determined now, then all these features will fail. Who is going to do what? (individual submission).
- It is strongly recommended that detailed flora and fauna studies are undertaken now so that the developer has certainty as to what land can be developed (DOIR).
- The timeframe for detailed surveys needs to be provided and information incorporated into the Master Plan. Prior to this, the conservation areas and green-links should be kept as extensive as possible. Justification for the recent reductions in conservation areas and linkages required (Town of Kwinana).
- No rationale has been provided for the Parks and Recreation Reserve in Precinct 4. Why is it only part of the lot? No mention is made of how it might link into the habitat corridors (City of Cockburn).

- Creating Lot 30 as Parks & Recreation is not supported and has severe implications for the extraction of limestone. Lot 30 was not selected as part of 'Bush Forever'. Allocation to Parks and Recreation will form an isolated piece of vegetation which does not fulfil the objectives for providing linkages for flora and fauna, creating connectivity, allowing for the interaction of species and providing fauna habitats (individual submission).
- The logic behind the distribution of the 'greenbelts' is not provided and not clear. Why is one between Stock Road/Russell Road and Fanstone Avenue East (City of Cockburn).
- Concerned by the lack of conservation areas, greenbelts and ecological linkages to be provided between areas of high conservation outside the redevelopment area. These areas should be identified at this stage of planning and not left to the Structure Planning Stage to ensure there is a coordinated and comprehensive inclusion of greenbelts through the project area (CALM, City of Cockburn, Town of Kwinana, DOE).
- There is no requirement for Cockburn Cement to retain vegetation on its land under the Cockburn Cement Agreement (City of Cockburn).
- Need to state that remnant vegetation is to be retained, or to be honest and say that practically all of the remnant bushland will be cleared (individual submission).
- The 'Planning Strategy' does not illustrate the retention of remnant vegetation, wetlands or the provision of habitat corridors (City of Cockburn).
- The need for linkages to connect with Long Swamp should be recognised. True consideration should be given to retaining 'upland' vegetation adjacent to wetlands (Town of Kwinana, individual submission).
- The proposed greenbelt at Everett Way should be realigned adjacent to Long Swamp on the southern side of Hope Valley Road (individual submission).
- Linkage with the Alcoa remnant should be considered (Town of Kwinana).
- The notion of creating additional conservation areas and habitat linkages could affect certainty in the approvals process. Purpose of the conservation measures proposed for conservation areas external to the project area is not explained sufficiently and could be interpreted as proposing an additional set of conservation reserves. Section 7.4.2 (m) of the Master Plan should provide greater guidance to ensure the project can be developed in accordance with the intent of the Master Plan (DOIR).
- Management of the many wetlands and potential areas of flora conservation in the Redevelopment Area will be costly and needs to be addressed so that these costs can be factored in to the whole development program (DOIR).
- Concerned over interface between development and adjoining Bush Forever Sites and the Beeliar Regional Park (CALM, Water Corporation).
- The Perth Biodiversity Project should be acknowledged (Town of Kwinana).
- No mention of increasing the numbers or diversity of native flora and fauna. This may be an option in some areas i.e. Long Swamp (individual submission).
- Landscape analysis is lacking (City of Cockburn).

## Assessment

The area considered for assessment of this factor is the Perth metropolitan portion of the Swan Coastal Plain.

The EPA's environmental objectives for flora, fauna, wetlands and natural areas are as follows:

- to maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at the species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge; and
- to maintain the integrity, ecological functions and environmental values of wetlands and bushland.

In view of the important functions of native bushland in maintaining flora, fauna and ecological communities, and healthy groundwater, surface water and land resources, the EPA considers that all further clearing must be very carefully considered, including clearing in designated urban areas. While the EPA's primary focus is the protection of regionally significant bushland, the EPA stresses that additional areas also need to be conserved for the EPA's environmental objectives to be met.

The EPA notes that the Master Plan provides broad objectives for the conservation of areas of local and regional environmental significance, and the Environmental Review and Master Plan Report have identified some greenbelts and potential conservation areas for further investigation during precinct planning in addition to the areas proposed as Parks and Recreation Reserves, as shown at Figure 6. The EPA commends the broad Master Plan objectives relating to the protection of natural areas. However, there are currently significant information gaps that should be addressed prior to the planning of individual precincts, to ensure that the environmental objectives of the Master Plan and the EPA will be met.

Issues of concern to the EPA, including issues raised in submissions, are as follows:

- The site specific biological studies so far carried out that the EPA is aware of, are not sufficiently comprehensive to conclude that the potential greenbelts and conservation areas are optimally located, and that all significant natural areas have been identified. For instance, no site studies of fauna and fauna habitat have been carried out, and further studies are required to address the potential for the threatened ecological community 26a in the Redevelopment Area.
- The purpose and significance of each potential greenbelt and conservation area shown in the Environmental Review document are not sufficiently clear for the purposes of precinct planning.
- In the absence of clear statements in the scheme documentation, there remains a lack of certainty about the level of protection for any natural area other than the proposed Parks and Recreation Reserves.
- The information made available to the EPA does not indicate that the proposed Parks and Recreation Reserves are based on the application of an acceptable detailed methodology for determining conservation areas and their boundaries.
- At this stage, insufficient guidance has been provided to assist subsequent levels of planning eg practical criteria for the width, continuity and location of

greenbelts/ecological linkages, and the mechanisms that will be utilised to acquire, or otherwise protect and manage natural areas.

- Many issues relating to the protection of natural areas are best addressed at the scale of the entire Redevelopment Area, rather than at the individual precinct level especially as most issues cross precinct boundaries. Wetland buffers for example are more appropriately addressed in the context of ecological linkages through the Master Plan area. Failure to address the matters above could lead to poor outcomes inconsistent with the EPA's objectives.

To address these matters, the EPA recommends that a Biodiversity Strategy is prepared to the satisfaction of Western Australian Planning Commission on advice of relevant agencies as a next step in planning for the Redevelopment Area, and before the first precinct structure plan is finalised (condition 2 Appendix 4).

The EPA considers that the Biodiversity Strategy provides a suitable avenue for addressing the following:

- Identification of the location of key ecological linkages, including consideration of the regional linkages identified by the Perth Biodiversity Project. The identification of linkages should have regard for the various roles of linkages eg to maintain linkages of habitat for native fauna generally, for species moving between the two Beeliar wetland chains, and for species of conservation significance.
- Identification of the location of other significant natural areas having regard for protection of the representation of ecological communities, the diversity of species, rare species and ecological communities, and maintaining ecological processes and systems including wetland processes. Prior to the planning of individual precincts, it is appropriate to consider such issues as the overall protection of the under-reserved Karrakatta Complex Central and South, the protection of habitat for significant and targeted fauna species and threatened ecological communities, and wetland buffers. This is an appropriate stage to resolve through adequate site studies and analyses, wetland boundary issues that were raised by the Responsible Authority during the Environmental Review.
- Protection of larger remnants of bushland. As larger remnants have particular values, the EPA recommends the protection of a larger area of open space in the southern portion of the Redevelopment Area than is shown in Figure 21 of the Environmental Review document as "Proposed Parks and Recreation Areas" (Figure 6 of this report), together with linkage to Long Swamp and Hendy Road Swamps, linkage along Anketell Road, and maintaining the potential for a linkage with land south of the Redevelopment Area.
- Further appropriately timed and targeted biophysical studies sufficient to determine ecological linkages and the key areas of open space to be retained, and the provision of clear guidance on further site studies that may be required at the subsequent stages of planning.
- Significant natural areas to be located in sufficient detail to assist precinct planning and the consideration of development applications in the event the Western Australian Planning Commission is prepared to consider applications before precinct planning is finalised.

- The application of appropriate government and good practice principles eg principles for the clearing of vegetation as introduced to the *Environmental Protection Act 1986* in 2003; consideration of the methodology developed by the Western Australian Local Government Association for the preparation of Local Biodiversity Strategies; and EPA Guidances as relevant.
- Identification of processes and policies to ensure biodiversity protection is integrated into the subsequent stages of land use planning and development, including identification of how land identified for biodiversity protection will be secured and managed and a schedule of actions of what will be done, by whom, and when, to ensure the protection and management of areas. The preparation of management plans in accordance with recognised practice for each area identified for protection, is appropriate. Examples of management actions include the preparation of initial baseline descriptions of the characteristics of areas to be protected, monitoring, responses to monitoring data, and revegetation where appropriate.

The EPA urges that the Biodiversity Strategy is a practical document that provides clear direction for the next stages of planning.

The EPA notes that the recommended Biodiversity Strategy presents an opportunity for the linking of the studies and outcomes with related planning processes, including the establishment of the overall open space framework, landscape assessment, and the preparation of guidelines for landscaping, estate presentation, catchment management and the management of open space generally.

A higher level of protection of natural areas should be achieved than is indicated by the proposed Parks and Recreation and investigation areas in Figure 21 of the Environmental Review document, as these only comprise approximately 5.6 per cent of the Redevelopment Area (Table 5.2 WALA 2003a as amended).

The EPA provides additional advice relevant to the protection of natural areas in Section 5.5.

To ensure potentially significant vegetation and natural areas are duly protected prior to the finalisation of the Biodiversity Strategy, the EPA recommends the following interim condition (condition 3 in Appendix 4):

- Proposed subdivision, use or development of land within 200 metres of a conservation or resource enhancement category wetland as determined by the Water and Rivers Commission shall not occur unless:
  - \* the subdivision, use or development is shown to be consistent with the protection of the environmental values of the wetland; and
  - \* the written advice of the Water and Rivers Commission has been received and fully taken into account by the Western Australian Planning Commission.
- No new subdivision boundary, use or development shall impact on a threatened ecological community or on areas of vegetation identified in Figure 5 of this EPA Bulletin as in good or better condition.

## Summary

Having particular regard to:

- (a) the objectives of the Master Plan and supporting documents to protect the environmental values of bushland and wetland;
- (b) the ability of the Master Plan to regulate land use change; and
- (c) the advice of Government agencies and issues raised in the grounds of submission;

it is the EPA's opinion that the implementation of the Hope Valley-Wattleup Master Plan can meet the EPA's environmental objectives for the protection of flora, fauna, bushland, wetlands and ecological linkages provided that the Master Plan incorporates the environmental conditions recommended in Appendix 4 requiring:

- the preparation of a Biodiversity Strategy for the Redevelopment Area as a next step in planning for the Redevelopment Area, and its implementation; and
- prior to finalisation of the Biodiversity Strategy, interim procedures to be in place to prevent subdivision, use or development that may preempt the outcomes of the Biodiversity Strategy.

## 4. Conditions

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the scheme and the conditions, if any, to which the scheme should be subject. In addition, the EPA may make recommendations as it sees fit.

The conditions that the EPA recommends apply to the Hope Valley-Wattleup Redevelopment Project Master Plan are presented in Appendix 4. Matters addressed in the conditions include the following:

- (a) The Water Management Strategy shall be further developed to incorporate specified requirements and approved before the finalisation of any precinct structure plan, and shall be subsequently implemented.
- (b) Each use and development within the Redevelopment Area shall be carried out in accordance with a Water Management Plan addressing the management of ground and surface water quality and quantity and potential contaminants to meet the objectives and requirements of the Water Management Strategy.
- (c) A Biodiversity Strategy for the Redevelopment Area shall be prepared incorporating specified requirements before the finalisation of the first precinct structure plan.
- (d) Prior to the finalisation of the Biodiversity Strategy, interim requirements shall apply to any subdivision, use and development near wetlands, in areas of good or better quality vegetation, or at threatened ecological community sites.
- (e) Specified Master Plan provisions shall be modified to reflect the EPA's objectives for the protection of the water quality of Cockburn Sound.



- (f) The construction of more than one house on a lot in the Rural Precinct shall be prohibited.

## 5. Other Advice

In addition to the recommended environmental conditions (Appendix 4) the EPA provides the following advice on a range of environmental matters related to the Hope Valley-Wattleup Redevelopment Project Master Plan.

### 5.1 Deferred factors

The EPA has deferred consideration of the environment factors at the points below. When insufficient information is available for the EPA to assess a factor, or when a factor does not need to be assessed in detail at the stage of formulation of a scheme, the EPA may defer consideration of the factor to an appropriate stage of planning. If the deferred factor at the appropriate later stage is not fully considered and protected through the design, management and location of a proposed development, then the formal assessment process may be applied by the EPA.

The following are identified as deferred factors for the Hope Valley-Wattleup Redevelopment Project Master Plan:

- **All pollution management factors (eg air, soil, groundwater and surface water quality and noise) in relation to new use and development** – It is expected that most developments associated with emissions can be adequately managed through Part V of the *Environmental Protection Act 1986*, land use planning and other legislative requirements. However, the EPA will retain the ability to assess major or otherwise significant proposals.
- **All factors on land subject to the Cockburn Cement Agreement Act** – The EPA notes that land in the northern part of the Redevelopment Area is subject to the *Cement Works (Cockburn Cement Limited) Agreement Act 1971*. The EPA will retain the ability to apply the environmental impact assessment process to significant development proposals on this land.

### 5.2 The Planning Strategy and the Planning Policies

It is recommended that the Planning Strategy and proposed Planning Policies are amended, as appropriate, to reflect the Statement of conditions issued by the Minister for the Environment, and the advice in the EPA's report, given that:

- the proposed Master Plan is required to conform with the Planning Strategy except to the extent that the Planning Strategy is inconsistent with the Master Plan; and
- the non-binding Planning Policies and Design Guidelines are used to assist the Western Australian Planning Commission in making decisions.

### **5.3 Rowley Road, Fremantle-Rockingham Highway and the Rail Reserve**

A new road and rail alignment under consideration within the Redevelopment Area comprises an extension of the alignment of Rowley Road. This is currently subject to a Planning Control Area which it is proposed will remain upon gazettal of the Master Plan. Matters expected to influence the alignment include port planning and associated strategic road and rail planning.

It is expected that biodiversity protection in the vicinity of the proposed road and rail corridor within the Redevelopment Area will be addressed through the recommended Biodiversity Strategy, conditions 2-1 to 2-2.

The extension of Rowley Road and the railway beyond the Redevelopment Area is outside the scope of the Master Plan and is therefore not part of this environmental assessment. However, the EPA observes that indicative options show impacts on Bush Forever sites and raise significant environmental issues that point to a potential future environmental assessment of the Rowley Road/rail proposal by the EPA. If a transportation corridor within the planning control area and extending beyond the Redevelopment Area is pursued, any formal assessment may have implications for the location of the transportation corridor in the Redevelopment Area.

The existing Fremantle-Rockingham Highway Reserve is in the southern portion of the Redevelopment Area. The justification for this Road Reserve appears to be diminishing taking into account the decision to initiate a Metropolitan Region Scheme amendment to delete the portion of the Reserve to the north west of the Redevelopment Area. From an environmental perspective, the route of the Fremantle-Rockingham Highway Reserve through Bush Forever site 349 to the south is also sub-optimal. Ahead of a review of regional roads and freight routes in the region, it is urged that the potential to utilise some of the Fremantle-Rockingham Highway Reserve within the Redevelopment Area as open space/ecological linkage is fully considered.

### **5.4 Water management**

In addition to the recommended environmental conditions, advice is provided as follows on Part 7.3.2 "Water Resource Management" of the proposed Master Plan:

- consider referring to the latest updates of the *State Water Strategy* (Government of Western Australia 2003), *Stormwater Management Manual for Western Australia* (Department of Environment 2004), the *Interim Environmental Management Plan for Cockburn Sound and its Catchment* (Cockburn Sound Management Council 2002); and the Land Use Planning Policy for the Cockburn Sound Catchment (Cockburn Sound Management Council et al 2004) (latest versions or updates); and
- the relevance of the reference to the State Planning Policy on Public Drinking Water Source is questioned as the Jandakot Underground Water Pollution Control Area does not extend into the Master Plan area.

Similarly, useful guidance that will assist in the formulation of the Water Management Strategy and the Water Management Planning Policy is in the State

Water Quality Management Strategy (Government of Western Australia 2001), the State Water Strategy (Government of Western Australia 2003), *Stormwater Manual for Western Australia* (Department of Environment 2004), Western Australian Planning Commission Planning Bulletin No. 61 *Urban Stormwater Management* (Western Australian Planning Commission 2003), the Draft *Local Planning Policy for the Cockburn Sound Catchment* (Cockburn Sound Management Council et al 2004) and the Department of Environment Water Quality Protection Notes (<http://www.wrc.wa.gov.au/protect/policy/guidelines.htm>).

It is also recommended that consideration is given to including the following in the environmental information to be provided pursuant to Part 7.4 of the Master Plan:

- potential impacts on the water regime and acid sulfate risk areas, from any excavation, filling, drilling, dewatering or draining, and management actions to meet the Master Plan objectives.

## **5.5 Biodiversity protection**

In addition to the recommended environmental conditions, advice is provided as follows on aspects of biodiversity protection.

Depending on the outcomes following the alleged clearing on Lot 30 Wattleup Road, it is recommended that the boundaries of any proposed Parks and Recreation Reserve on Lot 30 are determined after taking into account a biological survey of the site of suitable comprehensiveness and quality, together with management considerations eg retaining a vegetated buffer around the area of core conservation value to absorb edge effects.

It is noted that the total area of the proposed Parks and Recreation and investigation areas is approximately 5.6 per cent. It is recommended that there should be a significantly higher level of protection of natural areas.

As discussed in Section 3.3, the Biodiversity Strategy presents an opportunity for the linking of the studies and outcomes with related planning processes, including the establishment of the overall open space framework, landscape assessment, and the preparation of guidelines for landscaping, estate presentation, catchment management and the management of open space generally.

It is recommended that Planning Policy provisions are prepared to supplement those of the proposed Landscaping Planning Policy to:

- address the above;
- assist in the implementation of the Biodiversity Strategy;
- provide planning guidelines for development in the vicinity of significant natural areas including wetlands, Bush Forever sites and Regional Parks, in consultation with relevant agencies; and
- provide guidance on on-site biodiversity protection.

As development in the Master Plan area has the potential to impact on significant natural areas outside the Master Plan boundary, it is recommended that a process is put in place between agencies to establish baseline conditions in the significant areas

that may potentially be impacted, and to provide information via monitoring that can feed into periodic planning reviews (also see Section 5.9). The intention of this information is to provide the basis for rectification and preventative management measures should impacts occur.

## **5.6 Management of emissions and conflicting land uses**

The following advice is provided on issues relating to emissions, contamination and potentially conflicting land uses.

The following comments are made on “Table 1 – Precinct Land Use”. A number of uses sensitive to industrial and commercial emissions eg noise, air quality and odour, are proposed P (permitted) uses in specified precincts. Uses in this category include Creche, Lunch Bar and Educational Establishment – Tertiary. In order to protect the public and sensitive premises from potential emissions, as well to protect the potential to use the industrial precincts for industrial purposes, consideration should be given to changing these to D, A or X uses.

Having regard for the buffer location of the Redevelopment Area and the nature of industrial emissions, it is urged that, as development proceeds, land use planning is aware of the extent of general public usage of the Redevelopment Area and sensitive land uses, and appropriately controls land uses. The acceptability of some land uses in the proposed Rural Precinct will depend on the outcome of the Kwinana air quality buffer review and related studies.

The definition of general industry appears to include “hazardous” and “heavy” industry. To ensure the objectives of the Master Plan area are not compromised and that there is full scrutiny of the siting of such uses, it is recommended that they are at least subject to approval. If specific reference to these types of industry is not favoured, then it is recommended that the use “general industry” is subject to approval.

As the Master Plan proposes a large industrial area in proximity to the Kwinana heavy industrial area, the EPA considers that it is essential that land use planning remains informed on issues associated with emissions, to ensure appropriate responses through land use planning processes, as land use change proceeds. While a range of regulatory processes manage aspects of emissions, these appear to work best in conjunction with land use planning mechanisms. The EPA observes that the Master Plan is likely to shape the community’s overall expectations on the land use and development that may proceed in the area. During decision-making on individual planning applications, it is strongly urged that planning is aware of the role and limitations of other management processes to ensure that new development and land use change is able to be satisfactorily managed in the Redevelopment Area.

To ensure that the objectives of the Master Plan are not compromised, some environmental planning issues will warrant further investigation at appropriate times, including management of noise and vibration on major freight routes.

It is recommended that the Master Plan text refer to the “latest version or equivalent” of all documents, guidance, policies etc, as these are generally updated from time to time.

## **5.7 Other sustainability issues**

**The Kwinana Sustainability Framework** - The EPA notes that the Government is establishing a sustainability program to assist in managing the future of the Kwinana area. The Kwinana Sustainability Framework will co-ordinate several major government initiatives to improve environmental and health management in the area. Major components include a community participation program, a review of Environmental Protection Act licenses for the Kwinana Industrial Area, improvements to air quality management programs, the Kwinana Environmental Health Forum and a review of the Kwinana buffer.

The EPA recommends that the Hope-Valley Wattleup Redevelopment Project participates as applicable in these initiatives and incorporates outcomes in the planning process.

**Waste Management Strategy** – It is noted that a waste management framework is outlined in the Environmental Review document (WALA 2003a) in Table 4.1. The EPA urges that this strategy is prepared and implemented. One of the objectives should be to assist land use planning processes to consider and manage waste issues where appropriate.

**Greenhouse Gas Emissions** – An approach is outlined at the end of Section 4.1.3 of the Environmental Review document (WALA 2003a) on the development of a strategy to encourage minimising greenhouse gas emissions. The EPA recommends that this is pursued.

## **5.8 Precinct 14**

The proposed boundary of Precinct 14 - Long Swamp is the area proposed to be reserved upon gazettal of the Master Plan for Parks and Recreation purposes. This area is not based on the application of a satisfactory methodology for determining wetland buffers. As the area to be managed for wetland protection and conservation must be further considered through the Biodiversity Strategy, it needs to be recognised that it is highly likely further land will be required for conservation and wetland protection purposes in the vicinity of Long Swamp. Thus, the precinct boundary as currently proposed is unlikely to reflect the eventual Long Swamp conservation area management boundary. It is recommended that the precinct boundary is reconsidered following completion of the Biodiversity Strategy.

## **5.9 Annual review**

The commitment in the Responsible Authority’s response to submissions to a yearly consolidation review of the Master Plan is strongly supported. The review is to ensure that decision-making considers cumulative effects and reflects the latest policies and current best management practices. The EPA considers that the transition from a generally mixed use rural area to industrial and commercial uses, requires

careful management through planning processes and will be assisted by regular review.

## 6. Conclusions

The EPA has considered the Hope Valley-Wattleup Redevelopment Project Master Plan prepared by the Western Australian Land Authority (LandCorp) to provide land use planning and development control for the Hope Valley-Wattleup Redevelopment Area.

### *Protection of the water quality of Cockburn Sound*

The EPA notes that the site is in the groundwater catchment of Cockburn Sound where a significant issue is inputs of nitrogen and other contaminants via groundwater from land uses in the catchment. For most of the Redevelopment Area, the Master Plan proposes a change in land use to phase out the unsewered townsites and rural land uses, some of which are associated with the direct application of nutrients to the land. The EPA considers that the proposed land use changes to regulated industrial and commercial developments should facilitate an improvement over time in the quality of groundwater exported from the Redevelopment Area. While the proposed Master Plan sets out objectives and requirements that include the protection of Cockburn Sound and water management, the EPA considers that these need to be further developed to ensure that the EPA's environmental objectives for Cockburn Sound are met. The EPA has therefore recommended conditions requiring the further development of the Water Management Strategy referred to in the Master Plan; each use and development within the Master Plan area to be subject to a Water Management Plan; and modification to specified Master Plan provisions.

### *Management of emissions and potentially conflicting land uses*

The Redevelopment Area is in the buffer to the Kwinana Industrial Area, Western Australia's main heavy industrial area. While changing the land use of the Redevelopment Area to mainly industrial will assist in resolving some land use conflicts, new land use compatibility issues arise. New development will need careful management to protect the land uses that remain, to avoid unacceptable external impacts, to protect natural areas, and to protect the amenity of new industrial and commercial uses.

Emissions that may affect the environment and the community include but are not limited to emissions to air, water and land, noise, odour and light. The EPA considers that the comprehensive Master Plan provisions addressing emissions, contamination, water resource management and land use compatibility, in combination with a range of other regulatory processes, will enable the EPA's objectives for the management of emissions and potentially conflicting land uses to be met, provided that the recommended conditions on water management are imposed, and there is satisfactory implementation and enforcement of the provisions of the Master Plan.

After the public review period, the Western Australian Land Authority advised that it proposes that Precinct 13 will remain rural. This precinct is within the Kwinana Industrial Area buffer, although its inclusion in the buffer is subject to review. The EPA considers that sensitive uses or uses that attract large numbers of people are

generally inappropriate in the buffer. So as not to compromise the outcomes of the Kwinana air quality buffer review, it is recommended that there is no increase in rural residences in this precinct above what is currently allowed. Accordingly, a condition is recommended that prohibits more than one dwelling per lot in the proposed Rural Precinct. However, if the buffer is to have even a low density of emissions-sensitive premises, emissions levels at these premises should meet recognised criteria eg in the case of air emissions, the National Environment Protection Measure (NEPM) criteria and criteria for other air pollutants.

As the proposed Master Plan proposes a large industrial area in proximity to the Kwinana Industrial Area with some emissions-sensitive premises remaining, the EPA considers that it is essential that land use planners remain informed on, and consider, issues associated with emissions, to ensure appropriate responses through land use planning processes.

#### *Protection of natural areas*

The EPA notes that native vegetation remains on approximately 16.5 per cent of the Redevelopment Area. Key environmental issues include the protection of wetlands and their buffers, ecological linkages, and the under-reserved vegetation complex Karrakatta Complex - Central and South. Detailed biological surveys have not been completed, and are needed to address the potential for the threatened ecological community 26a; the potential for rare, threatened and other significant flora and fauna; as well as to provide key information on fauna, fauna habitat, flora, vegetation and related biophysical attributes to assist in the identification of the natural areas to be protected. The EPA considers its objectives for the protection of natural areas can be met provided that a comprehensive Biodiversity Strategy is completed as the next step in planning for the Redevelopment Area, and subsequently implemented. To ensure due protection of natural areas before the Biodiversity Strategy is finalised, the EPA recommends a condition setting out interim requirements to apply to any subdivision, use and development near wetlands, in areas of native vegetation in good or better condition as shown on Figure 5 of this Bulletin (from WALA 2003a), and at threatened ecological community sites.

In addition to the recommended environmental conditions, the EPA provides advice in this report on a range of matters as set out in Section 5. The advice includes the identification of deferred environmental factors that the EPA may assess at the appropriate later stage of the planning process. The identified deferred factors for the Hope Valley-Wattleup Redevelopment Project Master Plan are:

- All pollution management factors (eg air, soil, groundwater and surface water quality and noise) in relation to new use and development. It is expected that most developments associated with emissions can be adequately managed through Part V of the *Environmental Protection Act 1986*, land use planning and other legislative requirements. However, the EPA will retain the ability to assess major or otherwise significant proposals.
- All environmental factors on land subject to the Cockburn Cement Agreement Act.

The EPA has concluded that it is unlikely that the EPA's objectives would be compromised provided that the recommended conditions set out in Appendix 4, and summarised in Section 4 are incorporated into the Hope Valley-Wattleup

Redevelopment Project Master Plan, and that the EPA's advice provided in Section 5 is duly considered during land use planning processes.

## **7. Recommendations**

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

1. That the Minister notes that the scheme being assessed is the Hope Valley-Wattleup Redevelopment Project Master Plan that provides for the planning, development and management of the Hope Valley-Wattleup Redevelopment Area.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided the recommended conditions set out in Appendix 4, and summarised in Section 4, are incorporated into the Hope Valley-Wattleup Redevelopment Project Master Plan.
4. That the Minister imposes the conditions recommended in Appendix 4 of this report.
5. That the Minister notes that the EPA has deferred the assessment of a number of environmental factors as shown in Section 5, so that the EPA would have the opportunity to assess proposals impacting on these environmental factors in more detail at the appropriate stage of the planning process.
6. That the Minister notes that where any development proposal complies with the Master Plan and raises no additional environmental factors and does not impact on the deferred factors, the development proposal will not normally be subject to further assessment under Part IV of the *Environmental Protection Act 1986*. However, future development proposals may still require works approval and licensing under the *Environmental Protection Act 1986* where applicable.



# **Appendix 1**

## **List of submitters**

## **Individuals and organisations**

Ambrose, P., Readymix Holdings  
De Berner, S.  
Beswick, B. and Madden, S.  
Caratti, R.M. and G.A.  
Cicanese, V.  
De San Miguel, D.F. and M.J.  
De San Miguel, M.  
De San Miguel, B.  
Dewar, S. and T.  
Dixon, S.  
Domasz, P.  
Foley, B., Alcoa World Alumina  
Forrest, R., Water Corporation  
Johnston, R.  
Knott, R. and L.  
Kursar, D.  
Lambasa, D.  
Leach, F., Ombulgarri Nominees P/L  
Lees, R. and R.  
Lombardo, D., Comse Nominees Pty Ltd  
Martin, Dr. D.J.  
Mateljak, C.  
McLay, Dr. P.  
McLellan, J, J & S Drilling  
Mihaljevich, M. and F.  
Moore, J.  
Morzenti, B.  
Paulik, G.  
Powers, S.  
Sashegyi, W.S. and Rampton, J., Chamber of Commerce and Industry  
Redman, H. and P.  
Sanders, D.  
Stephens, L., Landform Research  
Taylor, G. and T.  
Taylor, M., Kwinana Industries Council  
Turner, K. and D.  
Valenti Lawyers, for Abaroo Pty Ltd  
Vidovich, B., K.A.B.Z. Community Group  
Ward, G., Cockburn Cement Limited  
Zlentic, S. and D.

## **Government agencies and departments**

City of Cockburn  
Cockburn Sound Management Council  
Department of Conservation and Land Management  
Department of Environment  
Department of Industry and Resources  
Fremantle Ports  
Town of Kwinana

## **Appendix 2**

### **References**

- Cockburn Sound Management Council et al 2004 *Local Planning Policy for the Cockburn Sound Catchment* Final Draft, Cockburn Sound Management Council, Department of Environment, City of Cockburn, Town of Kwinana, City of Rockingham, Western Australia
- Cockburn Sound Management Council 2002 *Interim Environmental Management Plan for Cockburn Sound and its Catchment* prepared by the Cockburn Sound Management Council for the Environmental Protection Authority, Rockingham, Western Australia
- D.A. Lord & Associates Pty Ltd 2001 *The State of Cockburn Sound: A Pressure-State-Response Report* prepared for Cockburn Sound Management Council, D.A Lord & Associates Pty Ltd.
- Department of Environment 2004 *Stormwater Management Manual For Western Australia* Department of Environment, Perth, Western Australia (www.wrc.wa.gov.au)
- Environmental Protection Authority 1999 *Fremantle-Rockingham Industrial Area Regional Strategy: Western Australian Planning Commission: a submission prepared under section 16(j) of the Environmental Protection Act 1986* Bulletin 943, Environmental Protection Authority, Perth, Western Australia
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- Government of Western Australia 2000 *Bush Forever: Keeping the Bush in the City* Western Australian Planning Commission, Perth, Western Australia
- Government of Western Australia 2001 *State Water Quality Management Strategy No. 1 Framework for implementation*, Government of Western Australia, Perth, Western Australia
- Government of Western Australia 2003 *Securing our Water Future: A State Water Strategy for Western Australia* Government of Western Australia, Perth, Western Australia
- Hedde, E.M., Loneragan, O.W. and Havel, J.J. 1980 "Vegetation Complexes of the Darling System, Western Australia" in *Atlas of Natural Resources, Darling System, Western Australia* Department of Conservation and Environment, Perth, Western Australia
- Hill, A., Semeniuk, C., Semeniuk V. and Del Marco, M. 1996 *Wetlands of the Swan Coastal Plain Volume 2B Wetland Mapping, Classification and Evaluation, Wetland Atlas* Water and Rivers Commission and Department of Environmental Protection, Perth, Western Australia

- Tingay and Associates 1998 *A Strategic Plan for Perth's Greenways* Report to the Ministry for Planning, Perth, Western Australia
- Western Australian Land Authority (LandCorp) 2003a *Hope Valley-Wattleup Redevelopment Project Environmental Review* Western Australian Land Authority, Perth, Western Australia
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- Western Australian Land Authority (LandCorp) 2003c *Hope Valley-Wattleup Redevelopment Project Proposed Master Plan* Western Australian Land Authority, Perth, Western Australia
- Western Australian Planning Commission 2000 *Fremantle-Rockingham Industrial Area Regional Strategy: Final Report* Western Australian Planning Commission, Perth, Western Australia
- Western Australian Planning Commission 2002 *Review of Kwinana Air-Quality Buffer* Western Australian Planning Commission, Perth, Western Australia
- Western Australian Planning Commission 2003 *Urban Stormwater Management* Planning Bulletin No 61, Western Australian Planning Commission, Perth, Western Australia
- Weston, Dr A. S. 2004 *Threatened Ecological Community FCT (SCP) 26a Survey Hope Valley – Wattleup Redevelopment Project Area* prepared for Bowman Bishaw Gorham, St James, Western Australia

## **Appendix 3**

### **Summary of identification of relevant environmental factors**

### **Acronyms used in this appendix**

CALM	Department of Conservation and Land Management
CCI	Chamber of Commerce and Industry
CSMC	Cockburn Sound Management Council
DOE	Department of Environment
DOIR	Department of Industry and Resources
KABZ	Kwinana Air Buffer Zone community group
KIC	Kwinana Industries Council
WC	Water Corporation

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
<b>BIOPHYSICAL</b>			
Flora, fauna, vegetation , wetlands, conservation areas, linkages	See Section 3.3	See Section 3.3	These factors are considered to require assessment in this EPA report. The assessment of these factors is in Section 3.3.
Water quantity	<p>The Master Plan proposes provisions particularly in Part 7.3.2 “Water Resource Management” that address the protection of water quantity. Provisions include the following:</p> <p><i>“Land use and development within the Redevelopment Area shall be carried out and managed ... in such manner as to:</i></p> <p><i>(a) maintain the quality and quantity of water resources sufficient for existing and future environmental and human use.”</i></p> <p>The draft Water Management Strategy includes a section on groundwater abstraction management and refers to taking a collaborative approach with the Department of Environment.</p>	<p><b>DOE</b></p> <ul style="list-style-type: none"> <li>• The Cockburn Groundwater area is over allocated therefore rather than issuing groundwater licenses the Department needs to cut back to within sustainable limits. Water reuse is worth further investigation. To reduce the need for watering, the use of water wise gardens with native plants should be encouraged.</li> </ul> <p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• Alternative water sources should be developed in view of the fact that groundwater is fully allocated. The Water Management Strategy should detail how use of greywater, stormwater, rainwater and wastewater will be encouraged.</li> </ul> <p>Also see submissions in Section 3.2 (submissions section on water)</p>	<p>Taking into account:</p> <ul style="list-style-type: none"> <li>• the proposed Master Plan provisions;</li> <li>• the proposed further development of the Water Management Strategy;</li> <li>• the role of the DOE in managing water abstraction;</li> </ul> <p>the EPA does not consider that this factor requires detailed assessment in this report.</p>



Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
<b>POLLUTION/EMISSIONS</b>			
Catchment management to protect the water quality of Cockburn Sound	See Section 3.1.	See Section 3.1.	This factor is considered to require assessment in this EPA report. The assessment of this factor is in Section 3.1.
Land use compatibility	See Section 3.2.	See Section 3.2.	This issue is considered in this EPA report in Section 3.2 "The management of emissions and potentially conflicting land uses".
Groundwater and surface water quality, soil quality, air quality, noise, other potential emissions	See Section 3.2.	See Section 3.2.	Aspects of these factors are considered to require assessment in this EPA report. The assessment of these factors is in Section 3.2 "The management of emissions and potentially conflicting land uses".
Greenhouse gases	<p>The Master Plan requires use and development to: <i>"implement the concept of "best practice" emissions minimisation", "incorporate appropriately designed and implemented systems that minimise the release accidental or otherwise of atmospheric waste emissions"; and "where practical, utilise alternative energy generation, including renewable energy"</i>.</p> <p>The Environmental Review refers to developing a strategy to encourage minimisation of greenhouse gas emissions.</p>	<p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>The Environmental Review should modify its statement that the Greenhouse Gases 'contribution from these development themselves is negligible in global terms' to recognise: (i) the cumulative impact of developments has escalated the greenhouse effect; and (ii) that it is necessary for all industries to reduce their contribution, so that the cumulative impact of their actions will be significant in combating climate change (Town of Kwinana).</li> </ul> <p><b>Individual submission</b></p> <ul style="list-style-type: none"> <li>Concerned with the practicality of monitoring and reporting greenhouse emissions. Require detail on data collection, reporting, checking and specification as to what is to be done with this information.</li> </ul>	<p>Taking into account:</p> <ul style="list-style-type: none"> <li>the Master Plan provisions and proposed periodic review to incorporate latest best management practices;</li> <li>the EPA retains the ability to assess individual proposals associated with high emissions;</li> <li>the Western Australian Government is developing a strategy for the management of greenhouse gas emissions;</li> </ul> <p>the EPA does not consider that this factor requires assessment in this report. However, the EPA has provided some advice in Section 5.7.</p>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
<b>SOCIAL SURROUNDINGS</b>			
<p>Off- site risk to individuals and the public</p>	<p>The Master Plan area is affected by risk levels from the Kwinana Industrial Area.</p> <p>The proposed Master Plan contains provisions that address risk (individual, societal and environmental) in Section 7.3.6 .</p> <p>Hazardous goods are likely to be transported on roads in the Master Plan area.</p>	<p><b>DOIR submissions</b></p> <ul style="list-style-type: none"> <li>• Concerns of incompatible land uses with hazardous industries and no controls for sustainable development of hazardous industry.</li> <li>• The sustainable development of hazardous industry requires: <ul style="list-style-type: none"> <li>○ large sites; sites sufficiently distanced from large worker or public populations, residential, sensitive development and non-industrial activities in buffer zones; and planning measures to maintain these requirements; and</li> <li>○ Onsite regulatory control of proponent activities through enforcement of the <i>Explosives and Dangerous Goods Act 1961</i>.</li> </ul> </li> </ul> <p>No planning controls exist in Master Plan to address the first point.</p> <ul style="list-style-type: none"> <li>• The Master Plan does not recognise hazardous industry (users of dangerous goods, radiation, etc) which could fall into any/all of the industry categories described in the Master Plan document. As such planning for hazardous industry is not accounted for.</li> <li>• There is no definition of heavy industry. Therefore any planning requirements made on the basis of this definition, including the State Buffer Policy are invalid. How does this affect the planning requirements for the Master Plan or lands/facilities bounding the plan area.</li> <li>• Attention is drawn to the Dangerous Goods Safety Bill and Drafting Instructions for Major Hazard Facility Regulations. Indications are that the regulations with regard to risk will become tighter in the interest of public safety. This is likely to have implications for buffers to industrial areas and transport corridors.</li> <li>• Risk related or major hazard facilities only permitted when in compliance with EPA Risk Criteria and relevant buffer/risk contours are contained within the boundaries of the Master Plan area.</li> </ul>	<p>Taking into account that risk is currently being addressed through a range of statutory processes including land use planning processes (provisions addressing risk are in the proposed Master Plan (Part 7.3.6)), and the EPA is no longer the lead agency on assessing individual risk issues, this factor is not assessed in the EPA's report.</p> <p>The EPA expects that the advice of agencies that deal with aspects of risk eg the Department of Industry and Resources, will be duly considered during the finalisation of the Master Plan.</p>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<ul style="list-style-type: none"> <li>• The 2020 risk contour is based on the premise that heavy industry would be located in Naval Base and Hope Valley (as far east as the proposed Fremantle Rockingham Highway Alignment). If Hope Valley is to accommodate transport/general industry and not heavy industry than this contour would follow a different alignment.</li> <li>• Developments adjoining the preferred port access road should take full account of risk from road cargoes.</li> <li>• Squeezing pipelines into existing road reserves is not good enough from the planning and safety viewpoints - safety being the critical factor.</li> <li>• Numbers of the general public should be kept out of industrial buffers. Responsible planning must allow for a major chlorine or ammonia release. Of concern are non-industrial activities and land uses like betting agencies, consulting rooms and fast food outlets in Wattleup, and crèches.</li> </ul> <p><b>Town of Kwinana submission</b></p> <ul style="list-style-type: none"> <li>• Noxious and Hazardous industries need to be defined as 'X' uses in all precincts. Suitable definition of these uses should be included in the Master Plan.</li> </ul> <p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• The Environmental Review states that the maximum risk load will be knowingly exceeded by 2020. Risk assessment associated with this development needs to be repeated, this time including routine events.</li> <li>• Any recovery or disposal of hazardous or toxic materials should not be permitted in Precinct 8. Monitoring would be required to ensure that it does not impact on residential sites close by.</li> <li>• The Environmental Review needs to reconsider land use compatibility issues including accident potentials.</li> </ul>	

<b>Preliminary Environmental Factors and Issues</b>	<b>Master Plan Characteristics</b>	<b>Government Agency and Public Comments</b>	<b>Identification of Relevant Environmental Factors</b>
Heritage	<p>The Master Plan documentation shows that a number of heritage sites of local significance are in the Master Plan area.</p> <p>The Master Plan includes provisions that address heritage.</p>	<p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• Special Planning Control Areas need to be implemented for all heritage sites to conserve and protect them from inappropriate development.</li> </ul> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• European and Aboriginal Heritage Sites within the Redevelopment Area should be related to the proposals for greenbelts in Precincts 1, 3 and 14.</li> </ul> <p><b>DOIR</b></p> <ul style="list-style-type: none"> <li>• There will be a need to maintain heritage sites and provide public access. Public access to heritages should be kept low key.</li> </ul>	<p>In view of the roles and responsibilities of planning, heritage and other agencies, the EPA considers that heritage is not an environmental factor that requires detailed assessment in this EPA report.</p>
<b>OTHER</b>			
Sustainability	<p>The aims of the Master Plan include “promote sustainable development”.</p> <p>Environmental provisions are incorporated in Part 7 of the Master Plan.</p> <p>The Master Plan is supported by a Planning Strategy and Planning Policies that include a policy on energy conservation.</p>	<p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• The sustainability section of the Environmental Review needs to be reviewed and realistic definitions and assessments of sustainability developed and detailed.</li> </ul> <p><b>DOE, City of Cockburn and Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• Further information on how the sustainability model works and what it is intended to assess and achieve needs to be provided. The Sustainability Checklist seems to be simplistic in nature and its usefulness is questioned. Some form of justification or explanation as to how each criterion in the Sustainability Checklist has been met or achieved should be provided.</li> </ul> <p><b>City of Cockburn and Water Corporation</b></p> <ul style="list-style-type: none"> <li>• The Environmental Review uses a definition of sustainable industrial development that is from an organisation (UNIDO) of which Australia is not a member state. Consider that the West Australian State Sustainability Strategy definition for sustainable development is</li> </ul>	<p>Taking into account:</p> <ul style="list-style-type: none"> <li>• the Master Plan provisions and proposed periodic review to incorporate latest best management practices, information and policy;</li> <li>• the EPA retains the ability to assess individual proposals associated with high emissions;</li> <li>• the issues of protection of the water quality of Cockburn Sound, the management of emissions and land use conflicts, and the protection of natural areas are addressed in this report;</li> <li>• other Government initiatives are underway (eg the Kwinana</li> </ul>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>more appropriate.</p> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• The SPeAR tool seems open to significant subjective determination.</li> <li>• Not clear how the sustainability analysis will be applied and what decisions are taken for those proposals that do not achieve the required modelled outcomes. Is this to be the basis for refusal or redesign?</li> </ul> <p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• Further detail on how sustainability principles will be achieved and the incentives, restrictions and complementary planning mechanisms that will be required to achieve environmentally sustainable outcomes needs to be provided.</li> <li>• Development conditions need to be developed to achieve energy efficiency.</li> <li>• The proponent should make an active contribution to current local programs such as Green Stamp and Cleaner Production and programs being developed by the South Metropolitan Region Greenhouse Officers Group.</li> <li>• A strategy also needs to be developed on what forms of renewable energy will be encouraged.</li> </ul>	<p>Sustainability framework);</p> <p>it is considered that the key environmental sustainability issues that require assessment by the EPA, are addressed in the EPA's report.</p> <p>Advice is also provided in Section 5 on matters relevant to environmental sustainability.</p>
Landscaping	An initial Landscaping Planning Policy has been prepared.	<p><b>Individual submission</b></p> <ul style="list-style-type: none"> <li>• Local species should be used in landscaping. Landscape plant selection needs to consider weed potential.</li> <li>• Who will be responsible for ongoing maintenance of the landscaped parklands, the street verges and adjacent areas, the road reserves and the wetland remnant bushland? Where exactly is the funding for this to come from? The landowners and developers should be paying for all or most of the establishment costs and this needs to be factored into costs at these initial planning times. Some mechanisms for</li> </ul>	<p>The assessment of the protection of natural areas is in Section 3.3.</p> <p>Having regard to the role of planning in managing landscaping requirements, landscaping, other than in conjunction with the protection of natural areas, is generally not considered to be a factor that requires assessment by the EPA</p>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>obtaining 'landscape establishment funds' need to be developed and enacted.</p> <p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• A Landscape Development and Management Strategy should be prepared addressing entrances, major arterial routes. Landscaping to be addressed through the structure planning process utilising where possible local species and water sensitive design.</li> <li>• Local species should be used in landscaping. Landscape plant selection needs to consider weed potential.</li> </ul> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• The lack of landscape analysis is of concern.</li> </ul>	<p>assessment by the EPA.</p> <p>Relevant advice is provided in Section 5.5.</p>
Consultation		<ul style="list-style-type: none"> <li>• KABZ community group and the City of Cockburn were disappointed with the community consultation.</li> <li>• An individual commented that LandCorp are to be congratulated as there appears to be a wish to engage in real public consultation.</li> </ul>	Submissions noted.
Road and rail impacts	The Master Plan contains little detail at this level. The existing Planning Control Area for a road and rail corridor is expected to remain.	<p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• Social, noise and environmental problems associated with upgrading and ongoing use of the road and railway feeding into and out of the development area need to be considered. Road transport routes need to be defined to limit the impact of freight and passenger traffic on remaining residents.</li> </ul> <p><b>Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• An environmental assessment should be undertaken to determine the likely impacts from the increase of rail movements on noise and vibration.</li> <li>• Social, noise and environmental problems associated with upgrading and ongoing use of the road and railway feeding into and out of the development area need to be considered. Road transport routes need</li> </ul>	The EPA provides advice in Section 5 relevant to road and rail impacts.

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>to be defined to limit the impact of freight and passenger traffic on remaining residents.</p> <ul style="list-style-type: none"> <li>• The Fremantle to Rockingham Highway and Rowley Road extension should include provisions for landscaping and enhancement as well as provision for environmental linkages and Water Sensitive Design in consultation with the Town of Kwinana.</li> <li>• Traffic movements generated from activities within the Master Plan area should avoid routes through predominantly residential and rural/residential areas to limit potential amenity impacts on remaining residents.</li> </ul> <p><b>Fremantle Port Authority</b></p> <ul style="list-style-type: none"> <li>• The Master Plan has not addressed the issue of impacts of freight routes (road and rail) on future land uses and development e.g. noise.</li> <li>• For the management of freight related noise, it is recommended appropriate buffers be put in place at the Structure Plan stage, as part of the Design Guidelines. Buffer areas and other noise amelioration methods are required for the development near freight transport corridors to manage potential impacts.</li> </ul> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• A detailed traffic study should be undertaken to include opportunities for integrating different modes of transportation.</li> </ul>	
Precinct 13	<p>The Master Plan as released for public comment did not define uses for Precinct 13.</p> <p>LandCorp's response to submissions proposes that this precinct remains rural.</p>	<p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• Urban development is supported not industrial.</li> <li>• Eastern gateway or business park supported.</li> <li>• Essential Precinct 13 be retained for industry.</li> <li>• Light industry, service industry, retail sales, medical centre/office supported.</li> <li>• Land uses permitted within Precinct 13 must be compatible with the</li> </ul>	<p>Submissions noted.</p> <p>Environmental issues relevant to Precinct 13 are addressed in Sections 3.1 – 3.3.</p> <p>Advice is also provided in Section 5.</p>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>Kwinana Buffer; be a buffer between the existing rural and residential areas to the east and the industrial land uses to the west; minimise land degradation; maximise the protection of the environment; protect wetlands and bushland; protect Wattleup Lake; minimise pollution of groundwater; encourage land rehabilitation; allow light industrial and/or commercial redevelopment and prohibit rural as a land use.</p> <ul style="list-style-type: none"> <li>• Transfer some lots from Precinct 13 to Precinct 6 as they contain a high proportion of native bushland and would suit criteria for Precinct 6 - "low intensity high quality business and technology park in a landscape setting".</li> <li>• Retain Precinct 13 in the Hope Valley Wattleup Redevelopment Area.</li> <li>• Residential not supported.</li> <li>• The urban development resulting from the freeway and Mandurah Railway should be allowed to continue and include Precinct 13 thus giving ourselves and adjoining landowners the benefit this would bring.</li> </ul> <p><b>Organisations</b></p> <ul style="list-style-type: none"> <li>• CCI supports designating general, service, light, transport and warehousing operations in Precinct 13 not residential.</li> <li>• KABZ considers this precinct should be removed from the HVWRA and developed under the normal MRS given the small acreage and the location. The notion of the Master Plan holding this area as 'a buffer to the buffer' is questioned.</li> <li>• KIC submits that the Redevelopment Area should remain a residential exclusion zone with an industrial focus.</li> </ul> <p><b>DOIR</b></p> <ul style="list-style-type: none"> <li>• Precinct 13 should be eastern gateway or business park and remain in the Master Plan regardless of whether or not it is in the air quality buffer.</li> </ul>	



Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• Precinct 13 is an important transitional area for which no contextual planning has been done.</li> </ul>	
Cockburn Cement site		<p><b>DOIR</b></p> <ul style="list-style-type: none"> <li>• DoIR considers that the Proposed Master Plan and any associated environmental assessment have no effect in relation to Cockburn Cement's operations.</li> </ul> <p><b>Industry submission</b></p> <ul style="list-style-type: none"> <li>• Reconciliation of the Cockburn Cement operations with redevelopment requires a buffer area involving resolution of the extent of the buffer and the uses to which the buffer area can be put, following a buffer definition study. The Master Plan should make it clear that when considering proposed development regard must be had to potential land use conflicts and compatibility with surrounding land use. Any dust particulate and noise sensitive uses should be prohibited. The following use classes should be prohibited: Crèches; Trade display (if includes outdoor trade display); Industry - Service; and Educational establishment – Tertiary.</li> </ul> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• There is no requirement for Cockburn Cement to retain vegetation on its land under the Cockburn Cement Agreement.</li> </ul>	<p>All environmental factors on land subject to the Cockburn Cement State Agreement are identified as deferred factors. See advice in Section 5.1.</p> <p>The management of emissions and potential land use conflicts generally is addressed in this report in Section 3.2.</p>
General		<p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• At least half of the Environmental Objectives in Section 7.2 of the Proposed Master Plan are now a legislative requirement with changes to the <i>Environmental Protection Act 1986</i>.</li> <li>• The Environmental objectives in Section 7.2 of the Master Plan are an extensive set of objectives which could severely limit the scope of development within the area.</li> <li>• A context analysis should be undertaken to better relate the</li> </ul>	<p>Submissions noted.</p> <p>Note: LandCorp has provided its response to submission in the attached CD.</p>

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>development of the Redevelopment Area with its surroundings.</p> <p><b>City of Cockburn and Town of Kwinana</b></p> <ul style="list-style-type: none"> <li>• Further information is required on how the environmental objectives will be achieved and the mechanisms that will be used.</li> </ul> <p><b>Water Corporation</b></p> <ul style="list-style-type: none"> <li>• The right for the WAPC to 'assess' environmental information (in lieu of the EPA) is questioned.</li> </ul> <p><b>DOIR</b></p> <ul style="list-style-type: none"> <li>• To ensure public healthy and safety it is vital the population density is kept low.</li> <li>• Strongly supports the Master Plan's objective to optimise basic raw materials extraction as an interim land use in the HVWRA.</li> <li>• Strongly supports the Master Plan's objective of attracting non heavy industry from Kwinana's core area to free up heavy industry land.</li> </ul> <p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• It is of concern that the Environmental Review states that there are "no significant...environmental constraints to the development". Site contains over 200 ha of remnant vegetation, on top of a drinking water aquifer, surrounded by some of the few remaining wetlands, close to an extensively used (and already damaged) marine area and immediately downwind and adjacent to residential areas.</li> <li>• The Environmental Review does not describe the full effects of the Proposed Master Plan because it specifically ignores all other potential developments on the site. It looks only at the environmental consequences of the Proposed Master Plan.</li> <li>• Concerned with the funding of achieving environmental aims.</li> <li>• Some of the aims expressed in the Master Plan for this development are to maintain or improve air and groundwater quality, promote on-site water retention and promote energy efficiency. How can they</li> </ul>	

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>actually be made to work? How can they be enforced rather than being empty rhetoric?</p> <ul style="list-style-type: none"> <li>• Monitoring should be set up before any development occurs, to establish baseline levels, and should be carried by a single agency and for the lifetime of this project. The responsible agency must have reasonable funding to carry this out.</li> <li>• Redevelopment area is close to lakes, natural bush, natural wetlands and the coast. Thus this land is prime residential real estate and it is wasted on industrial applications where such amenity is irrelevant.</li> <li>• Abuse of the environment has caused serious problems. This proposal will have an enormous effect on the earth and people.</li> <li>• The large documents for the Environmental Review, Proposed Master Plan and Report have only added more confusion and distress to the average person to digest.</li> <li>• Our view is that a title of present and future zoning needs to be established, which is better than the current buffer zone zoning. This stigma has been around for a long time which has made our land undervalued.</li> </ul> <p><b>Organisations</b></p> <ul style="list-style-type: none"> <li>• CCI supports the Master Plan's intent to create a non-residential, industry buffer immediately north and east of the KIA.</li> <li>• The KIC generally supports the proposed provisions and aims of the Master Plan.</li> </ul>	
Submissions with concerns about Master Plan processes or not in support of the Master Plan		<p><b>Individual submissions</b></p> <ul style="list-style-type: none"> <li>• Against being zoned as general industry.</li> <li>• We are still here because not enough is being paid in the acquisition process.</li> <li>• We request that this area of land be open to general industrial</li> </ul>	The submissions are noted.

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<p>development and not the restrictive sale requirements of the government of this day.</p> <ul style="list-style-type: none"> <li>• What happens if the outer harbour (container port) does not go ahead?</li> <li>• There is no comfort in the social transition strategy for people wishing to remain on their properties.</li> <li>• Our life style has been ruined and our homes devalued. All we want is replacement value.</li> <li>• We are going to stay put as moving and relocating anywhere else now would be too costly for us and we really do love our property.</li> <li>• As a long time resident of Hope Valley (forty years) I do not like what the governments have done to these communities.</li> <li>• This is my home (the big issue) where my heart belongs and family memories. I didn't ask for this.</li> <li>• The only certainties provided by the Master Plan and the HVWR Act are: a) that existing landowners and residents will become non-conforming land users; and b) that they have no future in the area in their present status.</li> <li>• I am not impressed by what has taken place and forced upon the residents of Wattleup and Hope Valley.</li> <li>• The 'political decision' by the planning portfolio behind the HVWRA Master Plan proposal to change this land use from heavy industry to transport and general industry does not have my support, neither is it being supported by the local community, which is being relocated.</li> <li>• The entire concept of the HVWRP is seriously flawed.</li> <li>• In our circumstances light industrial or Composite A would be a better option.</li> <li>• We should be left as we are.</li> </ul>	

Preliminary Environmental Factors and Issues	Master Plan Characteristics	Government Agency and Public Comments	Identification of Relevant Environmental Factors
		<ul style="list-style-type: none"> <li>• As this is a long term project and I know what I say will not change the fact we must move from our home. There is no real comment I can make as it will happen whatever people say.</li> <li>• We as a family have 10 years plus of writing submissions and letters of complaint so this just seems like another waste of time putting pen to paper when the people of the area have raised issues and objections into the many proposals that politicians and public servants haven't taken any notice and gone ahead with their way anyway.</li> </ul> <p><b>City of Cockburn</b></p> <ul style="list-style-type: none"> <li>• Continue to strongly oppose the FRIARS report and recommendations on which HVWRA proposed Master Plan is based.</li> </ul>	

# **Appendix 4**

## **Recommended Environmental Conditions**

**RECOMMENDED CONDITIONS**

**STATEMENT THAT A SCHEME MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF DIVISION 3 OF PART IV OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

**HOPE VALLEY-WATTLEUP REDEVELOPMENT PROJECT MASTER PLAN**

**Scheme purpose:** To promote the orderly and proper planning, development and management of the Hope Valley-Wattleup Redevelopment Area, including any provision that may be made by a town planning scheme under the *Town Planning Act 1928*.

**Responsible Authority:** Western Australian Land Authority

**Responsible Authority Address:** Level 3 Wesfarmers House, 40 The Esplanade  
Perth WA 6000

**Assessment Number:** 1470

**Report of the Environmental Protection Authority:** Bulletin 1133

Subject to the following conditions, there is no known environmental reason why the Hope Valley-Wattleup Redevelopment Project Master Plan to which the above report of the Environmental Protection Authority relates should not be implemented:

**CONDITIONS TO BE INCORPORATED INTO THE SCHEME BY  
INSERTION OF PROVISIONS IN SCHEME TEXT**

**1 Water Management Strategy**

1-1 Prior to 30 June 2005 and the finalisation of any precinct structure plan, the Water Management Strategy referred to in section 7.3 of the Hope Valley-Wattleup Redevelopment Project Master Plan shall be modified in accordance with the specification set out in Attachment 1 in the Minister for the Environment's Statement that a Scheme may be Implemented No. [insert relevant statement number] published on [insert date] to the satisfaction of the Western Australian Planning Commission in consultation with the Cockburn Sound Management Council, and on advice of the Water and Rivers Commission, the Western Australian Land Authority, the City of Cockburn and the Town of Kwinana.

- 1-2 The Water Management Strategy shall subsequently be implemented in accordance with the provisions of the Strategy.
- 1-3 The Water Management Strategy referred to in provision 7.3.2(j) of the Master Plan shall be the latest approved version of the Water Management Strategy.
- 1-4 Each use and development within the Redevelopment Area shall be carried out in accordance with a Water Management Plan addressing the management of ground and surface water quality and quantity and potential contaminants to meet the objectives and requirements of the Water Management Strategy.

## **2 Biodiversity Strategy**

- 2-1 Prior to 30 June 2005 and the finalisation of any precinct structure plan, a Biodiversity Strategy for the Hope Valley-Wattleup Redevelopment Area shall be prepared by the Western Australian Land Authority in accordance with the specification set out in Attachment 1 in the Minister for the Environment's Statement that a Scheme may be Implemented No. [insert relevant statement number] published on [insert date] to the satisfaction of the Western Australian Planning Commission on advice of the Department of Environmental Protection, the Department of Conservation and Land Management, the Water and Rivers Commission, the Town of Kwinana and the City of Cockburn.
- 2-2 The Biodiversity Strategy shall subsequently be implemented in accordance with the provisions of the Strategy.

## **3 Development proposed near a wetland or in an area of native vegetation – interim requirement**

- 3-1 Prior to the finalisation of the Biodiversity Strategy required by condition 2, any proposed subdivision, use or development of land within 200 metres of a conservation or resource enhancement category wetland as determined by the Water and Rivers Commission shall not occur unless:
  - 1 The subdivision, use or development is shown to be consistent with the protection of the environmental values of the wetland; and
  - 2 The written advice of the Water and Rivers Commission has been received and fully taken into account by the Western Australian Planning Commission.
- 3-2 Prior to the finalisation of the Biodiversity Strategy required by condition 2, no new subdivision boundary, use or development shall impact on a threatened ecological community, or on areas of vegetation shown on Figure 5 of Environmental Protection Authority Bulletin 1133 as in good or better condition.



**CONDITIONS TO BE INCORPORATED INTO THE SCHEME BY  
MODIFICATION OF PROVISIONS IN SCHEME TEXT**

**4 Modification to Part 7 “Environment”**

- 4-1 Replace clause 7.2 (d) with the following:  
“allow the aquifer to be managed in a sustainable manner and in a way that groundwater quality is protected and improved;”
- 4-2 Replace clause 7.3.2 (b) with the following:  
“Contribute to the objective of an overall improvement in the water quality of Cockburn Sound, by protecting and improving ground and surface water quality and quantity through water-sensitive design and management.”
- 4-3 Modify clause 7.3.3 (b) by replacing “agreed with the Environmental Protection Authority Service Unit” with “developed in consultation with the Water and Rivers Commission”.

**5 Table 1 – Precinct Land Use**

- 5-1 The Precinct Land Use Table shall prohibit more than one house per lot in the Rural Precinct.

**ATTACHMENT 1 – OF STATEMENT THAT A SCHEME MAY BE IMPLEMENTED – HOPE VALLEY-WATTLEUP REDEVELOPMENT PROJECT MASTER PLAN**

**1 Water Management Strategy**

- 1-1 The Water Management Strategy shall be modified in consultation with the Water and Rivers Commission, the Department of Environmental Protection, the Cockburn Sound Management Council, the City of Cockburn, the Town of Kwinana and the Department for Planning and Infrastructure, for the purpose of the promotion and integration of water management through the land use planning and development processes applying to the Hope Valley-Wattleup Redevelopment Area.
- 1-2 The Water Management Strategy shall be subject to public consultation before finalisation.
- 1-3 The Water Management Strategy shall include but not be limited to identification of:
- 1 the environmental values and beneficial uses of the water resources of the Redevelopment Area, and water-related issues including the protection of off-site water resources, threatening processes, and priorities;
  - 2 water management objectives;
  - 3 the strategies, initiatives and processes applying to water management in the Redevelopment Area including Cockburn Sound Management Council initiatives and development of the Environmental Protection (Cockburn Sound) Policy; water regime targets and criteria; investigation of water re-use and recycling schemes, and processes to ensure integration between land use planning and water management mechanisms;
  - 4 a summary of technical information sources relevant to the hydrology of the Redevelopment Area (including its associated surface water and groundwater catchments and discharge areas) and land characteristics that may influence water regimes (including acid sulfate soil risk areas); identification of additional technical information that will assist land use planning processes; and procedures for obtaining this information and incorporating it into planning decision-making at the appropriate time;
  - 5 a strategy to manage major flooding;
  - 6 an implementation and monitoring program to include a more detailed schedule of actions, timing, and responsibilities for actions. The implementation program shall include the preparation and implementation of precinct water management plans, and individual development water management plans, and include contingency provisions in the event that targets or criteria established for water quality and quantity are not met; and

- 7 a process to periodically review the Water Management Strategy and the Water Management Planning Policy to complement the Water Management Strategy.

## **2 Biodiversity Strategy**

- 2-1 A Biodiversity Strategy shall be prepared in accordance with a methodology developed in consultation with the Department for Planning and Infrastructure, the Department of Environmental Protection, the Department of Conservation and Land Management, the Water and Rivers Commission, the Town of Kwinana and the City of Cockburn.
- 2-2 The Biodiversity Strategy shall be subject to public consultation before finalisation.
- 2-3 The purposes of the Biodiversity Strategy shall include the following:
  - 1 to identify the location of key natural areas to be protected in the Redevelopment Area including ecological linkages, wetlands and wetland buffers, and other areas significant for representation of ecological communities, diversity of species, rarity of species and communities including threatened ecological communities, and maintaining ecological processes or systems. These areas should be located in sufficient detail to assist precinct planning and the consideration of development applications in the event that the Western Australian Planning Commission is required to consider applications before precinct planning is finalised;
  - 2 to identify processes and policies to ensure biodiversity considerations are integrated into the subsequent stages of land use planning and development; and
  - 3 to identify how land identified for biodiversity protection will be secured and managed.
- 2-4 The Biodiversity Strategy shall include but not be limited to:
  - 1 biological site studies sufficient to determine key ecological linkages and areas of open space to be retained;
  - 2 an ecological linkage between the Beeliar Regional Park wetland chains that are located to the east and the west of the Redevelopment Area;
  - 3 protection of a significantly larger area of open space in the southern portion of the Redevelopment Area than is shown as Proposed Parks and Recreation in Figure 21 of the Responsible Authority's Environmental Review document, maintaining a linkage with Long Swamp and Hendy Swamps, and along Anketell Road, and maintaining the potential for a linkage with land south of the Redevelopment Area;

- 4 information on the limitations of any site studies carried out, and guidance on any further site studies that may be required at the subsequent stages of planning;
- 5 demonstration that relevant Government policy and guidance has been taken into account; and
- 6 a schedule of actions of what will be done, by whom, and when, to ensure the protection of areas identified by the Biodiversity Strategy, including the timing of and responsibility for the preparation and implementation of management plans for all areas identified for protection.

## **Appendix 5**

**Part 7 of the proposed Master Plan as released for public comment 5 December  
2003**

## **Part 7 – Environment**

### **7.1 Statement of Environmental Intent**

It is intended that land in the Redevelopment Area be developed in accordance with best known environmental practice, as follows.

- (b) The nature of industrial development is to be conducive to surrounding land uses outside the Redevelopment Area;
- (b) The Redevelopment Area is to comprise a transitional buffer between the residential areas to the north and east and the heavy industry within the KIA.
- (c) The use or development of land is not to have individual or cumulative adverse environmental or social impacts on:
  - residential areas outside the Redevelopment Area;
  - other land uses and amenities within or outside the Redevelopment Area;
  - Conservation Category Wetlands or any sensitive environments within or outside of the Redevelopment Area;
  - Cockburn Sound;
  - Soil, groundwater and surface water;
  - Air quality; and
  - Future land uses within and surrounding the Redevelopment Area.

### **7.2 Environmental Objectives**

Land in the Redevelopment Area is intended to be developed and managed in such a manner as to:

- (a) prevent any potential adverse environmental impacts, including those related to health and amenity, extending beyond the Redevelopment Area;
- (b) facilitate the establishment of a transitional buffer between the relevant residential and heavy industrial areas;
- (c) support the protection of sensitive environments and areas of environmental significance within and outside the Redevelopment Area, including Beeliar wetlands, Cockburn Sound, Long Swamp and *Bush Forever* sites;
- (d) ensure that the aquifer is managed in a sustainable manner and that groundwater quality is maintained or improved;
- (e) provide for on-site retention and infiltration of uncontaminated storm-water;

- (f) prevent accidental loss or release of effluent or waste from premises;
- (g) appropriately store, transport and use all dangerous and hazardous goods in accordance with the manufacturer's recommendations and regulatory requirements;
- (h) protect the water quality of Cockburn Sound by ensuring that no inappropriate level of nutrient load or other contamination leaves the Scheme Area and enters the Sound;
- (i) dispose of sewage and compatible wastes by connecting to a comprehensive sewerage system, or utilising an accepted alternative treatment system only when no comprehensive sewerage system is available;
- (j) ensure no significant net increase of emissions, such as noise, dust, particulates, odour, other air emissions, litter or light, occur in or extend beyond the Scheme Area;
- (k) ensure that the generation or release of any emissions is kept within acceptable health levels;
- (l) maintain and/or enhance linkages between fauna habitats and vegetation communities - such as remnant vegetation, reserves and wetlands - to facilitate connectivity, accessibility and interaction of species;
- (m) implement and support environmental best practice;
- (n) prevent the contamination of soil and water that exceeds allowable ecological or health levels;
- (o) prevent contaminated soil or water interacting with and entering surface or groundwater flows and extending beyond the Redevelopment Area boundary;
- (p) minimise the impact of surface runoff so as to protect and maintain the integrity, functions and environmental values of natural catchments, hydrological systems and wetlands, within and adjacent to the Redevelopment Area;
- (q) prevent unacceptable levels of individual, societal or environmental risk;
- (r) protect, maintain and enhance air quality;
- (s) promote energy-efficient practices and processes;
- (t) minimise land use incompatibility; and

(u) optimise development potential in an environmentally acceptable way.

### **7.3 Environmental Development Requirements**

#### **7.3.1 Site Contamination**

Land use and development within the Redevelopment Area shall be carried out and managed so as to prevent site contamination, and in the case of existing contamination, is to be suitably managed and remediated for future use, in accordance with the following:

- (a) The use or development shall not result in soil or water contamination or pollution above acceptable ecological and health investigation levels.
- (b) Prior to the use or development of land, an applicant shall advise the Commission of the land use or development history of the land, for the purpose of preliminary site contamination assessment.
- (c) Where contamination above acceptable ecological and health investigation levels is suspected or detected, assessment, remedial works (if required) and validation of remediation shall be undertaken by suitably qualified persons in accordance with recognised State requirements.
- (d) Land the subject of remedial works shall not be developed or used for its intended purpose until the Commission receives certification that the remedial works are complete.
- (e) Any land contamination shall be fully contained on site and managed by appropriate procedures, including emergency spill management and disposal.

#### **7.3.2 Water Resource Management**

Land use and development within the Redevelopment Area shall be carried out and managed so as to minimise the disturbance and contamination of water catchments and groundwater through the appropriate siting, design, and management of development, in such manner as to:

- (a) maintain the quality and quantity of water resources sufficient for existing and future environmental and human use;
- (b) maintain, and where practicable, improve surface and groundwater quality through water-sensitive design and management;
- (c) make provision for drainage systems that optimise the retention, consumption and/or infiltration of drainage on site;



- (d) avoid the potential for the intensification of flooding as a result of inappropriately located land uses and development;
- (e) where industrial processes create liquid effluent, incorporate on-site containment, management, contaminant stripping and appropriate disposal;
- (f) not affect the flow or quality of surface or groundwater on neighbouring land;
- (g) be connected to a comprehensive sewerage system, with the exception of a single house where no such system is available;
- (h) utilise, where practical, alternative wastewater disposal systems, including reuse and recycling;
- (i) have regard for the *State Water Quality Management Strategy for Western Australia 2000*, the *Statement of Planning Policy No.27 Public Drinking Water Source* and any other relevant advice; and
- (j) comply with the comprehensive Water Management Strategy for the redevelopment area.

### 7.3.3 Wetlands

Land use and development within the Redevelopment Area shall be carried out and managed so as to maintain and enhance wetland quality and ecological function through suitable location of land uses and developments and implementation of appropriate management measures, as follows:

- (a) land use or development shall not adversely affect wetlands.
- (b) land use or development shall be set back from all wetlands according to a buffer which will be proposed by the Responsible Authority at the structure (Precinct) planning stage on a case-by-case basis in accordance with surveyed environmental characteristics and values, and proposed buffer treatments, and agreed with the EPA Service Unit prior to adoption and implementation
- (c) land used for agriculture that is likely to drain toward wetlands or coastal waters shall be managed to reduce or eliminate nutrient export from that land into the wetland or coastal waters.
- (d) in determining an application for land use or development, the Commission shall have regard for the *Wetlands Conservation Policy for Western Australia 1997* or its current equivalent and any other relevant advice.

- (e) the hydrological characteristics and water requirements of wetlands likely to be influenced by the implementation of the development will be determined to enable appropriate water management.

#### 7.3.4 Air Quality

Land use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not adversely affect neighbouring land uses, developments, employees, the general public, or environmentally significant areas, and prevents any unacceptable level of atmospheric pollution encroaching outside the Redevelopment Area boundary<sup>1</sup>. Such land use or development shall:

- (a) maintain and, where practicable, improve air quality through appropriate design and management;
- (b) implement the concepts of “best practice” emissions minimisation as described in “*Guidance for the Assessment of Environmental Factors - Implementing best practice in proposals submitted to the environmental impact assessment process, No 55, Draft*” (EPA 2003);
- (c) minimise potential conflicts between existing and potential future neighbouring land uses within the Redevelopment Area, and activities that generate atmospheric pollution;
- (d) in relation to land use or development that may result in atmospheric waste generation, include an air quality assessment;
- (e) not incorporate development that may result in atmospheric pollution such as dust, gaseous particulates, odour and light and will not adversely affect neighbouring land uses, employees, the general public or environmentally significant areas<sup>2</sup>;
- (f) not incorporate land use or development that may result in contamination or pollution, unless it can be demonstrated that the proposed activities will not result in contamination above the acceptable ecological or health levels prescribed in the *National Environmental Protection Council (Ambient Air Quality) Measures*,

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<sup>1</sup> LandCorp’s response to submissions proposes the following change to this sentence:

“Land use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not adversely affect neighbouring land uses, developments, employees, the general public, or environmentally significant areas.”

<sup>2</sup> LandCorp’s response to submissions proposes the following change:

“not incorporate development that may result in unacceptable levels of atmospheric pollution such as dust, gaseous particulates, odour and light and will not unacceptably affect neighbouring land uses, employees, the general public or environmentally significant areas”

or equivalent, and any other standards recognised in Western Australia;

- (g) incorporate appropriately designed and implemented systems that minimise the release, accidental or otherwise, of atmospheric waste emissions;
- (h) where industrial process may create dust, particulates or other atmospheric emissions, shall incorporate on-site containment, management, contaminant stripping and disposal;
- (i) facilitate reduced travel demand and adequate access to public transport and walking and cycling infrastructure;
- (j) incorporate energy efficiency in the siting and design of buildings;
- (k) incorporate the retention of existing vegetation and/or revegetation of places;
- (l) where practical, utilise alternative energy generation, including renewable energy; and
- (m) have regard for the relevant requirements related to atmospheric pollution of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*, the *Air Quality Management Plan for Perth 2000* and *Statement of Planning Policy No. 4: State Industrial Buffer Policy* or their respective equivalents and any other relevant requirements.

#### 7.3.5 Noise

Land use and development within the Redevelopment Area shall be carried out and managed in such manner as to ensure that any individual or cumulative noise generated during the construction or operation of any development does not adversely affect existing and potential future neighbouring land uses, developments, land uses, employees or the general public, and prevents any unacceptable level of noise encroaching beyond the Redevelopment Area boundary. Such land use or development shall:

- (a) maintain, and where practicable, reduce noise levels within the Redevelopment Area through appropriate design and management;
- (b) not incorporate development that may result in excessive noise emissions and will not result in adverse effects on existing and potential future neighbouring land uses, employees or the general public;
- (c) minimise potential conflicts between neighbouring land uses within the Redevelopment Area and activities that generate noise;

- (d) where development may result in noise generation, include a noise assessment report in accordance with recognised good practice as in EPA Guidance No. 8 and 14 as relevant;
- (e) not generate unacceptable noise levels outside the Redevelopment Area;
- (f) avoid the potential for the exacerbation of noise as a result of inappropriately located or managed development;
- (g) not incorporate land uses and development that may result in noise emissions that do not comply with the *Environmental Protection (Noise) Regulations 1997*, or the current equivalent;
- (h) where developments or industrial process would create excessive noise levels, incorporate provision for the design and implementation of noise abatement systems; and
- (i) have regard for the potential of their contribution to cumulative noise generation.

#### 7.3.6 Land Use Compatibility and Risk

Land use and development within the Redevelopment Area shall be carried out and managed in such manner as to ensure that the safety and amenity of surrounding land uses, employees and the general public is provided, while having regard to the rights of the community, landowners and developers, and shall:

- (a) incorporate an evaluation of the potential for conflict with incompatible neighbouring land uses, their activities and any associated risk, including but not limited to high-pressure gas pipelines, high-voltage electric transmission lines and major roads;
- (b) incorporate risk minimisation and compliance with off-site risk criteria, demonstrated through quantitative risk assessment;
- (c) not incorporate land uses and development that may result in excessive individual, societal or environmental risk, unless it can be demonstrated that the risk can be adequately managed;
- (d) not create significant individual or cumulative off-site environmental or social impacts or unduly disrupt or adversely affect neighbouring developments;
- (e) not incorporate development that may prevent, inhibit or adversely affect other permissible land uses or developments, in accordance with Part 11 of the Master Plan, unless it can be demonstrated through adequate provisions that no unacceptable influences are exerted;

- (f) be conducive to surrounding land uses and provide a transitional buffer between the residential areas surrounding the Redevelopment Area and heavy industry within the Kwinana Industrial Area; and
- (g) have regard for the requirements of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*, the *Statement of Planning Policy No. 4: State Industrial Buffer Policy*, *EPA's Draft Guidance No 3: Industrial-Residential Buffer Areas (Separation Distances)* or their current equivalents, and any other relevant requirements.

#### **7.4 Environmental Information**

7.4.1 An applicant shall submit sufficient information to enable the Commission to assess each application in accordance with the Statement of Environmental Intent, the Environmental Objectives, the Environmental Development Requirements, the other environmental provisions of this Part and all relevant standards and legal requirements and show how these will be met.

7.4.2 The information required under clause 7.4.1 shall include the following:

- (a) Information on the receiving biophysical environment, following surveys in accordance with EPA's Draft Guidance No 51 and 56, and any significant features or characteristics, in a local and regional context;
- (b) Description of all developments, processes and activities to be carried out on the land;
- (c) Description of the potential for these developments, processes and activities to affect the environment and people;
- (d) A list of all products, by-products, wastes and emissions to be directly or indirectly generated;
- (e) The management and mechanisms through which by-products and emissions such as noise, dust, odour, particulates, light, effluent and solid wastes are prevented, minimised, stored, transported and disposed of, and demonstration that all relevant standards recognised in Western Australia will be met;
- (f) A list of any dangerous and hazardous goods to be used or stored on, or transported to or from the site;
- (h) The management and mechanisms through which dangerous and hazardous goods must be used, stored or transported, including emergency spill management and disposal;

- (i) The societal and environmental risks of any hazardous activity or substance and the mechanisms through which risk will be prevented or managed to an acceptable level;
- (j) Management of the potential conflict between incompatible land uses and activities;
- (k) Site contamination assessment, and remediation action plan where necessary;
- (l) Promotion of energy-efficient development and urban design incorporating such elements as energy-efficient building design and orientation of building lots for solar efficiency;
- (m) Demonstration of how surface drainage and stormwater management and the protection of groundwater quality is to be achieved;
- (n) Demonstration of how significant environmental areas such as wetlands, habitat corridors, remnant vegetation, reserves and conservation areas are to be protected;
- (o) Promotion of existing vegetation retention, revegetation, landscape enhancement and visual aesthetics;
- (p) Management plans and commitments for the minimisation or protection of any significant environmental factors, impacts or issues including a review of the Town of Kwinana's Draft Revegetation Management Plan for Long Swamp if applicable; and
- (q) Any other information the Commission considers may be required to assess the application in accordance with the environmental provisions of this Part.

7.4.3 Where the Commission requires, the applicant shall provide certification to the satisfaction of the Commission that the environmental information required in clauses 7.4.1 and 7.4.2 has been prepared or endorsed by a suitably qualified person.

## **10.2 Accompanying material**

Unless the Commission waives any particular requirement every application for planning approval is to be accompanied by —

- (a) a plan or plans to a scale of not less than 1:500 showing —
  - (i) the location of the site including street names, lot numbers, north point and the dimensions of the site;
  - (ii) the existing and proposed ground levels over the whole of the land the subject of the application and the location, height and

- type of all existing structures, and structures and vegetation proposed to be removed;
- (iii) the existing and proposed use of the site, including proposed hours of operation, number of employees and buildings and structures to be erected on the site;
  - (iv) the existing and proposed means of access for pedestrians and vehicles to and from the site;
  - (v) the location, number, dimensions and layout of all car parking spaces intended to be provided;
  - (vi) the location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
  - (vii) the location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop the same; and
  - (viii) the nature and extent of any open space and landscaping proposed for the site;
- (b) plans and elevations to a scale of no less than 1:200, and sections of any building proposed to be erected or altered and of any building it is intended to retain;
  - (c) details of any signage proposed to be erected on the site where signage, specifically the type of signage, is not exempted by an other part of the Proposed Master Plan;
  - (d) Environmental information as per clause 7.3;
  - (e) any specialist studies that the Commission may require the applicant to undertake in support of the application such as traffic, heritage, environmental, engineering or urban design studies; and
  - (f) any other plan or information, or alternate scale of plan referred to under clause 10.2 (a) and (b), that the Commission may require to enable the application to be determined.

## **11.2 Matters to be considered by the Commission**

The Commission in considering an application for planning approval is to have due regard to such of the following matters as are in the opinion of the Commission relevant to the application —

- (a) the aims and provisions of the Proposed Master Plan;
- (b) the requirements of orderly and proper planning including any relevant proposed amendment to the Proposed Master Plan, which has been granted consent for public submissions to be sought;

- (c) any approved Statement of Planning Policy of the Commission;
- (d) any approved Environmental Protection Policy under the *Environmental Protection Act 1986*;
- (e) any relevant policy or strategy of the Commission and any relevant policy adopted by the Government of the State;
- (f) any Planning Policy and/or Design Guidelines adopted by the Commission under clause 2.4, any heritage policy statement for a designated heritage area adopted under clause 8.2.2, and any other plan or guideline adopted by the Commission under the Proposed Master Plan;
- (g) in the case of land reserved under the Proposed Master Plan, the ultimate purpose intended for the reserve;
- (h) the conservation of any place that has been entered in the Register within the meaning of the *Heritage of Western Australia Act 1990*, or which is included in the Heritage List under clause 8.1, and the effect of the proposal on the character or appearance of a heritage area;
- (i) the compatibility of a use or development with its setting;
- (j) any social issues that have an effect on the amenity of the locality;
- (k) the cultural significance of any place or area affected by the development;
- (l) the likely effect of the proposal on the natural environment and any means that are proposed to protect or to mitigate impacts on the natural environment;
- (m) whether the land to which the application relates is unsuitable for the proposal by reason of it being, or being likely to be, subject to flooding, tidal inundation, subsidence, landslip, bushfire or any other risk;
- (n) the preservation of the amenity of the locality;
- (o) the relationship of the proposal to development on adjoining land or on other land in the locality including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;
- (p) whether the proposed means of access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;



- (q) the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;
- (r) whether public transport services are necessary and, if so, whether they are available and adequate for the proposal;
- (s) whether public utility services are available and adequate for the proposal;
- (t) whether adequate provision has been made for access for pedestrians and cyclists (including end-of-trip storage, and toilet and shower facilities);
- (u) whether adequate provision has been made for access by disabled persons;
- (v) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;
- (w) whether the proposal is likely to cause soil erosion or land degradation;
- (x) the potential loss of any community service or benefit resulting from the planning approval;
- (y) whether the proposal is in accordance with Part 7- Environment, of the Proposed Master Plan;
- (z) any relevant submissions received on the application;
- (za) the provisions of Part 7 of the Proposed Master Plan;
- (zb) the comments or submissions received from any authority or person consulted under clause 11.1; and
- (zc) any other planning consideration the Commission considers relevant.

## **Appendix 6**

### **Summary of Submissions and Proponent's Response to Submissions**

See attached compact disc.



# HOPE VALLEY WATTLEUP

redevelopment project



## ENVIRONMENTAL REVIEW

### RESPONSE TO PUBLIC SUBMISSIONS

(EPA Assessment Number 1470)



**HOPE VALLEY  
WATTLEUP**  
redevelopment project

# ENVIRONMENTAL REVIEW

## RESPONSE TO PUBLIC SUBMISSIONS (EPA Assessment Number 1470)

Western Australian Land Authority  
(LandCorp)

29 April 2004

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Acronyms used in this report:

CALM	Department of Conservation and Land Management
CCI	Chamber of Commerce and Industry
CoC	City of Cockburn
CSMC	Cockburn Sound Management Council
DEP	Department of Environmental Protection
DoE	Department of Environment (formerly Department of Environmental Protection and Water and Rivers Commission)
DoIR	Department of Industry and Resources (formerly Department of Industry and Technology)
EPA	Environmental Protection Authority
EPP	Environmental Protection Policy
ER	Environmental Review
FPA	Fremantle Port Authority
FRIARS	Fremantle-Rockingham Industrial Area Regional Strategy
HVWRA	Hope Valley-Wattleup Redevelopment Area
HVWRP	Hope Valley-Wattleup Redevelopment Project
IFR	Individual Fatality Risk
KABZ	Kwinana Air Buffer Zone Community Group
KIA	Kwinana Industrial Area
KIC	Kwinana Industry Council
Kwinana EPP	<i>Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999</i>
LandCorp	Western Australian Land Authority
MRS	Metropolitan Region Scheme
NEPM	<i>National Environment Protection Measures (Implementation Act) 1998</i>
SPP	Statement of Planning Policy
ToK	Town of Kwinana
WAPC	Western Australian Planning Commission
WRC	Water and Rivers Commission
WC	Water Corporation



## 1.0 INTRODUCTION

The Western Australian Land Authority (LandCorp) has prepared the Hope Valley-Wattleup Redevelopment Project (HVWRP) Proposed Master Plan in accordance with *Hope Valley-Wattleup Redevelopment Act 2000*.

The HVWRP Proposed Master Plan involves the development and redevelopment of approximately 1,426 hectares of land in the local government areas of Cockburn and Kwinana. Figure 1 provides aerial photography of the Proposed Master Plan area, and also shows Thomsons Lake visible in the east, and Brownman Swamp and Lake Mt Brown within the Beeliar Regional Park west of Rockingham Road (which are outside of the Redevelopment Area).

The Proposed Master Plan was referred to the Environmental Protection Authority (EPA) by LandCorp in February, 2003 in accordance with Section 18 of the *Hope Valley-Wattleup Redevelopment Act 2000*. The EPA set the level of assessment at “Assessed: Environmental Review Required” in May, 2003. Instructions for the preparation of the Environmental Review were subsequently released by the EPA and an Environmental Review was prepared by Bowman Bishaw Gorham to satisfy and address these instructions.

The Environmental Review was available for a public review and comment period of 90 days from 5<sup>th</sup> December 2003 to the 4<sup>th</sup> March, 2004.

Concurrently, the Proposed Master Plan and Proposed Master Plan Report were also available for the same public review and comment period. The submissions received by LandCorp related to the Environmental Review, the Proposed Master Plan and the Proposed Master Plan Report.

Twelve responses addressed to the Environmental Review were received. However, the proponent has opted to identify all the environmental issues that were raised on the Proposed Master Plan, the Proposed Master Plan Report and the Environmental Review within this response.

This report therefore provides a summary of all the environmental issues received, and LandCorp’s detailed response to each of the issues raised.

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## 2.0 SUBMISSIONS

A total of 63 submissions were received by LandCorp, of which 12 were addressed to the Environmental Review, during and after the advertising period for the Environmental Review. However, the proponent has elected to consider all 63 submissions in its review. A break down of the source of submissions is provided below:

- 31 from members of the public;
- 13 from private industry
- 2 from community groups;
- 2 from Local Government; and
- 13 from State Government departments.

A list of the submitters is also provided in Appendix A of this report.

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### 3.0 GENERAL SUBMISSIONS

The following section provides a summary of the general submissions i.e. not directly related to any one particular Environmental Review topic or issue. The numbers in parentheses following each summary corresponds to the identification number assigned to each individual submission.

#### 3.1 General Comments Supporting the Proposal

3.1.1 *Supports the concept of the redevelopment project. (18)*

3.1.2 *The approach reflected in the documents is to be commended for the consideration of water resources within the HVWRA. In particular the cascading of provisions related to the protection and enhancement of water (including drainage) via the land use planning process from precinct structure plans to development and subdivision applications. (19 WC)*

3.1.3 *Strongly supports the Master Plan's objective to optimise basic raw materials extraction as an interim land use in the HVWRA (23 DoIR)*

3.1.4 *Strongly supports the Master Plan's objective of attracting non heavy industry from Kwinana's core area to free up heavy industry land. (23 DoIR)*

3.1.5 *Support Master Plan and allocation of precincts. (50 CCI)*

3.1.6 *CCI supports the Master Plan's intent to create a non-residential, industry buffer immediately north and east of the KIA. (57 KIC)*

3.1.7 *The KIC generally supports the proposed provisions and aims of the Master Plan*

The above support has been noted.

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## 3.2 General Comments against the Proposal

- 3.2.1 *Against being zoned as general industry. (2)*
- 3.2.2 *We are still here because you aren't paying enough in the acquisition process. (4)*
- 3.2.3 *We request that this area of land be open to general industrial development and not the restrictive sale requirements of the government of this day. (5)*
- 3.2.4 *Proposed Master Plan absolute disgrace, no comment in social transition strategy for people wishing to remain on their properties. (14)*
- 3.2.5 *You have ruined our life style and devalued our homes. All we want from you is replacement value. (15)*
- 3.2.6 *We are going to stay put as moving and relocating anywhere else now would be too costly for us and we really do love our property. (16)*
- 3.2.7 *As a long time resident of Hope Valley (forty years) I think it is an absolute disgrace what the governments have done to these communities. (17)*
- 3.2.8 *Continue to strongly oppose the FRIARS report and recommendations on which HVWRA proposed Master Plan is based. ((25 & 27) CoC)*
- 3.2.9 *This is my home (the big issue) where my heart belongs and family memories are to be remembered. (28)*
- 3.2.10 *The only certainties provided by the Master Plan and the HVWR Act are: a) that existing landowners and residents will become non-conforming land users; and b) that they have no future in the area in their present status. (32)*
- 3.2.11 *I have to say the least not been overly impressed by what has taken place and forced upon the residents of Wattleup and Hope Valley. (33)*
- 3.2.12 *The 'political decision' by the planning portfolio behind the HVWRA Master Plan proposal to change this land use from heavy industry to transport and general*

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*industry does not have my support, neither is it being supported by the local community, which is being relocated. (39)*

*3.2.13 Proposed Master Plan is worth 000. (40)*

*3.2.14 The entire concept of the HVWRP is seriously flawed. (41)*

*3.2.15 In our circumstances light industrial or Composite A would be a better option. (43)*

*3.2.17 Mandurah Railway should not be allowed to continue and include Precinct 13 thus giving ourselves and adjoining landowners the benefit this would bring. (44)*

*3.2.18 The large documents for the Environmental Review, Proposed Master Plan and Report have only added more confusion and distress to the average person to digest. (45)*

*3.2.19 After witnessing the destruction of Hope Valley we feel we have no idea of the future. (46)*

*3.2.20 As this is a long term project and I know what I say will not change the fact we must move from our home. There is no real comment I can make as it will happen whatever people say. (52)*

*3.2.21 We as a family have 10 years plus of writing submissions and letters of complaint so this just seems like another waste of time putting pen to paper when the people of the area have raised issues and objections into the many proposals that politicians and public servants haven't taken any notice and gone ahead with their way anyway. (56)*

*3.2.22 Shamefully to date, the aspects of both psychological and financial counselling have not been addressed nor have the aspects of compensation for township residents. ((60 & 61) KABZ)*

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3.2.23 *Our view is that a title of present and future zoning needs to be established, which is for the better than the current buffer zone zoning. This stigma has been around for a long time which has made our land undervalued. (63)*

The above comments not in support of the proposal have been noted.

### 3.3 General Comments on Roles

3.3.1 *Require clearer definition of separation of roles between LandCorp and the Western Australian Planning Commission. That is, the role of LandCorp seems to include regulation of development which should solely be the role of the Western Australian Planning Commission. (36 ToK)*

Disagree.

LandCorp's roles in the Proposed Master Plan is defined in the *Hope Valley – Wattleup Redevelopment Project Act 2000*. The Act gives LandCorp the responsibility to plan, coordinate, undertake and develop the Hope Valley – Wattleup Redevelopment Area (HVWRA). The Proposed Master Plan provides for LandCorp to prepare a Structure Plan, Planning Policy or Design Guideline in respect of any matter related to the planning and development of the Redevelopment Area.

The Western Australian Planning Commission (WAPC) is responsible for administering the Proposed Master Plan. This includes determining planning applications, Planning Policies, Design Guidelines and other matters. The Proposed Master Plan allows the WAPC to prepare a Planning Policy or Design Guideline in respect of any matter related to the planning and development of the Redevelopment Area.

3.3.2 *The right for the WAPC to 'assess' environmental information (in lieu of the EPA) required to be submitted with their application, is questioned. (20 WC)*

Noted.

As stated in the previous response the WAPC is responsible for administering the Proposed Master Plan, which includes determining planning applications.

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However, certain industries which have the significant potential to cause pollution of air, land or water are known as ‘prescribed premises’ under the *Environmental Protection Act 1986*. Subsequently, these premises are required to hold a Works Approval (for construction) and a Licence or Registration (for operation) under the *Environmental Protection Act 1986* (DoE, 2004).

Therefore, where it is required controls for future development will continue to be exercised through the Department of Environment’s (DoE) Works Approval and Licensing.

Furthermore, Section 8.1 of the Environmental Review recognises that impacts from individual development proposals involving potentially significant pollution, emissions and risk (individual and public) arising from, or affecting, land use and development in the Redevelopment Area cannot be identified at this stage. The EPA has recognised this as a deferred environmental factor and that these assessments will be assessed as required.

That is, while the issue is considered relevant to the HVWRA it is appropriately addressed at a later stage. In this case, the EPA retains the ability to assess these proposals under Part IV of the *Environmental Protection Act 1986*.

### 3.4 General Comments on Consultation

3.4.1 *The public submission period was far too short to enable proper consideration of the Proposed Master Plan. ((25 & 27) CoC)*

Disagree.

Under the *Hope Valley – Wattleup Redevelopment Act 2000*, the public submissions period is set at 60 days. However, this period was extended to follow the Metropolitan Region Scheme (MRS) process of 90 days.

3.4.2 *The Council was not properly consulted by LandCorp during the preparation of the Master Plan prior to the plan being submitted to the Commission, as*

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*approved for under section 12(3) of the Hope Valley – Wattleup Redevelopment Act 2000.*

*3.4.3 KABZ wishes to stress its bitter disappointment with the Community Consultation process to date. Despite supposed extensive consultation we are of the opinion that lip service only has been paid. However, we do strongly urge continued community consultation and notification. We cannot stress enough the importance of maintaining a consultation process for life of the project. ((60 & 60) KABZ)*

Disagree

The consultation processes undertaken in drafting the proposed Master Plan is set out in Appendix B of the Proposed Master Plan Report.

Extensive consultation to obtain the views of stakeholders including the subject submitters has taken place over the life of this project as well as its predecessor, the Fremantle - Rockingham Industrial Area Regional Strategy (FRIARS).

The submissions provided in these processes have been considered and regard to these views can be demonstrated.

For instance the Indicative Land Use Plan was mailed to all landowners in the Redevelopment Area and then exhibited in the project area between 12 and 15 September 2002. Presentation and representation were also made to the Community Reference Group. A total of 13 responses were received and several alterations were made to the plan in response to these submissions.

This plan then formed the basis of the proposed Master Plan. The proposed Master Plan was open for public comment for 90 days, with an extensive mail out to all ratepayers and residents in the project area as well as other stakeholders, community briefing days and individual briefing sessions upon request.

Moreover, the environmental review and its public review processes form part of the public comment and review of the Proposed Master Plan

LandCorp remains committed to community consultation.

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### 3.5 General Comments on Potential Impacts

3.5.1 *Procedures need to be in place to ensure that cumulative effects can truly affect the planning of the development. (42)*

3.5.2 *The cumulative impacts of the overall rezoning of the land within the study area should addressed at this stage, rather than impacts being addressed during the individual structure plans that are prepared for each precinct. Better protection of the environment would result from addressing these issues sooner rather than later in the planning process. ((10 & 11) DoE)*

Noted and acknowledged.

The ability to address the overall cumulative impacts at this stage of planning is somewhat limited as the particular industries that will locate within each of the HVWRA precincts cannot be definitely identified.

However, the opportunity to consider these issues in greater detail will appropriately be at the structure planning and/or development application stage. There are a number of levels to consider in this respect:

- The Proposed Master Plan deals with the over-arching philosophies of planning and environmental management in the project area;
- The structure plans will reflect the latest policies, practices and the adoption of Best Management Practices;
- The individual industries locating in the project area will require design, construction, and operation in accordance with current Best Management Practices;
- Controls will continue to be exercised through DoE's Works Approvals and Licensing (where required, please see response provided in Section 3.3.2); and
- Controls will also be in place through the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (Kwinana EPP), *Environmental Protection (Noise) Regulations 1997*, the *Revised Draft of the Environmental Protection (Cockburn Sound) Policy 2002* and any other relevant regulatory requirements.

There will also be a yearly consolidation review of the Proposed Master Plan to ensure that it considers cumulative effects and reflects the latest policies and current Best Management Practices.

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Moreover, Section 7 of the Proposed Master Plan has very stringent and onerous environmental provisions, which industries in the HVWRA will need to address at the structure plan or development application level.

For example Section 7.1(c) of the Proposed Master Plan states:

*The use or development of land is not to have individual or cumulative adverse environmental or social impacts on:*

- *Residential areas outside the Residential Area;*
- *Other land uses and amenities within or outside the Redevelopment Area;*
- *Conservation Category Wetlands or any sensitive environments within or outside of the Redevelopment Area;*
- *Cockburn Sound;*
- *Soil groundwater and surface water*
- *Air quality; and*
- *Future land uses within and surrounding the Redevelopment Area”.*

With respect to Air Quality, Section 7.3.4 of the Proposed Master Plan has been amended (see response provided in Section 6.1.3) to state:

*Land Use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not unacceptably affect neighbouring land uses, developments, employees, the general public or environmentally significant areas.*

Sections 7.3.5 Noise and Section 7.3.6 Land Use Compatibility and Risk of the Proposed Master Plan propose similar measures to ensure that the potential for cumulative impacts are considered at the development stage.

Section 8.1 of the Environmental Review recognises that impacts from individual development proposals involving potentially significant pollution, emissions and risk (individual and public) arising from, or affecting, land use and development in the Redevelopment Area cannot be identified at this stage. The EPA has recognised this as a deferred environmental factor and that these assessments will be assessed as required.

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That is, while the issue is considered relevant to the HVWRP it is appropriately addressed at a later stage. In this case, the EPA retains the ability to assess these proposals under Part IV of the *Environmental Protection Act 1986*.

*3.5.3 When resources from the natural environment are used, the environment is often modified. Strategy plans if implemented, this proposal will have an enormous effect on the earth and people. (28)*

The import of this submission is not clear.

The objective of the Environmental Review is to address potential environmental impacts and appropriate management.

If referring to the extraction of basic raw materials within the HVWRA, these are on-going operations under existing approvals and not part of the current proposal.

### **3.6 General Comments on the Environmental Assessment**

*3.6.1 The Environmental Review does not describe the full effects of the Proposed Master Plan because it specifically ignores all other potential developments on the site. It looks only at the environmental consequences of the Proposed Master Plan. (42)*

Disagree.

Section 1.1 of the Environmental Review provides a background on the outcomes of FRIARS and the master planning for the HVWRP. This resulted in the determination of a preferred land use option, which formed the basis of the Proposed Master Plan.

Therefore, the scope of the Environmental Review was, by definition, limited to the environmental impact assessment of the new land uses and development specifically proposed by the Proposed Master Plan in the HVWRA. This was recognised by the EPA in their Environmental Review Instructions (see Appendix A of the Environmental Review)

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3.6.2 *It is of concern that the Environmental Review can state that on the site proposed there are "no significant...environmental constraints to the development". Site contains over 200ha of remnant vegetation, on top of a drinking water aquifer, surrounded by some of the few remaining wetlands, close to an extensively used (and already damaged) marine area and immediately downwind and adjacent to residential areas. It is difficult to imagine how any organisation considering "environmental protection" could regard these issues as "insignificant". (42)*

Noted and acknowledged.

The purpose of the Environmental Review was to describe the existing environment and potential environmental impacts resulting from the implementation of the Proposed Master Plan, together with a description of management strategies proposed within the subsequent planning process.

Section 7 of the Proposed Master Plan has very stringent and onerous environmental provisions, which will ensure that future development is managed appropriately at the structure planning and development stage.

Whilst the Environmental Review stated that "...there are no significant...environmental constraints to the development of the area..." it was not meant to be interpreted as identifying these issues as insignificant. The purpose of this statement was to highlight that no fatal flaws with regards to the environment has been identified and that the environmental issues relevant to the area do not pose a significant constraint to future development provided that they are managed appropriately and that significant areas, such as the wetlands located in the southern area are protected and conserved.

3.6.3 *Whilst addressed, the assessment of wetlands, remnant vegetation, green belt linkages and fauna studies were not fully addressed in the Environmental Review. ((60 & 60) KABZ)*

Noted.

The opportunity to consider these issues in greater detail will appropriately be at the structure planning and/or development application stage. The Proposed Master Plan

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deals with the over-arching philosophies of planning and environmental management in the project area.

Section 7 of the Proposed Master Plan has very stringent and onerous environmental provisions, which developments in the area will need to address at the structure plan or development application level. For example, Section 7.4.2 (a) requires the following:

*Information on the receiving biophysical environment, following survey in accordance with EPA’s Draft Guidance No. 51 and 56, and any significant features or characteristics, in a local and regional context.*

### 3.7 General Comments on Environmental Objectives and Aims

3.7.1 *At least half of the Environmental Objectives in Section 7.2 of the Proposed Master Plan are now a legislative requirement with changes to the Environmental Protection Act 1986. Further information is required on how these objectives will be achieved and the mechanisms that will be used. (26 CoC & 37 ToK)*

Agreed.

The Proposed Master Plan deals with the over-arching philosophies of planning and environmental management in the project area. Proposed structure plans and development applications will reflect current policies.

Individual industries located in the project area will also be required to ensure that design construction and operation is in accordance with current Best Management Practices. Furthermore, each industry within the HVWRA with the potential to pollute will be the subject of a Works Approval and subsequent Licensing by the DoE as required under Part V of the *Environmental Protection Act 1986* (please see response provided in Section 3.3.2). Controls will also be put in place through the Kwinana EPP.

As stated in Section 3.5, there will be a yearly consolidation review of the Proposed Master Plan to assess its’ performance and to ensure that it reflects current policies and Best Management Practices.

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*3.7.2 The Environmental Objectives in Section 7.2 of the Master Plan is an extensive set of objectives which could severely limit the scope of development within the area. ((25 & 27) CoC)*

Acknowledged.

In order for sustainable development to occur there needs to be a balance between the social, economic and environmental objectives.

It is acknowledged that the list of environmental objectives is extensive. However, the environmental objectives identified within Section 7.2 of the Proposed Master Plan reflects the general trend of what is required from future developments and the increasingly stringent environmental controls that are being placed on future development through legislative and regulatory requirements.

Therefore, the proponent is of the view that the Proposed Master Plan provides future industries within an upfront and transparent set of environmental objectives which identify the current and future environmental issues that are relevant to the HVWRA and the management measures that will be required in order to ensure that these objectives are met.

*3.7.3 Supports environmental objectives of the Master Plan but should recognise that there are existing industrial uses in the HVWRA which may not be able to comply with all the provisions in Part of 7 of the Master Plan. These existing uses should be permitted to continue operations provided that they continue to comply with all operational licensing and development approval controls. (57 KIC)*

Acknowledged.

Under the Proposed Master Plan all legal land uses can continue as a non-conforming use provided they meet the requisite environmental and planning provisions. To enforce the cessation of these uses would leave the WAPC open to compensation and other legal claims, which is not in the best interests of the HVWRP.

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However, it is noteworthy that all subsequent development applications will be subject to meeting the objectives of the Proposed Master Plan but within the non-conforming use provisions.

The principle of non-conforming uses is that over time the land uses will become consistent with the Proposed Master Plan. Meanwhile, incompatible land uses can be managed through existing environmental licensing and approvals process.

#### 3.7.4 *Concerned with the funding of achieving environmental aims. (41)*

Noted and acknowledged.

The Proposed Master Plan is the first strategic level of planning which will guide the outcomes of the proposed redevelopment through providing the framework and guidelines for future development of the area.

The funding required in order to achieve the environmental aims of the Proposed Master Plan can be achieved through the following three tiers: state; precinct and structure planning; and individual development.

The management and protection of wetlands within the HVWRA has been used as an example to illustrate the cascade effect that the Proposed Master Plan achieves for this issue.

- State:

The wetland areas proposed for Parks and Recreation reserves within the HVWRA will be acquired by the WAPC and most likely vested with the appropriate authority. This would most likely be the Department of Conservation and Land Management (CALM), the Local Authority or other body. The long term responsibilities for management will rest with the vesting body, but could be financed through a variety of mechanisms, similar to other land developments adjacent to Parks and Recreation reserves within the Perth Metropolitan Area.

- Precinct and structure planning:

During the structure planning for each precinct in close proximity to wetlands, an appropriate buffer will be determined based on the specific characteristics and

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protection requirements of each wetland. Should this require area to be set aside as public open space for the purpose of providing a buffer, then acquisition of these areas would be through developer contribution costs under Section 6.3 of the Proposed Master Plan. This would also be vested with the appropriate authority.

- Individual development:

In terms of pollution management, each industry locating within the HVWRA with the potential to pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2). Furthermore, future development is required to demonstrate under Section 7.4.2 (m) of the Proposed Master Plan that the wetland values will be protected.

*3.7.5 Some of the aims expressed in the Master Plan for this development are to maintain or improve air and groundwater quality, promote on-site water retention and promote energy efficiency. How can they actually be made to work? How can they be enforced rather than being empty rhetoric? (41)*

Noted.

The Proposed Master Plan has been prepared in accordance with the *Hope Valley – Wattleup Redevelopment Act 2000*, and accordingly, has statutory weight. The Proposed Master Plan is the first strategic level of planning which will guide the outcomes of the proposed redevelopment through providing the framework and guidelines for future development of the area.

The Proposed Master Plan will provide the basis for development control within the project area, and will be administered by the WAPC. The following measures will ensure that future developments meet these environmental objectives:

- The Planning Strategy sets out the long-term direction of land use planning and development control for the redevelopment area;
- The Proposed Master Plan text will provide the primary controls of land use and development, and also provide for the creation of policies and design guidelines; and
- The Planning Policies and Design guidelines will provide a more detailed layer of guidance of land use and development in the Redevelopment Area.

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### 3.8 General Comments on Monitoring

3.8.1 *Monitoring should be set up before any development occurs, to establish baseline levels, and should be carried by a single agency and for the lifetime of this project. The responsible agency must have reasonable funding to carry out this out. (41)*

Noted.

As described in Sections 4.3.3, 5.4.3, 6.1.3 and 6.1.4 of the Environmental Review, there are appropriate agencies with statutory requirements for monitoring.

### 3.9 General comment on Cockburn Cement Operations

3.9.1 *From DoIR's review of the Hope Valley-Wattleup Redevelopment Act 2000 and relevant references to Town Planning Act; Hope Valley - Wattleup Redevelopment Project Proposed Master Plan and Environmental Review; CALM's Nature Base (with reference to Threatened Ecological Communities); Hope Valley - Wattleup Redevelopment Project website; and City of Cockburn Town Planning Scheme No. 3, DoIR would agree with the view that the Proposed Master Plan and any associated environmental assessment has no effect in relation to Cockburn Cement's operations, which are recognised in the proposed plan, and more specifically noted within Town Planning Scheme No. 3. However, such exemption in relation to prior legal land use (non-conforming use) under the Master Plan is considered to be separate from environmental requirements under the State Agreement and in relation to Cockburn Cement's operational license. 23 DoIR*

Noted.

Please see response provided in Section 3.7.3.

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## 4.0 SUBMISSIONS RELATING TO INTEGRATION

### 4.1 Sustainability

#### Definition and Assessment

*4.1.1 The Environmental Review uses a definition of sustainable industrial development that is from an organization (UNIDO) of which Australia is not a member state. Consider that the West Australian State Sustainability Strategy definition for sustainable development is more appropriate. (20 WC & 26 CoC)*

Agreed.

Sustainability should be aligned to the State Sustainability Strategy.

*4.1.2 Sustainability section of the Environmental Review needs to be reviewed and realistic definitions and assessments of sustainability developed and detailed. (42)*

*4.1.3 Further information on how the sustainability model works and what it is intended to assess and achieve needs to be provided. The Sustainability Checklist seems to be simplistic in nature and its usefulness is questioned. Some form of justification or explanation as to how each criterion in the Sustainability Checklist has been met or achieved should be provided. ((10 & 11) DoE, 26 CoC & 37 ToK)*

Disagree.

In order to identify existing and potential sustainability issues for the Redevelopment Area, the environmental assessment undertaken was required to have regard for the EPA's *Position Statement No. 6: Towards Sustainability*. A provisional checklist of questions to be asked when proposals are being considered is provided in its Position Statement. As noted in Section 4.1.4 of the Environmental Review, the checklist is merely intended to demonstrate that at an overarching level each of the elements have been considered, and that attempts have been made to address the key issues.

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Detailed sustainability criteria such as energy usage are development policies and are not considered appropriate at this level of planning. The Proposed Master Plan identifies the objectives and provisions for future development and it is important to note that the sustainability principles underlie these objectives and provisions.

Detailed criteria, policies, guidelines and sustainability checklist will form the subsequent stages of planning. Future structure planning and development will also be subject to the latest policies and current Best Management Practices to ensure that they are aligned with the State Sustainability Strategy. Furthermore, the Master Plan will also be subject to a yearly consolidation review to ensure that the Master Plan also reflects the latest policies and current Best Management Practices.

Developments to highlight demonstration models for sustainability within industrial setting will be encouraged.

#### Application

*4.1.4 Not clear how the sustainability analysis will be applied and what decisions are taken for those proposals that do not achieve the required modelled outcomes. Is this to be the basis for refusal or redesign? ((25 & 27) CoC)*

*4.1.5 Further detail on how sustainability principles will be achieved and the incentives, restrictions and complementary planning mechanisms that will be required to achieve environmentally sustainable outcomes needs to be provided. (37 ToK)*

Noted.

Please refer to response provided in Sections 4.1.2 and 4.1.3.

*4.1.6 Development conditions need to be developed to achieve energy efficiency. To contribute to current local programs such as Green Stamp and Cleaner Production and programs being developed by the South Metropolitan Region*

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*Greenhouse Officers Group. Strategy also needs to be developed on what forms of renewable energy will be encouraged. (37 ToK)*

Agreed.

Development conditions will be set as appropriate once the layers of planning are in place. See also response provided in Section 3.5.2 and others.

*4.1.7 The SPeAR ‘rose’ needs to be in colour to be able to be interpreted without a description of how a rating between ‘optimum’ and ‘worst case’ is assigned for each indicator, the SPeAR tool seems open to significant subjective determination. (26 CoC)*

Noted.

However, the documents were also provided electronically via compact disc or the HVWRP website, and could be viewed in colour.

## **4.2 Land Use Compatibility**

### Assessment

*4.2.1 The Environmental Review needs to reconsider land use compatibility issues including accident potentials. (42)*

Disagree.

As detailed information regarding the industries that may locate within the HVWRA becomes available, the opportunity to consider these issues in greater detail will be appropriately dealt with at the structure planning and/or development stage.

Comprehensive provisions exist in Section 7.3.6 Land Use Compatibility and Risk of the Proposed Master Plan. These will ensure that individual societal and environmental risks are managed to the requirements of the EPA.

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## Potential Land Use Conflicts

4.2.2 *Location of further industry close to residential areas will mean more exposure to industrial pollution from both everyday and emergency activities, which will result in negative social and health outcomes. Location of general industry in Precinct 11 (adjoining the Redevelopment area boundary to the north) may attract complaints from neighbouring uses (i.e. housing and market gardens) and therefore, the location of this land use should be addressed. ((10 & 11) DoE & 41)*

Noted.

In order to avoid unacceptable impacts on existing and future land uses, Section 4.2.5 of the Environmental Review identifies the management of land use compatibility within the HVWRA and external to the site as an important issue. Future development will be required to ensure the interface of industry relative to adjoining and adjacent uses within and outside the HVWRA is appropriate.

The Proposed Master Plan has acknowledged the issue in its overriding environmental objectives. Section 7.1 of the Proposed Master Plan identifies that:

- *The nature of industrial development is to be conducive to surrounding land uses outside the Redevelopment Area;*
- *The use of development of land is to not have individual or cumulative adverse environmental or social impacts on:*
  - *Residential areas outside the Redevelopment Area;*
  - *Other land uses and amenities within or outside the Redevelopment Area;*
  - *Air Quality; and*
  - *Future Land uses within and surrounding the Redevelopment Area.”*

Sections 7.3.4 Air Quality, 7.3.5 Noise and 7.3.6 Land Use Compatibility and Risk of the Proposed Master Plan form the basis of the management system proposed to achieve these objectives.

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4.2.3 *Non-industrial land uses being located outside of key strategic landholdings and on the periphery of the Master Plan area where impacts of such activities will not affect surrounding land uses. (36 ToK)*

Disagree.

An important aspect of the HVWRA is that it results in a sustainable outcome. In order to achieve this, it was considered necessary to propose a variety of compatible uses providing workers with access to services and amenities.

Future development will be required to ensure the interface of industry relative to adjoining and adjacent uses within and outside the HVWRA is appropriate. The overall planning for the HVWRA has endeavoured to:

- Separate or buffer incompatible land uses within and external to the HVWRA as far as practicable. Precincts 5, 6, 9, 12 and 13 are close to sensitive land uses external to the HVWRA, and the uses permitted in these precincts have been selected to minimise any off-site impacts. These areas are likely to have similar impacts to the standard commercial average and will act as a buffer to the general core of the development.
- Ensure that future development will achieve horizontal integration across the Redevelopment Area. The aim of this being a transition in land use towards the rural residential areas located to the north and east of the HVWRA.

Another important aspect to consider is that the land uses interfacing with residential will need to be in accordance with the relevant regulatory controls, such as the *Environmental Protection (Noise) Regulations 1997*.

4.2.4 *Concerned if the land that is currently zoned semi-rural immediately east of precincts 9 & 10 was rezoned to allow more intensive residential development. Increasing number of residents in this area would raise the potential for land use conflicts between industries located in precincts 9, 7, 6 and 13 and residences. (50 CCI)*

Noted.

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Consideration of the merits of residential development adjacent to the HVWRA is not proposed as part of this assessment. This consideration will require amendments to the MRS and relevant local planning scheme but should not affect the HVWRA proposed land uses due to the concept of horizontal integration.

*4.2.5 Industries which generate airborne emissions and high risk profiles should not be allowed in the area. Industry within Precincts 10, 11 and 12 needs to be restricted to industries with very low risk for atmospheric pollution. (36 ToK & 41)*

Noted.

Please refer to responses provided in Sections 4.2.2 and 4.2.3.

*4.2.6 Eastern Gateway is hilly terrain consisting of sandhills. Some owners may operate a de-facto quarry for a number of years under the guise of 'levelling' their site for industrial development (i.e. selling the yellow sand). Neighbours who are continuing to live in their rural settings should not be expected to tolerate this for all the obvious environmental reasons. i.e. dust, noise, disturbance of groundwater, etc. Propose that something should be included in the Master Plan to prevent this type of activity. Also other activities that would affect rural living for those that are continuing to live as the always have. (48)*

Noted.

Much of the HVWRA is currently subject to or proposed for future extraction of basic raw materials. The HVWRA contains both key and priority extraction areas. As defined in the WAPC's *Statement of Planning Policy (SPP) No. 10: Basic Raw Materials* (2000), Key Extraction Areas are recognised regional resources providing for the long-term supply of basic raw materials. Priority areas are those locations of regionally significant resources which should be recognised for basic raw materials extraction.

Extractive industries and their access to raw material resources in the HVWRA are protected under SPP 10. Extractive industry licenses constrain the redevelopment of some sites for up to ten years and in the case of Cockburn Cement, 32 years.

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Under the Proposed Master Plan all legal land uses can continue as a non-conforming use *provided* they meet the requisite environmental and planning provisions. To enforce the cessation of these uses will leave the WAPC open to compensation and other legal claims.

The principle of non-conforming uses is that over time land uses will become consistent with the Proposed Master Plan. Meanwhile, incompatible land uses can be managed through existing environmental licensing and approvals process.

For areas outside of SPP 10 some levelling will be necessary to ensure finished floor levels are to industrial land use, health and safety requirements.

*4.2.7 Absolute minimum buffer distances need to be specified, together with a range of larger values that might be more appropriate, and enforcement procedures to ensure that the buffers distance are adhered to. Buffer distances need to be reviewed and modified to prevent industry-to-industry problems. (42)*

Agreed.

Section 4.2.3 of the Environmental Review identifies generic buffer distances recommended for different types of industries.

As stated in Section 4.2.5 of the Environmental Review, in addition to the measures proposed within the Proposed Master Plan planning process, the DoE/EPA will still also have the opportunity to assess individual proposals that may have a significant off-site impact.

For any proposed industries that may have significant off-site impacts, the DoE/EPA may require that buffer zones be considered on a case-by-case basis using appropriate modelling techniques and guidance principles. In these instances the industry proponent would be required to undertake this work prior to gaining a Works Approval from the DoE.

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4.2.8 *Require a transitional buffer extending the length of the periphery of the redevelopment area to integrate existing and proposed development. (36 ToK)*

Disagree.

Transitional uses are in place through the concept of horizontal integration. Please refer to response provided in Section 4.2.3.

4.2.9 *Table 6.5 of the Environmental Review lists an indicative buffer for extractive industries as 1,000m. Depending on the type of quarrying, noise measurements and dust observations on existing quarries show that a buffer of 100m plus can provide all the statutory protection. To ensure co-existence of extractive industry operations and other types of industry, buffer distances around extractive industries must not be too large. Given the temporary/sequential extraction and surrounding compatible uses, CCI recommends a maximum buffer distance of 200m is imposed around the identified extractive industry sites within the Master Plan area. (50 CCI & 55)*

Disagree.

Buffer distances will be considered in accordance with DoE Works Approval and Licensing (where required, please see response provided in Section 3.3.2), and industry specific environmental impact assessment and management.

In the absence of a proper scientific study based on site and industry specific information, to set an arbitrary maximum limit which is below the generic recommended buffer distance is not considered appropriate.

4.2.10 *It is clear that reconciliation of the Cockburn Cement's operations with redevelopment requires recognition of a buffer area. The issue then becomes the two-fold resolution of:*

- *the extent of the required buffer area; and*
- *the uses to which the buffer area can be put.*

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*The extent of the buffer required must be determined by taking into account a buffer definition study and other relevant planning considerations. The Master Plan should not make it easier for measures to be introduced which allow for further incompatible development to take place nearer to the Company's Site.*

*Accordingly, in relation to land use planning in the vicinity of the Company's current operation we submit that the Master Plan should make it clear that when considering proposed development regard must be had to potential land use conflicts and compatibility with surrounding land use - any dust particulate and noise sensitive uses should be prohibited. It is our submission that the following use classes, which in the proposed Master Plan are permissible in the relevant precincts, should be prohibited: Crèches; Trade display (if includes outdoor trade display); Industry - Service; and Educational establishment - Tertiary.*  
(62)

Disagree.

It is acknowledged that the land uses proposed for Cockburn Cement's site are sequential to the cessation of its land use.

The Company's current operations and buffer requirements will be provided by the general industry zoning.

An important aspect of the HVWRA is that it results in a sustainable outcome. In order to achieve this, it was considered necessary to propose a variety of compatible uses providing workers with access to services and amenities. These have been determined to be appropriate land uses and should be considered on their individual merit, which can be addressed at the development application stage, where a detailed assessment can be undertaken. However, with respect to the use for Crèche, this will now be a discretionary use only within the Eco-Industry Development Precincts.

*4.2.11 Retail and recreational facilities not appropriate for this heavy industry buffer. Educational facilities, recreation centres and sports grounds are also not suited. Low key, passive recreation may be acceptable. Non-industrial land uses that attract many people should be discouraged. (23 DoIR)*

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Noted.

Due to the limited localised commercial facilities and the future work force demanding a high level of amenity and service, local retail and commercial facilities are considered appropriate for the HVWRA. In order to ensure that the HVWRA is developed sustainably, it is important to ensure that the work force have access to these services. Therefore, local retail/commercial facilities are considered to be a necessary and integral component of the HVWRA.

Education facilities that are proposed will be tertiary and are a permitted use in the Eastern and Northern Gateway Precincts. Sports grounds are not proposed within the HVWRA and any future recreation centres will be focused on providing a localised and low-key service primarily focused on the demands of the workforce.

*4.2.12 Supports the development of Precincts 5, 6, 7, 9, 12 and 13 as a transition buffer zone, also wish to ensure that the industrial focus of the HVWRA is retained. The KIC considers that Master Plan should emphasis that development of commercial, light industrial, and other non-industrial uses in the HVWRA are complementary and subsidiary uses to the industrial focus of the area, rather than the predominant use of the HVWRA. (57 KIC)*

Noted.

The Proposed Master Plan is built on providing a mix of land use to cater for industrial uses as well as ensuring that a horizontal transition in land uses occurs between industrial and non-industrial occurs.

*4.2.13 Seek that Residential Building and Home occupation be retained as 'X' uses in all precincts of the HVWRA and that Crèche also be a 'not permitted use' in all precincts. (57 KIC)*

Agreed.

Residential Building and Home Occupation will be retained as 'X' uses in all precincts of the HVWRA, with the exception of Precinct 13 where it will be a discretionary (see

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response provided in Section 8.1 on Precinct 13). Crèche will be a discretionary use in only the Eco Industry Development Precincts.

*4.2.14 Commercial/Service Centre for Precinct 5 is inappropriate because it is only 2km and down-wind from the Alcoa alumina refinery and the Kwinana Power Station. Any proposal attracting the travelling public into the inner buffer area is not acceptable. (39)*

Disagree.

Due to the limited local commercial facilities and the future work force demanding a high level of amenity and service, local retail and commercial facilities are considered appropriate for the HVWRA. In order to ensure that the HVWRA is developed sustainably, it is important to ensure that the work force have access to these services. Therefore, local retail/commercial facilities are considered to be a necessary and integral component of the HVWRA.

However, structure planning and development will determine the size and extent of individual uses within Precinct 5.

*4.2.15 Object strongly to the classification of Precinct 1 as an area where extractive industries are not permitted. (1)*

Disagree.

The Town of Kwinana has proposed ecological linkages which include the remnant vegetation along Anketell Road, Long and Conway Road Swamps and the remnant vegetation adjacent to Hendy Road within Precincts 1 and 14. Additionally, the Town of Kwinana has recently agreed with Alcoa that the wide remnant vegetation of the Alcoa land north of Anketell Road to the east of the study site will be preserved as part of an east-west linkage.

As a result, parts of Precinct 1 contains wetlands (Conway Road Swamp and Hendy Road Swamps) and a large upland vegetated east-west linkage from Conway Road Swamp east to the proposed Fremantle – Rockingham Highway road reserve, which is

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proposed for Parks and Recreation reservation. Other significant linkages extending on from the proposed Fremantle – Rockingham Highway road reserve to the Hendy Road Swamps, with a vegetated north-south linkage to Long Swamp has been identified for future conservation subject to detailed investigation at the structure planning and development stage.

A recent assessment to determine the likelihood of Threatened Ecological Community (TEC) Type 26a – *Melaleuca huegelii* – *M. acerose* shrublands on limestone ridges has identified three sites within the HVWRA as potentially containing TEC 26a (refer to response provided in Section 5.1.1). One of these sites occurs within an area of upland vegetation and is located in the proposed southern Parks and Recreation reserve.

Therefore, until a definitive analysis is completed to determine the presence of TEC 26a, it is recommended that the Precautionary Principle, as described by the EPA (2002a) be adopted and that the site be treated or managed as though it were TEC 26a.

In light of the above, and that a number of submissions have identified the need for further reservation of vegetation for conservation and ecological linkages it is considered appropriate that this area be reserved in order to ensure that the associated environmental values are retained and protected.

*4.2.16 Redevelopment area is close to lakes, natural bush, natural wetlands and the coast. Consequently this land is prime residential real estate and it is entirely wasted on industrial applications where such amenity is irrelevant. (41)*

Noted.

The *Hope Valley – Wattleup Redevelopment Act 2000* requires the Redevelopment Area to be developed for industrial use.

Section 1.1 of the Environmental Review provides a background on the outcomes of the FRIARS and the master planning for the HVWRP. Section B4.6 of the Proposed Master Plan Report provides a background on the economic issues associated with the redevelopment of the Hope Valley – Wattleup area.

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FRIARS identified a number of options for the future development of land in the buffer area associated with the Kwinana Industrial Area (KIA). These options were assessed as part of the larger planning exercise undertaken for FRIARS.

FRIARS was predicated on the idea that relocating the townsites would fulfil a social and planning objective simultaneously. The social and environmental objectives would be achieved because there would not be intensive residential nodes in the buffer zone. The consequence of this is that any current and future risks associated with having industrial development in these areas will be mitigated. Additionally, current and future constraints on future industrial development would be removed and the plan involved an opportunity to make available a significant amount of general industrial land to meet projected demand over a considerable period of time. This resulted in the determination of a preferred industrial land use option, which formed the basis of the Proposed Master Plan.

### 4.3 Catchment Management and Water Quality

#### Management

*4.3.1 The 'Strong Planning Provisions' to combat risk of surface and groundwater contamination needs to be defined and submitted to the EPA and Town of Kwinana. (37 ToK)*

The import of this submission is not clear.

However, please refer to response provided in Section 4.3.5.

*4.3.2 Management of existing nutrient and contaminant on site and the possibility that construction or future use of such sites have some effect on these will require further consideration in consultation with the EPA, DoE and CSMC. Important to maintain a consistent high standard of management and control of nutrient and contaminant issues through all levels of the planning process. Master Plan should ensure that where appropriate, structure plans, strategy and policy should be done in consultation with Local Governments and the Department of Environment. ((7 & 8) CSMC)*

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Agreed.

The Cockburn Sound Management Council (CSMC), DoE and Local Authorities will be consulted, where appropriate, with the future planning for the area, as well as the development of strategies and policies.

*4.3.3 The Master Plan and Water Management Strategy should state that through the proposal, the proponent will commit towards improving quality of the water resource and reducing nutrient concentrations or loads and addressing site contamination issues. ((7 & 8) CSMC)*

The proponent agrees with the intention of this submission; potential impacts on groundwater and surface water quality within the HVWRA, and subsequently Cockburn Sound, is a highly significant issue which remains unmanaged in the current land use scenario.

But, in this regard it is imperative to note and accept that the proponent cannot alone seek to redress contaminant loading when it controls less than 10% of the HVWRA.

However, a series of strategic measures set in place by the Proposed Master Plan will result in significant improvements in the water quality.

Firstly, the HVWRA will result in the transition from horticultural activities, extractive industries, landfills and other potentially groundwater contaminating land uses, such as current residential land utilising on-site septic tanks for effluent disposal, to sewered commercial/industrial land uses. Redevelopment will result in a major change in the nature and management of land uses from the existing haphazard, low-density developments and out-of-date environmental management systems (if any) to a structured, well engineered multiple-use industrial park with improved technology and management practices. The transition from horticultural and residential land uses will likely result in a large decline in the containment load entering the groundwater which may result in an improvement in groundwater quality.

For example, Gerritse *et al.* (1990) estimated nutrient input from different intensive agricultural land uses in the Perth area. Market gardening, which is a significant existing land use within the HVWRA, is a major contributor to nutrient loading with

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approximately average loading of 200-1,200 kg/hectare/year of phosphorus (P), and 2,440-14,640 kg/hectare/year of nitrogen (N), based on 2-3 crops per year. Based on nutrient mass balances computed for typical market gardens by the Western Australian Department of Agriculture, the nutrient leaching potential for P is 500 kg/ha/year and for N is 2000 kg/ha/year (in Sharma *et al.*, 1991).

Gerritse *et al.* (1988) estimated that annual input of phosphorus and nitrogen in a sewerred urban residential area (with 10 houses per ha) would be 40 and 80 kg/ha respectively. Values for unsewerred residential areas at the same density are 70-80 kg/ha P and 260 kg/ha N.

For broad comparative purposes, we could generally consider that sewerred industrial and commercial land uses may result in similar nutrient loading to sewerred urban development, although significantly less area of lawn and gardens would be likely in industrial and commercial development. Moreover, the industrial premises will be licensed should the potential for any discharge be present.

Consequently, on a per hectare basis, the estimated nutrient loading from sewerred development would be approximately 3-20% P and 0.5-3% N compared to the current loading resulting from market gardening land uses.

Secondly, appropriately planned, managed and licensed industrial land uses will result in a minimised risk of contamination resulting from chemical or effluent spillages and leakages, and best management practice stormwater control, treatment and disposal. The following proposed management measures will ensure that groundwater and surface water quality is appropriately managed:

- planning principles which underlie the HVWRA;
- precinct planning land use and development controls within the Proposed Master Plan and the Planning Strategy;
- the Water Management Strategy;
- connection of premises within the HVWRA to a reticulated sewerage system; and
- industries applying appropriate handling, containment and management of waste effluent in accordance with DoE licensing (where required).

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The Water Management Strategy refers to the requirement for current Best Management Practices for all water issues, which will also need to be consistent with the Water and Rivers Commission’s (WRC) policies and guidelines.

The yearly consolidation review will also ensure that the Water Management Strategy and Proposed Master Plan reflect the most up-to-date standards and technologies.

*4.3.4 The proposed water quality management objectives in the Master Plan, Environmental Review and Water Management Strategy should relate more closely to the Interim EMP for Cockburn Sound 2002. ((7 & 8) CSMC)*

Agreed.

The Proposed Master Plan and Water Management Strategy shall have regard for the *Interim Environmental Management Plan for Cockburn Sound and its Catchment 2002*.

*4.3.5 Redevelopment area is immediately adjacent to environmentally sensitive sites (Cockburn Sound, wetlands, Jandakot water mound). Pollution from everyday industrial activities and emergency events has a high likelihood of contaminating these sites. (41)*

Disagree.

Potential impacts on groundwater and surface water quality within HVWRA, and potential impacts on adjacent environmentally sensitive areas are considered to be significant issues that need to be addressed and appropriately managed. The Proposed Master Plan has acknowledged the significance of this issue in its overriding environmental objectives.

Section 4.3.4 and 4.3.5 of the Environmental Review describes the potential impacts that redevelopment of the area may have on these areas, and proposed management options identified through the:

- planning principles which underlie the HVWRA;

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- precinct planning land use and development controls within the Proposed Master Plan and the Planning Strategy;
- the Water Management Strategy;
- connection of the HVWRA to a reticulated sewerage system; and
- industries applying appropriate handling, containment and management of waste effluent.

Note that in terms of groundwater flow Jandakot Mound is “upstream” of the HVWRA and therefore, activities associated within the HVWRA fall outside of its catchment.

*4.3.6 How will it be checked that future development will have full onsite containment? What action is planned for when pollution minimisation features have not worked to specification and pollution levels are higher than anticipated? (42)*

Noted.

Current regulatory process and monitoring will continue to apply. Each industry locating within the HVWRA with the potential to pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2).

*4.3.7 Concerned with disposal of mining/processing wastes from Alcoa within the development area, and that further groundwater contamination from this source is to be expected. (42)*

Noted.

Alcoa’s operation is not located within the HVWRA, and is by definition outside of the scope of this assessment.

However, current regulatory process and monitoring will continue to apply.

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4.3.8 *Statement that the Tamala Limestone and Spearwood sands do not have high nutrient absorption capacity is possibly true with respect to Nitrogen, but these sands are extremely retentive for Phosphorus. (20 WC)*

Agreed.

However, as stated in Section 4.3.4 of the Environmental Review the actual hydraulic infiltration rate for the site is not known and site specific investigations will be required at later stages of planning.

4.3.9 *All development must be connected to a comprehensive sewerage system in accordance with the Government Sewerage Policy Perth Metropolitan Area. Recommend sub clause (i) of Section 7.3.2 of the Master Plan and the Actions on Groundwater under Environmental Objectives for the Master Plan Report be amended to reflect this. (19 WC)*

Agreed.

Section B4.3.5 in the Proposed Master Plan Report identifies that residential land currently within the HVWRA is unsewered and that on-site septic tanks are used for effluent disposal. Horticulture within the region also has significant potential impacts on soil contamination and groundwater quality in the unconfined aquifers due to the heavy requirement of fertiliser, pesticide, irrigation and water application to maintain crop production. With reduced horticultural activities, removal of the Hope Valley and Wattleup residential dwellings and their septic systems and the connection of any new developments to a dedicated sewerage system, the level of nutrients and other contaminants entering the groundwater is likely to be reduced significantly.

The Actions for Sewerage under the Infrastructure Strategy in the Proposed Master Plan Report will be amended to acknowledge the *Government Sewerage Policy Perth Metropolitan Area*.

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Section 7.3.2 (g) of the Proposed Master Plan states:

*Dispose of sewage and compatible wastes by connecting to a comprehensive sewerage system, or utilising an accepted alternative treatment system only when no comprehensive sewerage system is available.*

This provision recognises that there may be potential constraints for some future development in connecting to a comprehensive sewerage system and that the use of an accepted alternative treatment system may be considered acceptable. However, it is recognised that use of an appropriate alternative treatment system will need to be consistent with environmental and health objectives and the *Government Sewerage Policy Perth Metropolitan Area*.

*4.3.10 On-site disposal of process water should only be considered on a case by case basis if no other options are available and where strict management measures can be proved. (26 CoC)*

Agreed.

As future development locating within the HVWRA with the potential to pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2).

*4.3.11 On site disposal should not be an option unless it is consistent with environmental and health objectives and the Government Sewerage Policy. Recommend sub clause (h) of Section 7.3.2 of the Master Plan be amended to read “Treated wastewater reuse should be applied wherever practicable in accordance with the State Water Strategy”. (19 WC)*

*4.3.12 The third dot point for Actions on Water under Infrastructure Strategy of the Master Plan Report should read 'Grey water reuse may be applied in specified cases where it is not practicable to provide treated wastewater reuse, in accordance with DoH and DoE approval, if within the overall strategic environmental objectives. The sewerage infrastructure must be designed to allow for the changed hydraulic characteristics". (19 WC)*

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4.3.13 *Last dot point for Actions on Water under Infrastructure Strategy of the Master Plan Report, should state "Encourage the use of treated wastewater..." (19 WC)*

4.3.14 *Recommend new sub clause (v) under Section 7.2 of the Master Plan "promote use of treated wastewater for industry and landscape watering where appropriate". (19 WC)*

Agreed.

Planning Policy 1.8 in the Proposed Master Plan Report and the Actions for Water in the Infrastructure Strategy will be amended to have regard for the *State Water Strategy for Western Australia 2003*. The Water Management Strategy will also refer to the *State Water Strategy for Western Australia 2003*.

As advised previously, the Proposed Master Plan identifies the objectives for future development. However, the following measures will be used to guide future development in meeting these environmental objectives:

- The Planning Strategy sets out the long-term direction of land use planning and development control for the redevelopment area;
- The Proposed Master Plan will provide the primary controls of land use and development, and also provide for the creation of policies and design guidelines; and
- The Planning Policies and Design guidelines will provide a more detailed layer of guidance of land use and development in the Redevelopment Area.

The opportunity to appropriately consider the issue of on-site disposal and use of treated waste water will be during the structure planning and development stage when there is further detail available. Management measures will be guided by this information.

#### Cockburn Sound Catchment

4.3.15 *Master Plan and Water Management Strategy should adopt the Cockburn Sound Management Local Planning Policy. ((7 & 8) CSMC, (25 & 27) CoC & 37 ToK)*

Agreed, subject to confirmation of the status of the Policy.

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The Proposed Master Plan and Water Management Strategy will embrace the *Local Planning Policy for the Cockburn Sound Catchment 2004* as a process issue.

*4.3.16 Concerned with the long term impacts on Cockburn Sound and the areas immediately adjoining the HVWRA. Should clearly identify the long term management objectives for Cockburn Sound and state how objectives will be met through implementation of the project. ((7 & 8) CSMC, (25 & 27) CoC & (60 & 61) KABZ)*

Noted.

Potential impacts on groundwater and surface water quality within the HVWRA, and subsequently Cockburn Sound, is a highly significant issue that needs to be addressed and well managed.

However, as stated in the response provided in Section 4.3.3 it is expected that the transition from current land uses will result in a large decline in the containment load entering the groundwater and will result in an improvement in groundwater quality due to the change in land use.

Section 4.3.5 of the Environmental Review describes the management measures proposed through the Proposed Master Plan, Planning Strategy, Planning Policies and Water Management Strategy, of which will involve:

- precinct planning and development controls;
- measures to ensure onsite retention, treatment and infiltration of stormwater;
- connection of the HVWRA to a reticulated sewerage system;
- industries applying appropriate handling, containment and management of waste effluent; and
- implementation of Water-Sensitive Urban Design principles;

it is expected that the level of contamination entering Cockburn Sound through either surface or groundwater flows will be reduced.

Individual industries located in the project area will also be required to ensure that design construction and operation is in accordance with current Best Management Practices. Furthermore, each industry locating within the HVWRA with the potential to

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pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2).

As previously advised, the Water Management Strategy refers to the requirement for current Best Management Practices, which will also need to be consistent with the WRC's policies and guidelines. The yearly consolidation review will also ensure that the Water Management Strategy and Proposed Master Plan reflect the latest standards and requirements.

As advised in the previous response the Proposed Master Plan and Water Management Strategy will also embrace the Local Planning Policy for the Cockburn Sound Catchment as a process issue.

*4.3.17 Part of the information requirements for submitting proposals for development with the HVWRP area should include requiring proponents to demonstrate how they are addressing nutrient and contamination issues in relation to Cockburn Sound, and their commitment to minimising additional nutrient risk or loading, and how potential contamination issues will achieve the objective of ensuring improved environmental outcomes for Cockburn Sound. ((7 & 8) CSMC)*

Noted.

Please refer to response provided in Section 4.3.16.

Future development will be required to demonstrate that they are in accordance with the Proposed Master Plan, Planning Strategy, relevant Planning Policies and the Water Management Strategy. Taking into consideration that the requirements listed within these documents relate closely to the management of any potential impacts on Cockburn Sound, it is felt that requirement for:

- industry proponents to demonstrate how they are addressing nutrient and contamination issues in relation to Cockburn Sound;
- their commitment to minimising additional nutrient risk or loading; and
- how potential contamination issues will be achieved the objective of ensuring improved environmental outcomes for Cockburn Sound

is already deeply embedded into the information requirements for any future structure plan or development application.

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Environmental Approval

*4.3.18 All environmental approvals, including approvals for significant discharges of nutrients (or anything else) into Cockburn Sound (or any other WA environment) must be assessed by the EPA on a case-by-case basis. (20 WC)*

Noted

The WAPC has its own referral process and this would form part of a referral to the DoE.

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## 5.0 SUBMISSIONS RELATING TO BIOPHYSICAL FACTORS

### 5.1 Flora

#### Assessment

5.1.1 *No detailed vegetation and flora survey identifying TECs has been undertaken.  
(22 CALM)*

Agreed.

The Proposed Master Plan provides for the over-arching philosophies of planning and environmental management in the project area. It is not considered appropriate to undertake detailed surveys at this stage of planning. However, the significance of TECs was identified in the Environmental Review through the potential for Floristic Community Type (FCT) 26a – *Melaleuca huegelii* – *M. acerose* shrublands on limestone ridges, which is listed on the CALM TEC Database, to occur with the study area.

As a result of this information an assessment to determine the potential or likelihood of Threatened Ecological Community (FCT) 26a occurring within the HVWRA was undertaken during the public submissions period.

Parts of the Tamala Limestone within the HVWRA with remnants of native vegetation were surveyed by an expert botanist during March 2004 in order to, principally:

- determine the potential or likelihood of TEC (FCT) 26a occurring there, and
- in the case of parts of the southern portion of the HVWRA which are vegetated, are on Tamala Limestone and are on higher terrain, undertake a detailed survey for FCT 26a.

The Cockburn Cement extraction area located in the northern portion of the HVWRA is in the broader survey area and has limestone, was excluded from the principal survey area (as agreed with CALM and EPA), as this is subject to the *Cement Works (Cockburn Cement Limited) Agreement Act 1971* and part of other processes.

As an outcome of the TEC assessment, shrubby vegetation at five sites (7, 8, 21, 24 and 25) in the HVWRA with ‘massive’ outcropping limestone and with either *Melaleuca*

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*huegelii* or *M. systena*, or both, initially appeared to have potential to be FCT 26a (see Figure 2). However, Sites 7 and 25 were rejected as possibilities, at least in part due to their very weedy condition and paucity of native plants in the understorey. Site 21 was judged most likely to be FCT 26a. However, Sites 21 and 24 are probably too small, weedy and isolated to survive in the long-term (Weston, 2004).

Site 21 is identified as a Priority Extraction Area and Site 24 is identified as an Extraction Area. Site 8 is located within the proposed southern Parks and Recreation reserve.

The following recommendations that derive from the survey are as follows (Weston, 2004):

- In order to determine which of the two floristic community types FCT 24 or FCT 26a (or neither) is represented in the HVWRA sites Site 8, Site 21 and Site 24, it is recommended that Gibson-type, 10m by 10m plots be set up in each of the sites and that the plots be sampled and analysed using the techniques described by Gibson *et al.* (1994) and Keighery (1994).
- Until the definitive analyses recommended above are completed, it is recommended that the Precautionary Principle, as described by the EPA (2002a), be adopted and that Sites 8, 21 and 24 (and possibly Sites 7 and 25 as well) be treated or managed as though they are FCT 26a.
- In order to assess whether FCT 26a is actually better represented and conserved in the area south of Fremantle than sampled and analysed plots currently indicate, it is recommended that selected stands of *Melaleuca* vegetation on massive limestone in Redemptora Road Reserve, Henderson Open Space, Yalgorup National Park and possibly other conservation reserves be sampled and analysed using the techniques described by Gibson *et al.* (1994) and Keighery (1994).
- It is recommended that the better vegetated area of upland in the southern part of the HVWRA between Anketell Road, Armstrong Road, Honor Avenue and east of a line between Hendy Road and Anketell Road be conserved. Although this upland vegetation is degraded and weedy, it is a relatively large stand and is more varied and in better condition than most other native vegetation in the HVWRA, as well as having types of vegetation poorly represented elsewhere in the HVWRA if at all.

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In light of the above recommendations, and that a number of submissions have identified the need for further reservation of vegetation for conservation and ecological linkages the proponent recommends that the proposed southern Parks and Recreation reservation be expanded in order to ensure that the associated environmental values for this area are retained and protected.

As stated previously, the potential TEC 26a Sites 21 and 24 are most likely too small, isolated and weedy to survive in the long term. Furthermore, these sites are located within a Priority Extraction Area (Site 21) and Extraction Area (Site 24), with current approvals for extraction.

Therefore, the proponent recommends that the southern Parks and Recreation reserve, west of the proposed Fremantle – Rockingham Controlled Access Highway, be extended from the northern boundary being the edge of the existing Hope Valley town site to the southern boundary of Precinct 1. This will ensure that the associated environmental values are retained and protected as well as provide an environmental off-set to Sites 21 and 24, which are considered to be unviable in the long-term.

However, the proponent recognises that this option is still subject to the outcome of any discussions with CALM, the EPA and WAPC.

*5.1.2 Clarification of calculations for remnant vegetation in Table 5.2 of the Environmental Review is required. (22 CALM)*

Agreed.

Some of the areas provided in Table 5.2 within the Environmental Review were incorrect at the time of being released for public comment and review. The following is a revised table on the areas of remnant vegetation.

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**TABLE 5.2**  
**Remnant Vegetation Affected by Potential Land Uses**

Precinct	Intended Potential Land Use	Existing Remnant Vegetation* (ha) Within each Precinct	Vegetation* (ha) within Proposed Parks and Recreation Reserves	Vegetation* (ha) Subject to Further Environmental Investigation (1)	Resultant Area of Vegetation* (ha) Potentially Impacted by Development (2)
1	General industrial area, bulk goods handling	53.30	12.48	29.75	40.82
2	Transport industry area, bulk goods handling and freight industries	2.31	0	1.02	2.31
3	General Industry	46.38	0	3.46	46.38
4	Major transport hub, containerisation, warehousing and transport depots	7.89	4.86	0	3.03
5	Commercial service centre	0	0	0	0
6	Low intensity business park	18.84	0	0.82	18.84
7	Central transport area	3.96	0	0.05	3.96
8	Resource recovery industries	5.84	0	0.04	5.84
9	Eco-industrial Development, new products through environmental technologies	14	0	0	14
10	General Industrial purposes	3.62	0	0	3.62
11	General Industry, large scale retail, commercial warehousing adjacent to residential areas	36.16	0	0.32	36.16
12	Entry point, business park development, marine and boat building industries	12.1	0	12.1	12.1
13	To be determined	14.92	0	0	14.92
14	Preservation of Long Swamp	16.09	16.09	0	0
<b>Total</b>		235.41	33.43	47.56	201.98

\*Excluding Vegetation in Completely Degraded condition

(1) Refer to Figure 21 and Appendix E for further detailed information

(2) Does not include area of vegetation subject to further environmental investigation.

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5.1.3 *The general intent of Section 7.1(c) of the Master Plan is supported, but there should be reference to targets on acceptable limits of the impacts, either qualitative where there is no benchmarks or quantitative where benchmarks exist. Little reference in the report on how development can reduce adverse, or enhance positive, impacts on the social values of flora environments. (24 DoIR)*

5.1.4 *References to remnant vegetation may need further discussion in the report. It is uncertain whether all pieces of remnant vegetation will significantly enhance the regions' biodiversity and ecological functions. Guidance should be provided to proponents on the value of the remnants identified in the Master Plan to ensure adequate protection of the values assigned to them. (24 DoIR)*

Noted.

The opportunity to set benchmarks could be through a comprehensive biodiversity strategy for the Redevelopment Area. However, this is not considered to be a requirement of the Proposed Master Plan.

Sections 5.1 and 5.5 of the Environmental Review describe the existing remnant vegetation within the HVWRA and the values that have been assigned to them. The description provided has included vegetation complexes, floristic community types, declared rare and priority flora, vegetation condition, proximity to regional conservation areas and existing linkages within the HVWRA.

The opportunity to identify whether remnant vegetation within the HVWRA will significantly enhance the regions' biodiversity and ecological functions will more appropriately be done during the structure planning process when there is further detail available.

In line with the HVWRA Planning Strategy, each Structure Plan would identify if any good quality vegetation exists and determine if the area is manageable and viable. If so it would be conserved, and any similar areas in adjoining Structure Plans could be considered for a linkage. However, it may be that no viable linkages occur.

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## Conservation

5.1.5 *Recommend that a condition requiring the proponent to undertake appropriately timed and targeted flora and vegetation surveys prior to the project getting to the precinct / structure planning stage. This will allow vegetation of conservation significance to be identified and protected as part of the planning process. The commitment to undertaking survey work should also include a commitment to retain and conserve significant flora populations and ecological communities through the structure / precinct planning process, wherever they occur. (22 CALM)*

5.1.6 *Existing vegetation to be identified and conserved at the structure planning, subdivision and development process. (36 ToK)*

Noted.

Section 5.1.5 of the Environmental Review identifies the proposed management measures for remnant vegetation within the HVWRA through the planning principles which underlie the HVWRA and the precinct planning land use and development controls within the Proposed Master Plan and the Planning Strategy.

Environmental Objective 7.4.2 (a) of the Proposed Master Plan refers to submission of information to the Commission of a development application. As limited surveys of each remnant has been undertaken, further detailed surveys will be undertaken at the precinct structure plan level, prior to detailed planning for development. Surveys will be based on Draft EPA (2003a) *Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* and will take into account vegetation condition and allow for searches to be undertaken based on updated CALM Declared Rare and Priority Flora species lists.

During the structure planning process when there is further detail and the values have been further defined there is an opportunity to review whether these areas of remnant vegetation are in line with the Planning Strategy as well as its' significance and viability in the long term for retention.

Each Structure Plan would identify if any good quality vegetation exists and if the area is manageable and viable. If so, it will be conserved.

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*5.1.7 With only 33ha of remnant vegetation guaranteed for inclusion in Parks and Recreation reservation, and a small additional area identified as possible areas for conservation, and a lack of site specific biological information, it cannot be claimed that actions documented in the Environmental Strategy for ‘vegetation’ have been or will be implemented or achieved by the Master Plan. (21 CALM)*

Disagree.

The environmental strategy lies within the overall Planning Strategy for the HVWRA, which provides a long-term framework for development. The purpose of the strategy is to ensure a comprehensive approach to the planning and development of the HVWRA and environs, setting the parameters for more detailed planning.

The actions identified in the environmental strategy which relate to vegetation should be read in conjunction with the management measures proposed through the Proposed Master Plan and Planning Policies in order to achieve these actions. The Proposed Master Plan provides the primary controls of land use and development, and for the creation of planning policies and design guidelines, which are intended to provide a more detailed layer of guidance of land use and development.

*5.1.8 Noted that there are no objectives relating to retention and management of locally and regionally significant vegetation for the Master Plan. (21 CALM)*

Disagree.

Section 7.2 of the Proposed Master Plan identifies the environmental objectives that future development is required to be in accordance with. Specifically, it states that:

*Land in the Redevelopment Area is intended to be developed and managed in such a manner as to:*

- *support the protection of sensitive environments and areas of environmental significance within and outside the Redevelopment Area, including Beelihar wetlands, Cockburn Sound, Long Swamp and Bush Forever sites;*

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Whilst this does not specifically identify locally and regionally significant vegetation for the Proposed Master Plan, the provision provides for the protection of significant vegetation, whether it be of local or regional significance.

### Legislative requirements

*5.1.9 There is no reference (for instance) to the new 'clearing' requirements under the amended Environmental Protection Act 1986 or CALM requirements for declared rare and priority flora and fauna. (20 WC)*

Disagree.

Sections 5.1.3 and 5.2.3 of the Environmental Review identifies the legislation relevant to the HVWRA, specifically the *Environmental Protection Act 1986* and the *Wildlife Conservation Act 1986*, which is proposed for replacement with a new *Biodiversity Conservation Act*.

With respect to the Draft *Environmental Protection (Clearing of Native Vegetation) Regulations*, it is understood that this will come into force around mid this year.

The Proposed Master Plan deals with the over-arching philosophies of planning and environmental management in the project area. Proposed structure plans and development applications will be need to reflect policies and Best Management Practices of the day.

Individual industries located in the project area will be required to ensure that design construction and operation is in accordance with current Best Management Practices and that they meet the requirements of the *Environmental Protection Act 1986* and *Wildlife Conservation Act 1950*.

In addition, there will be a yearly consolidation review of the Proposed Master Plan to assess its' performance and ensure that it reflect the policies and Best Management Practices of the day.

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## 5.2 Fauna

### Assessment

5.2.1 *A fauna study needs to be undertaken to determine the abundance of species residing in the area, together with their habitats so that fauna pathways can be used review the proposed Greenbelts and ecological linkages proposed for the Redevelopment Area. Other native fauna, such as frogs, reptiles, and birds, need to also be considered. Native animal will exist in the development area, and planning cost-neutral strategies at this stage will preserve these animals and prevent expensive retrofitting latter. ((25 & 27) CoC, 41 & 42)*

Agreed.

The opportunity to consider this in further detail will appropriately be at the structure planning and development stage. However, in general the HVWRA is depauperate in terms of fauna habitat.

5.2.2 *Recommend that a condition be placed on the Master Plan that a fauna survey within the remnant native vegetation be undertaken during the structure / precinct planning stage and if species such as the Quenda are identified, the proponent will need to develop a translocation proposal in conjunction with CALM. (22 CALM)*

Agreed.

The proponent is of the opinion that this should be considered at the next stages of planning.

### Management

5.2.3 *Need to consider and plan for feral and nuisance animal control in the early stages of development. (42)*

Agreed.

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The proponent is of the opinion that it is premature to consider this aspect now and should be considered at the next stages of planning.

*5.2.4 The Water Management Strategy under development will need to consider carefully how any practice for stormwater construction will affect wildlife. (42)*

Agreed.

The proponent is of the opinion that this would be appropriately considered as part of structure planning and development stage, when there will be further detail available on stormwater construction and design.

### 5.3 Wetlands

#### Potential Impacts

*5.3.1 Insufficient detail relating to the environmental impacts of rezoning the land on the surrounding wetland ecosystems and the impacts from development occurring outside the 200m zone of influence has been provided. The effect of any development within the prescribed area needs to consider the impact on all the surrounding wetlands, as well as Long Swamp. ((10 & 11) DoE & 41)*

Noted.

Sections 5.3.4 and 5.3.5 of the Environmental Review describes the potential impacts arising from development in the vicinity of all of the wetlands, and proposed management options, for example the Conway Road and Hendy Road wetlands, not only Long Swamp.

The 200m “zone of influence” is a generic horizontal separation only. During the structure planning for each precinct in proximity to a wetland or wetlands, an appropriate buffer will be determined based on the particular characteristics and protection requirements of each wetland. This protection buffer may be larger or smaller than 200m (but not less than 50m), and may be variable in diameter and shape. The

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final buffer will be agreed with the regulatory authorities in each case. This approach will be implemented through Section 7.3.3 (b) of the Proposed Master Plan.

### Assessment and Values

*5.3.2 An assessment of the quality of the wetlands existing in the Redevelopment Area should be undertaken to provide a benchmark to ensure that the integrity, ecological function and environmental values of the wetland are maintained following development. ((25 & 27) CoC)*

Agreed.

The comparative quality of the wetlands in the HVWRA was determined at regional scale by the WRC in Hill *et al.* (1996). The outcome is the assigned management categories for each of the wetlands as presented in the Environmental Review (Table 5.4). However it is accepted that more wetland-specific information may be required, and this will be conducted at the structure planning stage as part of the process to establish appropriate buffers for each wetland.

*5.3.3 No details have been provided on the quality of the surface water features within the study area. Without an understanding of current wetland water quality to see whether it is increasing or decreasing over time, unable to determine whether the EPA's objectives to maintain integrity, ecological functions and environmental values of wetlands has been met. (26 CoC)*

Agreed.

All wetlands in the HVWRA are proposed for conservation regardless of condition or values, together with an appropriate buffer that will be determined at the structure planning phase of the protect. However, it is relevant to note that the wetlands are generally located in an environment that has already been modified due to agriculture and basic raw materials extraction.

It is anticipated that the requirement for site monitoring may be a condition imposed on industries locating in each relevant precinct in proximity to a wetland.

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5.3.4 *Geomorphology, hydrology and vegetation need to be considered when determining wetland boundaries. ((10 & 11) DoE)*

Agreed.

This was undertaken by Bowman Bishaw Gorham through the methodology described on page 126 of the Environmental Review.

5.3.5 *Resource Enhancement Wetlands shall also be identified as being of environmental significance and requiring protection. ((10 & 11) DoE & 37 ToK)*

Agreed.

All wetlands in the HVWRA are proposed for conservation regardless of condition or values.

5.3.6 *WRC codes for wetlands do not reflect those in Hill et al. (1996). Wattleup/Pearse Road should be 22 Sm/r and Wattleup Lake should be 24 Lc, not 24 Lr. ((10 & 11) DoE)*

Agreed.

The codes for each wetland were updates obtained from the DoE during the documentation of the Environmental Review.

### Wetland Boundaries

5.3.7 *The extent of all wetlands and any variation to their boundaries needs to be submitted to the DoE's Wetlands Program for assessment and approval. ((10 & 11) DoE & 37 ToK)*

Agreed.

The will be appropriately done at the next stage of planning.

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5.3.8 *Further detail relating to meaning and purpose of the 'Zone of Secondary Influence 200 metre boundary' as mapped and outlined within Hill et al. (1996) needs to be provided. ((10 & 11) DoE)*

Noted.

The 200m “zone of influence” is a generic horizontal separation only. During the structure planning for each precinct in proximity to wetlands, an appropriate buffer will be determined based on the specific characteristics and protection requirements of each wetland. This protection buffer may be larger or smaller than 200m (but not less than 50m), and may be variable in diameter and shape. The final buffer will be agreed with the regulatory authorities in each case.

This approach will be implemented through Section 7.3.3 Wetlands of the Proposed Master Plan as previously described.

#### Wetland Buffers

5.3.9 *Recommend that appropriate buffers for the wetlands and management strategies to address pollution risks from industrial spills, within and adjacent to the Master Plan area should be developed based on advice from the Department of Environment. (22 CALM)*

Noted.

The issue of establishing appropriate buffers to wetlands has been addressed in previous responses. Please refer to responses provided in Sections 5.3.1 and 5.3.8

In terms of pollution management, structure planning for each precinct will include the derivation of precinct-specific drainage management plans, in accordance with the overarching philosophies of the project area as a whole presented in the Water Management Strategy. This will include the management of potential pollution events. Further, each industry locating within the HVWRA with the potential to pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2).

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The area adjacent to the Proposed Master Plan is outside of the direct control of the proponent.

*5.3.10 All wetlands within and outside the Redevelopment area are to have a 200 metre buffer. Any variation to this buffer will need to be approved by the DoE. The DoE as well as the EPA Service Unit to be consulted prior to the adoption and implementation of wetland buffers. ((10 & 11) DoE & 37 ToK)*

Noted.

The WAPC does not support the mandatory imposition of a 200m buffer without a sound technical and scientific basis. As previously detailed, wetland specific investigation to establish an appropriate buffer to each wetland will be conducted at the detailed structure planning phase of the project.

It is agreed that the DoE as well as the EPA Service Unit will be consulted prior to the adoption and implementation of wetland buffers, as described in the Environmental Review.

### Management

*5.3.11 The intent of the terms enhancement, creation, improvement, rehabilitation and landscaping should be clearly identified. Creation of artificial wetlands is not supported and is not consistent with the Draft State Water Conservation Strategy. Improving existing wetlands through revegetation is supported subject to a revegetation plan. Living streams and vegetated swales are supported as a substitute to artificial wetlands. ((10 & 11) DoE & 37 ToK)*

Noted.

Enhancement, improvement, rehabilitation and landscaping generally refer to increasing current wetland values where severely degraded, through re-contouring (if necessary), weed control, and replanting with endemic species. It would typically refer to land that has been cleared.

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Creation of wetlands refers to purpose designed stormwater collection and treatment devices that would be incorporated following approval from the DoE.

*5.3.12 Concerned that wetlands of the area (except Long Swamp) will be sacrificed for drainage run-off and grey-water disposal and that this is at odds with some of the objectives which look to protect these wetland values. Drainage should not be discharged into the wetlands or their buffers, with all development to be located outside the wetland buffer. Additional land outside of the wetland buffers should be utilised for stormwater treatment swales and infiltration points. ((10 & 11) DoE, 19 WC & 37 ToK)*

Noted.

The Environmental Review states (on page 86) that:

“There will be no direct stormwater discharge into Long Swamp or into any other wetlands identified within or adjoining the Master Plan area.”

It is not intended to locate “development” *per se* inside the wetland buffers; however it is possible that development such as walk trails or bird hides may be proposed.

The WAPC does not support the contention that stormwater could not be sensitively treated and disposed within wetland buffers, subject to appropriate design and operation, and the final extent (dimensions) of the buffers. These stormwater treatment structures would most likely take the form of summer-dry swales vegetated with endemic wetland species, in locations where no wetland buffer values currently exist e.g. cleared land.

*5.3.13 The Draft Revegetation Management Plan for Long Swamp was not included as part of the Environmental Review. This Plan was written in 1998 and may require serious review. This Plan should be adopted and developed to produce a more comprehensive management plan to be approved by the Town of Kwinana and the DoE's Wetlands Program. ((10 & 11) DoE & 37 ToK)*

Noted.

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The Draft Revegetation Management Plan for Long Swamp was referenced in the Environmental Review as a current (though not adopted) document relevant to the wetland.

The ultimate management of Long Swamp will be addressed as part of the structure planning for the relevant precinct, to the satisfaction of the appropriate authorities.

*5.3.14 Why is the proponent required to review the Town's Draft Revegetation Management Plan for Long Swamp as stated in Section 7.4.2(o) of the Master Plan, as stated on page 110 of the Environmental Review? (24 DoIR)*

Noted.

The Environmental Review provided the following text for Section 7.4.2 (o) as:

*Management plans and commitments for the minimisation or protection of any significant environmental factors, impacts or issues including a review of the Town of Kwinana's Draft Revegetation Management Plan for Long Swamp.*

However, the clause provided for Section 7.4.2 (o) was incorrect and should have stated the following, with the difference in text being underlined:

*Management plans and commitments for the minimisation or protection of any significant environmental factors, impacts or issues including a review of the Town of Kwinana's Draft Revegetation Management Plan for Long Swamp if applicable.*

This provision relates to the environmental information required to be provided to the Commission under Section 7.4.1 of the Proposed Master Plan and identifies that the review of the Draft Revegetation Management Plan will only be applied to future development which has the potential to impact on Long Swamp.

The Revegetation Management Plan will require the review to apply the most up-to-date management techniques of the day, and also in the context of establishing the

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appropriate buffer to Long Swamp with respect to proposed adjacent industrial development. It will also address other environmental issues in addition to revegetation.

*5.3.15 Prior to the commencement of any development on the subject land, a Wetland Management Plan for Long Swamp, Hendy Road Swamp and Conway Road Swamps should be prepared to the satisfaction of the DoE. ((10 & 11) DoE & 37 ToK)*

Agreed.

The relevant wetland management plan/s will be prepared prior to the commencement of any development.

*5.3.16 The boundary to Precinct 14 should be located outside Long Swamp buffer to ensure that the management of the wetland and buffer is contained within one lot. ((10 & 11) DoE)*

*5.3.17 If Long Swamp is to be conserved then it should be properly managed, i.e. fenced off. Unlikely that it can be both conserved and used for recreation purposes. (23 DoIR)*

Noted.

The boundaries of wetlands, and subsequent buffer requirements, do not follow cadastral boundaries. In most instances several lots will be affected.

Access management to Long Swamp will be considered at the structure planning stage of the project. It is likely that the reserves will be multi functional, with mixes of conservation and recreation.

### Rehabilitation

*5.3.18 Further information required on who is responsible for undertaking and financing wetland rehabilitation. Scheme measures and planning measures*

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*proposed to protect the wetlands need to be provided for further comment. (37 ToK)*

*5.3.19 The definite funding strategies for realistic rehabilitation and on-going maintenance of Long Swamp needs to be determined in order to ensure that these strategies are implemented. (42)*

Noted.

Two of the wetlands (Long Swamp and Conway Road Swamp) within the southern portion of the HVWRA is proposed for Parks and Recreation reservation. Hendy Road Swamps which is also located within the southern portion of the HVWRA has been identified as having potential conservation value for consideration at the future structure planning stage.

The two wetland proposed for Parks and Recreation reservation will be acquired by the WAPC, with the Hendy Road Swamps wetland most likely being placed in public open space at the structure planning stage through developer contributions.

The wetlands will be vested with the appropriate authority. This would most likely be the CALM, the Local Authority, or other body. The long term responsibilities for rehabilitation will rest with the vesting body, but could be financed through a variety of mechanisms, similar to other land developments adjacent to Parks and Recreation reserves within the Perth Metropolitan Area.

Wetland buffers may be located outside of Parks and Recreation reserves in some cases. The treatment of these areas will be determined at the structure planning stage of development.

## 5.4 Surface Water and Groundwater

The submissions and the responses provided in this section are in relation to water quantity. Whereas Section 4.3 Catchment Management and Water Quality, addresses the submissions on water quality.

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## Water Management Strategy

*5.4.1 Recommended that the proponent prepares a Water Management Strategy in close liaison with the DoE's Catchment Management Branch. ((10 & 11) DoE)*

Agreed.

The Draft Water Management Strategy has been prepared and was published in the Proposed Master Plan Report. It will be provided to the DoE's Catchment Management Branch for comment and approval prior to adoption.

*5.4.2 The Water Management Strategy should refer to the State Water Strategy and how it is proposed compliance will occur. (19 WC)*

Agreed.

The Water Management Strategy will have regard for the *State Water Strategy for Western Australia 2003*.

*5.4.3 The Water Management Strategy should demonstrate further commitment and description of the types of monitoring, auditing and management responses to this monitoring. Such monitoring would form part of the broader reporting, auditing and management responses to ensure management objectives and targets are being met. Where those objectives are not being made, adequate management responses need to be in place to further explore and address potential problems or issues that may be the cause within the development area. ((7 & 8) CSMC)*

Agreed.

The Water Management Strategy will be amended accordingly.

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## Alternative Water Sources and Water Efficiency

*5.4.4 Groundwater abstraction for irrigation or industrial purposes cannot be approved and alternative water sources will need to be utilised. Other water sources that may be worth further investigation are rainwater, wastewater reuse, grey water use and stormwater. The Water Management Strategy should detail how this will be encouraged. Master Plan should also reflect this important constraint. ((10 & 11) DoE & 37 ToK)*

*5.4.5 Planning Policy 1.8 suggest locating industries with high water use localities where suitable quantities of groundwater are available. The Policy should consider that regardless of the resource used, water efficiency to minimise water usage is a first priority. (19 WC)*

Agreed.

The allocation of groundwater to industry will be regulated by the DoE, based on sustainability principles and policy.

The HVWRP is committed to sustainable water management. Section 7.3.2 of the Proposed Master Plan deals with the issue of sustainable water use in detail, including rainwater, wastewater reuse, grey water use and stormwater resources, as detailed in Section 5.4.5 of the Environmental Review.

Planning Policy 1.8 will be amended to identify the requirement for a Groundwater Abstraction Allocation and Management Plan to include water efficiency.

*5.4.6 The Strategy should address the total water cycle for the area. Potable water consumption should be minimised by the reuse of treated wastewater, and use of drainage water. The total water cycle approach should consider the water balance of the next export to the net import of water. (19 WC)*

Noted.

The ability to address the total water cycle for this area at this stage of planning is limited due to there being a lack of detail on the types of industry that will be located

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within the HVWRA in the future. The opportunity to consider these issues in greater detail will appropriately be at the structure planning and/or development application stage.

The overarching Water Management Strategy is not prescriptive and forms the basis for more detailed water balance assessments at the precinct / structure planning level. The Strategy is based on a catchment management approach, and provides the framework for undertaking more detailed site-specific investigations and assessments at the structure planning and/or development stage.

### Stormwater Management and Drainage

*5.4.7 The Water Management Strategy and Environmental Review should place appropriate emphasis on managing stormwater, due to the significant change to the landscape the development represents. Post development will result in significant areas of the catchment being impervious, resulting in increased collection of rainfall. This aspect should be explored in further detail during subsequent structure plans and development planning to ensure adequate management of nutrients and other contaminants. ((7 & 8) CSMC & 41)*

Agreed, as stated in Section 5.4.5 of the Environmental Review.

*5.4.8 Further information should be made available with regard to 'Best Management Practices' for dealing with stormwater. The Water Management Strategy and Environmental Review should place appropriate emphasis on managing stormwater. The Water Management Strategy should include a stormwater drainage plan, which is formulated and implemented to the satisfaction of the Department and is consistent with Best Management Practices outlined in WRC's WSUD and Water Quality Protection Note: Stormwater Management at Industrial Sites. ((7 & 8) CSMC & (10 & 11) DoE)*

Agreed.

The Water Management Strategy refers to the requirement for current Best Management Practices, which will also need to be consistent with the WRC's policies and guidelines.

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The yearly consolidation review will also ensure that the Water Management Strategy and Proposed Master Plan reflect the latest standards and requirements.

The objectives and framework proposed within the Water Management Strategy provides for the mechanisms within the planning process to ensure that stormwater is treated, retained, detained and trapped sufficiently to allow pollutants to be removed, filter, settle and/or be neutralised by natural processes before infiltrating to the local aquifer.

The Strategy will be used to guide and direct proponents in the Redevelopment Area and provides an overarching philosophy as the basis for more detailed assessments at the precinct planning level. Therefore, the opportunity to consider stormwater in greater detail will appropriately be at the structure planning and/or development stage. Each component of the development will require the preparation of a Drainage, Nutrient and Construction Management Plan, which addresses the objectives, design criteria and guidelines provided within the Water Management Strategy and will also be subject to current policies and Best Management Practices.

*5.4.9 Mechanisms are required in the Master Plan and Water Management Strategy to ensure proper maintenance and operation of stormwater control measures are put in place. Development consent conditions should require the owner to provide regular certification that on-site stormwater management measures are in a fully operable condition, appropriate instruments under the transfer of Land Act 1895 should be placed on title of land. This should also be supported by educational programs, inspection programs, periodic audits, databases and appropriate enforcement action. (19 WC)*

Noted.

The opportunity to consider this will appropriately be at the development application stage.

*5.4.10 The Water Management Strategy section refers to the need for individual property owners to be able to show they can capture and manage surface runoff*

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*from their properties, however, no reference is made to capacity of such systems, that is a 1 in 10 year storm event; 1 in 20 year; or 1 in 100 year storm event. It is not feasible that all drainage water from large scale events will be able to be captured. (26 CoC & 42)*

Noted.

This aspect would be considered in the orderly engineering design for the project area on a catchment by catchment basis.

*5.4.11 Statement in the Environmental Review that there will be no direct drainage into wetlands appears to be at odds with Actions and Outcomes for Water in the Master Plan Report. (20 WC)*

Disagree.

The Action for Water in the Infrastructure Strategy states (on page 111 of the Proposed Master Plan Report):

“Create artificial wetlands and use existing wetlands (except Long Swamp) to provide areas for drainage run-off and grey water disposal that minimise land take.”

The statement that no direct drainage into wetlands is correct, this is also substantiated by the Actions identified for wetlands in the Environmental Strategy. However, the potential to dispose of drainage through the use of stormwater treatment structures has been identified.

As stated in Section 4.3, the WAPC does not support the contention that stormwater could not be sensitively treated and disposed within wetland buffers, subject to appropriate design and operation, and the final extent (dimensions) of the buffers. These stormwater treatment structures would most likely take the form of summer-dry swales vegetated with endemic wetland species, in locations where no wetland buffer values currently exist e.g. cleared land.

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State Water Strategy

*5.4.12 In Section C2.1.1 of the Master Plan, the State Water Strategy for Western Australia 2003 should be identified as also being relevant to the redevelopment of Hope Valley - Wattleup. Planning Policy 1.8 should be expanded to address all the objectives of the State Water Strategy. (19 WC)*

Disagree.

This is not considered appropriate, as the strategies in Section C2.1.1 of the Proposed Master Plan Report relates to the WAPC State Planning Strategy, which provides a strategic guide for land use planning for the State of Western Australia through to the year 2029.

As advised previously the Planning Policy 1.8 in the Proposed Master Plan Report and the Actions for Water in the Infrastructure Strategy will be amended to have regard for the *State Water Strategy for Western Australia 2003*. The Water Management Strategy will also refer to the *State Water Strategy for Western Australia 2003*.

*5.4.13 The Water Management Strategy should refer to the State Water Strategy and how it is proposed compliance will occur. (19 WC)*

Agreed.

The Water Management Strategy will be amended to have regard for the *State Water Strategy for Western Australia 2003*.

Community Awareness

*5.4.14 Need for the HVWRA to focus significant effort post construction to ensure owner management and community participation reflects the water objectives (particularly drainage) to be achieved. Recommend new sub clause for Section 7.2 of the Master Plan to reflect this. (19 WC)*

Disagree.

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The proponent is of the opinion that it is not the role of the Proposed Master Plan to be the administrator of this process.

## 5.5 Conservation Areas

### Rationale and Purpose

*5.5.1 Further explanation is required on the role of ecological linkages and how this issue will be addressed despite the lack of site specific information, including information on fauna habitat. ((10 & 11) DoE & 24 DoIR)*

Noted.

The Proposed Master Plan provides for the over-arching philosophies of planning and environmental management in the project area. It is not considered appropriate to undertake detailed surveys at this stage of planning.

Sections 5.1.5 and 5.5.5 of the Environmental Review identifies the proposed management measures for remnant vegetation within the HVWRA through the planning principles which underlie the HVWRP and the precinct planning land use and development controls within the Proposed Master Plan and the Planning Strategy.

Environmental Objective 7.4.2 (a) of the Proposed Master Plan refers to submission of information to the Commission of a development application. As limited survey of each remnant has been undertaken, further detailed surveys will undertaken at the precinct structure plan level, prior to detailed planning for development. Surveys will be undertaken based on the Draft EPA (2003a) *Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* and the Draft EPA (2003b) *Guidance Statement No. 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*.

Therefore, the opportunity to identify whether remnant vegetation will significantly enhance the regions' biodiversity and ecological functions will appropriately be during the structure planning stage when there is further detail.

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In line with the Planning Strategy, each Structure Plan would identify if any good quality vegetation exists and determine if the area is manageable and viable. If so, it would be conserved, and any similar areas in adjoining Structure Plans could be considered for a linkage. However, it may be that no viable linkages occur.

*5.5.2 Further information required on the width of vegetation corridors. Limitations of road reserves should be recognized. A review of the proposed greenbelts and ecological linkages needs to be undertaken to ensure that they follow appropriate and sustainable alignments that can be incorporated into the structure planning of the various Precincts. ((25 & 27) CoC & 37 ToK)*

Noted.

The limitations of road reserves as proposed greenbelts and ecological linkages is recognized. However, the use of easements or road reserves, such as the Western Power easement or Rowley Road reserve, running east-west through the project area should still be explored further to address concerns over ecological linkages.

Furthermore, the areas identified in the Planning Strategy for greenbelts and ecological linkages may be expanded subject to detailed studies at the structure planning stage.

*5.5.3 Figure 21 providing more detail on the width of 'greenbelts' along roads and what existing vegetation should be retained to make this linkage successful. A map showing remnant vegetation to be retained and vegetation required to extend the linkage would be suitable. The Alcoa remnant should also be included as a linkage with other areas shown. Retention of potential areas is supported but the Master Plan should show how this will be achieved. (37 ToK)*

Noted.

Please see previous responses in Sections 5.5.1 and 5.5.2

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5.5.4 *Timeframe for detailed surveys to be provided and information incorporated into the Master Plan. Prior to this, these conservation areas and green-links being kept as extensive as possible to prepare for this contingency. (37 ToK)*

Noted.

Section 7.4.2 (a) of the Proposed Master Plan refers to requirement for surveys to be undertaken according to Draft EPA (2003a) *Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* and Draft EPA (2003b) *Guidance Statement No. 56: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* as part of the information required when submitting a development application. Section 6.2.6.1 (b) (ii) of the Proposed Master Plan also refers to the same requirement for surveys to be undertaken at the structure planning stage.

With respect to the comment provided on conservation areas and green-links please see previous responses in Sections 5.5.1 and 5.5.2.

5.5.5 *An aim of the Master Plan is to conserve areas of local and regional environmental significance. The matter of local and regional significance has not been addressed by the Environmental Review and cannot be without more detailed consideration of biodiversity values. (21 CALM)*

Noted.

The Proposed Master Plan deals with the over-arching philosophies of planning and environmental management in the project area. The opportunity to provide more detailed consideration of the biodiversity values will appropriately be at the structure planning and development stage.

5.5.6 *Recommend that greater emphasis should be placed on the identification, retention and protection of vegetation within the Master Plan area, especially areas of Karrakatta Complex - Central and South. (22 CALM & (25 & 27) CoC)*

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5.5.7 *Disappointing that only approximately 4.3ha of Karrakatta Complex - Central and South proposed to be retained as Parks and Recreation and is shown as an 'Extraction Area. How will this remnant vegetation be retained? Early protection may be required to ensure any portion of vegetation on these lots is retained. (26 CoC)*

Noted.

Sections 5.1 and 5.5 of the Environmental Review describes the existing remnant vegetation, the potential impacts that may result from redevelopment of the area and the management measures proposed through the planning principles which underlie the HVWRA and the precinct planning land use and development controls within the Proposed Master Plan and the Planning Strategy.

In particular, it is felt that Section 7 of the Proposed Master Plan already provides very stringent and onerous environmental provisions regarding remnant vegetation, which developments in the area will need to address at the structure plan or development application level. Therefore, the opportunity to identify the good quality vegetation for conservation will be appropriately determined at the structure planning or development stage.

With respect to the areas of Karrakatta Complex – Central and South within the HVWRA, these areas were not recommended for inclusion in *Bush Forever*. Additionally, they have not been included in recent additions to *Bush Forever*. Nearby *Bush Forever* Sites 267, 269, 391, 392 and 393 all contain Karrakatta Central and South vegetation complex, which suggests that the local representation of this vegetation complex is already reserved.

An area of this complex in Precinct 4 was proposed for Parks and Recreation and accepted by the WAPC, with the opportunity to expand this area and reserve any other potential areas to be determined at the structure planning and/or development stage.

5.5.8 *No rationale has been provided for the Parks and Recreation Reserve in Precinct 4. Why is it only part of the lot? No mention is made of it in the 'Planning Strategy' or how it might link into the habitat corridors. ((25 & 27) CoC)*

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Disagree.

Please see response provided in Sections 5.5.6 and 5.5.7.

*5.5.9 Creating Lot 30 as Parks & Recreation has severe implications for the extraction of limestone from adjoining lots by Roadstone, City of Cockburn, WA Limestone and Readymix. Lot 30 was not selected as part of 'Bush Forever' but listed as other vegetation and allocation of this to Parks and Recreation will form an isolated piece of vegetation which does not fulfil the objectives for providing linkages for flora and fauna, creating connectivity, allowing for the interaction of species and providing fauna habitats. (55)*

Noted.

However, the recent clearing of the vegetation on this lot is noted.

*5.5.10 Master Plan Figure 5 - Proposed and Potential Greenbelts. The wetland zones of influence should be drawn on the map. Without any context or understanding of the natural attributes of the site, the Potential Greenbelts shown on the map have no logical basis. The Figure does not include 'habitat corridors' and the logic behind the distribution of the 'greenbelts' is not clear. The Figure needs notes in support of the proposal. ((25 & 27) CoC)*

Agreed.

The Figure will be amended accordingly.

### Reservation

*5.5.11 Concerned by the lack of conservation areas, greenbelts and ecological linkages to be provided between areas of high conservation outside the redevelopment area. These areas should be identified at this stage of planning and not left to the Structure Planning Stage in order to ensure that there is a coordinated and comprehensive inclusion of greenbelts through the project area and that there is*

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*adequate land set aside. Justification required for reductions in conservation areas and linkages and the designation of areas as merely 'potential' conservation areas and linkages and how this could actually protect the values native flora and vegetation of the scheme area. ((10 & 11) DoE, 22 CALM, 26 CoC & 37 ToK)*

Noted and acknowledged.

The reductions in Parks and Recreation reserves was due to the WAPC being of the opinion that these areas were not sufficiently justified in terms of conserving environmental values and that this should be pursued via precinct structure planning and possibly also developer contributions.

Therefore, the opportunity to identify whether remnant vegetation will significantly enhance the regions' biodiversity and ecological functions will appropriately be during the structure planning stage when there is further detail.

In line with the Planning Strategy, each Structure Plan would identify if any good quality vegetation exists and determine if the area is manageable and viable. If so it would be conserved, and any similar areas in adjoining Structure Plans could be considered for a linkage. However, it may be that no viable linkages occur.

*5.5.12 Under the Cockburn Cement Agreement there is no requirement for Cockburn Cement to retain remnant vegetation on its land. It is not clear why there needs to be a habitat corridor between the Stock Road/Russell Road intersection (future interchange) and Fanstone Avenue (East). ((25 & 27) CoC)*

Noted.

Whilst it is acknowledged that under the Cockburn Cement Agreement there is no requirement for remnant vegetation to be retained, the Proposed Master Plan identifies the opportunity to consider the retention of remnant vegetation bordering Precinct 12 and linking Fancote Road and Rockingham Road at the precinct/structure planning stage by reinstating vegetation.

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As advised in the previous response, the opportunity to identify whether remnant vegetation will significantly enhance the regions' biodiversity and ecological functions will appropriately be during the structure planning stage when there is further detail.

In line with the Planning Strategy, each Structure Plan would identify if any good quality vegetation exists and determine if the area is manageable and viable. If so it would be conserved, and any similar areas in adjoining Structure Plans could be considered for a linkage. However, it may be that no viable linkages occur.

*5.5.13 Need to state that remnant vegetation is to be retained, or to be honest and say that practically all of the remnant bushland will be cleared. (42)*

Noted.

Please see previous responses regarding the retention and conservation of remnant vegetation and wetlands in Section 5.1 Flora and Section 5.3 Wetlands, as well as the responses provided above for conservation areas.

*5.5.14 The 'Planning Strategy' (Figure 7 in the Master Plan) does not illustrate the retention of remnant vegetation, wetlands or the provision of habitat corridors. ((25 & 27) CoC)*

Disagree.

Figure 7 identifies the areas proposed for Parks and Recreation reservation as well as proposed greenbelts and remnant vegetation. Whilst the wetlands in the HVWRA are not explicitly identified, they are within the areas identified for either Parks and Recreation reservation or proposed greenbelts and remnant vegetation.

Please refer to Figure 5 of the Proposed Master Plan Report, which provides the next layer of detail regarding these environmental areas.

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Long Swamp

*5.5.15 Long Swamp is likely to be reserved for P&R, the need for linkages to sustain this development should be recognized. True consideration needs to be given to retaining 'upland' vegetation adjacent to wetland vegetation. (37 ToK & 42)*

Noted.

Please refer to response provided in Section 4.2.15.

*5.5.16 Proposed greenbelt to be removed from Everett Way and realigned adjacent to Long Swamp on the Southern side of Hope Valley Rd. This will encompass existing wetland and still provide linkage to Long Swamp. (34)*

Noted.

The opportunity to consider this option will appropriately be at the structure planning and development stage.

Approvals

*5.5.17 Notion of creating additional conservation areas and habitat linkages could affect certainty in the approvals process. Purpose of the conservation measures proposed for conservation areas external to the project area is not explained sufficiently and could be interpreted as proposing an additional set of conservation reserves. Section 7.4.2 (m) of the Master Plan should provide greater guidance to ensure the project can be developed in accordance with the intent of the Master Plan. (24 DoIR)*

Noted.

Section 7.4.2 of the Proposed Master Plan relates to the environmental information required when submitting a development application. In particular, Section 7.4.2 (m) requires demonstration of how significant environmental areas such as wetlands, habitat corridors, remnant vegetation and conservation areas are to be protected. Further

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guidance on these conservation areas is provided through the Planning Strategy, which has identified a number of conservation reserves and potential linkages and greenbelts.

*5.5.18 Strongly recommended that detailed flora and fauna studies be undertaken now so that the developer has certainty from the outset as to what land can be developed and what land cannot be developed for industry. (23 DoIR)*

Noted.

Please see previous responses regarding flora and fauna in Sections 5.1 and 5.2.

### Management

*5.5.19 Appears that the HVWRA contains many wetlands and potential areas of flora conservation. Management of all these will be costly and needs to be addressed so that these costs can be factored in to the whole development program. (23 DoIR)*

Noted.

The wetlands and conservation areas to be located in proposed Parks and Recreation reserves within the HVWRA will be vested with the appropriate authority. This would most likely be the CALM, the Local Authority, or another body. The long term responsibilities for rehabilitation will rest with the vesting body, but could be financed through a variety of mechanisms, similar to other land developments adjacent to Parks and Recreation Reserves within the Perth Metropolitan Area.

With respect to conservation areas that may be identified for public open space through the structure planning and development process, these areas will also be vested with the appropriate authority.

*5.5.20 No discussion of how remnant bushland adjacent to the Bush Forever sites will be managed. Concerned over interface between development and adjoining Bush Forever Sites and the Beeliar Regional Park. Recommend that as part of*

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*the precinct/structure planning process the proponent should identify what boundary treatments are required adjacent to areas of Regional Park in consultation with CALM. (20 WC & 22 CALM)*

Agreed.

The opportunity to consider this will be during the structure planning and development stage.

### Biodiversity

*5.5.21 The Perth Biodiversity Project to be acknowledged by the Master Plan. (37 ToK)*

Agreed.

The Proposed Master Plan Report will be amended to reflect this.

*5.5.22 No mention of increasing the numbers or diversity of native flora and fauna. This may be an option in some areas (i.e. Long Swamp). (42)*

Agreed.

The opportunity to consider this will be during the structure planning and development stage.

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## 6.0 SUBMISSIONS RELATING TO POLLUTION MANAGEMENT FACTORS

### 6.1 Air Quality

#### Atmospheric Emissions

*6.1.1 The Environmental Review should modify its statement that the Greenhouse Gases ‘contribution from these development themselves is negligible in global terms’ to recognise: (i) the cumulative impact of developments has escalated the greenhouse effect; and (ii) that it is necessary for all industries to reduce their contribution, so that the cumulative impact of their actions will be significant in combating climate change. (36 ToK)*

Noted.

However, the purpose of the Environmental Review was to describe the existing environment and potential environmental impacts resulting from the implementation of the Proposed Master Plan, together with a description of management strategies proposed within subsequent planning processes. The Environmental Review has no binding effect.

*6.1.2 The issue of how the likely impacts of cumulative emissions on air quality will be managed should be clarified. Seek assurance through the Master Plan finalisation process that the maintenance and protection of existing operations and licensed air emission levels is recognised, and that future development will be managed so as to not impact on existing operations. (57 KIC)*

Noted.

The ability to address the likely impacts of cumulative emissions on air quality at this stage of planning is somewhat limited as the exact industries that will locate within each of the HVWRA precincts cannot be predicted.

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However, the opportunity to consider these issues in greater detail will appropriately be at the structure planning and/or development application stage. There are a number of levels to consider in this respect:

- The Proposed Master Plan deals with the over-arching philosophies of planning and environmental management in the project area;
- The structure plans will reflect the latest policies, practices and the adoption of Best Management Practices;
- The individual industries locating in the project area will require design, construction, and operation in accordance with current Best Management Practices;
- Controls will continue to be exercised through DoE Works Approvals and Licensing (where required, please see response provided in Section 3.3.2); and
- Controls will also be in place through the Kwinana EPP.

There will also be a yearly consolidation review of the Proposed Master Plan to ensure that it considers cumulative effects and reflects the policies and current Best Management Practices.

Section 7.1 (c) of the Proposed Master Plan states:

*The use or development of land is not to have individual or cumulative adverse environmental or social impacts on:*

- *Other land uses and amenities within or outside the Redevelopment Area;*
- *Air quality; and*
- *Future land uses within and surrounding the Redevelopment Area*

Section 7.3.4 of the Proposed Master Plan has been amended (see response provided in Section 6.1.3) to state:

*Land Use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not unacceptably affect neighbouring land uses, developments, employees, the general public or environmentally significant area.*

Section 8.1 of the Environmental Review recognises that impacts from individual development proposals involving potentially significant pollution, emissions and risk

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(individual and public) arising from, or affecting, land use and development in the Redevelopment Area cannot be identified at this stage. The EPA recognises this as a deferred environmental factor and that these assessments will be assessed as required.

That is, the issue is considered relevant to the HVWRA but is most appropriately addressed at a later stage. The EPA would retain the ability to assess these proposals under Part IV of the *Environmental Protection Act 1986*.

*6.1.3 Concerned that Section 7.3.4 (e) of the Proposed Master Plan will prohibit developments that causes 'atmospheric pollution'. Seek clarification on this matter to ensure that industries that generate emissions, whether atmospheric or otherwise will be permitted to develop, provided they meet their licensed conditions and all other relevant regulations prescribing emissions or their management. ((49 & 50) CCI)*

Noted and acknowledged.

Section 7.3.4 Air Quality of the Proposed Master Plan states:

*Land Use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not adversely affect neighbouring land uses, developments, employees, the general public or environmentally significant areas.*

This will be amended (text underlined) to state the following:

*Land Use and development within the Redevelopment Area shall be carried out and managed such to ensure that any individual or cumulative atmospheric pollution generated during the construction or operation of any development does not unacceptably affect neighbouring land uses, developments, employees, the general public or environmentally significant areas.*

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Section 7.3.4 (e) of the Proposed Master Plan states:

*not incorporate development that may result in atmospheric pollution such as dust, gaseous particulates, odour and light and will not adversely affect neighbouring land uses, employees, the general public or environmentally significant areas.*

This will also be amended (text underlined) to state the following:

*not incorporate development that may result in unacceptable levels of atmospheric pollution such as dust, gaseous particulates, odour and light and will not unacceptably affect neighbouring land uses, employees, the general public or environmentally significant areas.*

The above amendments for the Section on Air Quality in the Proposed Master Plan should provide flexibility for future industries wishing to locate within the HVWRA while ensuring that any atmospheric emissions are managed appropriately.

Individual industries located in the project area will also be required to ensure that design construction and operation is in accordance with current Best Management Practices. Furthermore, each industry locating within the HVWRA with the potential to pollute will be the subject of a Works Approval, subsequent operational Licensing by the DoE, and auditing and reporting (please see response provided in Section 3.3.2). Controls will also be put in place through the Kwinana EPP and any other relevant regulatory requirements.

### Kwinana Industrial Area Buffer

*6.1.4 Little to none of Kwinana EPP (air shed) should be allocated to the Master Plan area to ensure the ongoing viability of the existing KIA, that core industries are protected and that industrialisations within the buffer does not lead to further expansion. Objective should not be to improve air quality in Area B but to optimise industry in Area A so that Area B's assimilative capacity is fully utilised. Master Plan's objective to improve air quality within the buffer may not be consistent with optimising the Kwinana Industrial Area for heavy industry. Do*

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*not agree with proposed local contractions in the buffer. (23 DoIR, 36 ToK & 39)*

Noted and acknowledged.

Section B4.3.6 of the Proposed Master Plan Report describes the range of land uses and their associated emissions within and adjacent to the HVWRA that influence (constrain) development.

The land uses within the HVWRA are subject and/or influenced by the:

- *Environmental Protection (Noise) Regulations 1997;*
- *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999;* and
- development of a State Air Environmental Protection Policy to implement the *National Environment Protection Measure (NEPM) for Ambient Air Quality.*

The Kwinana EPP and operation within the HVWRA will be influenced by the NEPM when it comes into force. The NEPM prescribes specific pollutants and concentration levels, including their maximum allowable accedence. There is the expectation that when the NEPM comes into force these levels will be more stringent than the current State requirements and will influence the type and nature of current and proposed operations within and adjacent (i.e. KIA) to the HVWRA. This will have the added benefit of maintaining the quality of the current environment and/or its' progressive improvement.

Therefore, in light of the above it is considered that the provisions within the Proposed Master Plan to protect, maintain and enhance air quality within the HVWRA is consistent with these policies and any future requirements that may arise as a result of more stringent standards being imposed.

However, it is acknowledged that local contractions of the Kwinana EPP buffer is not supported.

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## Scientific Studies and Monitoring

6.1.5 *Concerned with the practicality of monitoring and reporting greenhouse emissions. Require detail on data collection, reporting, checking and specification as to what is to be done with this information. (42)*

Noted and acknowledged.

Section 4.1.3 of the Environmental Review identifies that the EPA released *Guidance Statement No. 12: Minimising Greenhouse Gas Emissions* in October 2002, which specifically addresses the minimisation of greenhouse gas emissions from significant new or expanding operations.

The EPA's objective for greenhouse gas management is to reduce emissions to a level which is as low as practicable. In order to achieve this the EPA's environmental assessment objective is to ensure that potential greenhouse gas emissions emitted from proposed projects are addressed in the planning/design and operation of projects and that:

- Best practice is applied to maximise energy efficiency and minimise emissions;
- Comprehensive analysis is undertaken to identify and implement appropriate offsets; and
- Proponents undertake an ongoing program to monitor and report emissions and periodically assess opportunities to further reduce greenhouse gas emissions over time.

The EPA's Guidance Statement provides guidance on the following, which should be provided by the industry proponent:

- (a) Greenhouse gas emissions inventory and benchmarking
  - identifies the methodology to be used to estimate the gross emissions that are likely to be emitted from the proposed project.
  - details on the project lifecycle greenhouse gas emissions and the greenhouse gas efficiency of the proposed project.
  - Estimate for the proposal for each year of its operation, in carbon dioxide equivalent figures.
- (b) Measures to minimise greenhouse gas emissions
- (c) Carbon sequestration:

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- Options to be considered for carbon sequestration and intended measures for research and adoption.
- (d) Minimising emissions over the life of the project
- (e) Benefits on a national or global scale

The industry proponent would be required to provide this information in order to demonstrate that consideration and compliance of the measures contained within the Guidance Statement has been met as part of the development application.

*6.1.6 Industries are encouraged to adopt the Cleaner Production Program initiated by Curtin University and supported by the DoE. ((10 & 11) DoE)*

Agreed.

This will be appropriately addressed at the later stages of planning when further detail will be available.

*6.1.7 Consider it inappropriate for land use area and/or precincts to be determined prior to a scientifically complete Environmental Buffer review. It is currently proposed that Land Use Buffers, such as quarry and residue area Buffers, are amalgamated with the current Air Quality Buffer to form the 'residential exclusion area'. This is deemed inappropriate long term planning as many of these Land Use Buffers will not be there indefinitely and are therefore unlikely to create a long-term constraint. ((60 & 61) KABZ)*

Noted.

As stated in Section 6.1.5 of the Environmental Review, the redevelopment of the HVWRA, and recognition that land use separation to prevent conflict is more a planning issue than simply one of management of air quality were instrumental in bringing about the review of the boundaries of air quality buffer established under the Kwinana EPP.

The review recommended that a composite planning and environmental protection buffer should be put in place that provides a “Residential Exclusion Area” to both protect nearby residents, and enhance the future of the KIA.

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The Proposed Master Plan provides for the long-term planning and strategic direction of land uses within the HVWRA and is required to have regard to these other planning instruments.

*6.1.8 There has been a commitment to excess land requirement for industry yet it appears that the Department of Industry and Resources insatiable desire for even more industrial land, as well as the desire to protect the KIA (without consideration for current residents), has overridden community expectation that correct procedures be adhered to in ascertaining a scientific review of the Kwinana Air Quality Buffer. Given that both the Buffer Review and the Master Plan will have resounding long term impact, it is essential that recommendations are based on accurate constraints information. ((60 & 61) KABZ)*

Noted.

The review of the Kwinana air quality buffer identified minor potential adjustments to the buffer boundaries consistent with its revised planning purpose and included potential adjustments in Precinct 13.

Processes for implementing the review may include a new Statement of Planning Policy for the Kwinana area and revisions to the current Kwinana EPP. Additionally, government initiatives for the Kwinana area include a review of emissions monitoring from industries in the KIA, monitoring of a range of potential pollutants including air toxics, licence reviews and health studies.

The yearly consolidation review will ensure that the Proposed Master Plan, Planning Strategy and Planning Policies will reflect the latest controls and requirements on this matter. Thereby, ensuring that future planning and development within the HVWRA is in accordance with the latest policies and revisions to the Kwinana EPP.

*6.1.9 KABZ continues to support contraction of the KIA Buffer where scientifically evaluated modelling has proven to be safe, (for the health benefit of residents). Precinct 13, an area of some 40-45 hectares to the east of the development area*

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*should be left to develop according to normal planning stipulations. (60 & 61)  
KABZ*

Noted.

With respect to Precinct 13, please see response provided in Section 8.1.

*6.1.10 With the DoE's Gap Emissions study and the Air Toxic study still incomplete it would seem likely that a full understanding of atmospheric emissions has not been achieved. (23 DoIR & 39)*

Noted.

It is recognised that these studies may indicate requirements for reductions in emissions from existing industries and/or identify new issues required to be addressed in future development proposals.

The yearly consolidation review will ensure that the Proposed Master Plan, Planning Strategy and Planning Policies will reflect the requirements as an outcome of these studies. Thereby, ensuring that future planning and development within the HVWRA is in accordance with the latest policies and revisions to the Kwinana EPP.

*6.1.11 EPP standard for Area B is 700 micrograms per cubic metre, not 500 as stated in the Master Plan. (39)*

Noted and acknowledged.

The Proposed Master Plan Report will be amended to reflect this.

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## 6.2 Soil Quality

### Site Contamination

6.2.1 *Procedures on identifying contamination as it occurs and the remedial action required needs to be specified. Further information is required on how horticulture, turf farming, landfills, extractive industries and septic systems will be phased out and which agency will be responsible for getting landowners to remediate their sites when these land uses disappear and eventually changes. (23 DoIR, 37 ToK & 42)*

6.2.2 *How will the aim for no site contamination be achieved? Who will be responsible for site contamination sampling/testing, and who is checking the information is reasonable? Need to identify the agencies responsible (technically and financially) for contamination monitoring? Safeguards need to be put in place to ensure that industrial sites are cleaned up when businesses close. Is there State legislation that would enable this? (41 & 42)*

Noted.

Site contamination assessment will be conducted via an iterative approach consistent with the DoE's *Contaminated Sites Management Series* (DEP, 2001). Where Preliminary Site Investigations (PSI) identify the presence of potential contamination, Detailed Site Investigations (DSI) will be performed to fully define the contamination status of the site and assess any remedial requirements, including additional sampling and analysis programs and/or quantitative human health risk assessment.

The DoE will classify sites reported to it based on the risk a site poses to human health and the environment inferred from the PSI and/or DSI. Under the Contaminated Sites (CS) Bill, seven site classifications will be introduced, including:

- Report not substantiated.
- Possibly contaminated – investigation required.
- Not contaminated – unrestricted use.
- Contaminated – restricted use.
- Contaminated – remediation required.
- Remediated for restricted use, and

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- Decontaminated.

Memorials will be placed on the titles of sites classified ‘contaminated – restricted use’, ‘contaminated – remediation required’, ‘possibly contaminated – investigation required’. Only sites classified as ‘contaminated – remediation required’ must be remediated in accordance with the requirements of the CS Bill. Owners of sites classified as ‘contaminated’ or ‘restricted use’ will be obliged to disclose information on the contamination to anyone intending to purchase, lease or take on a mortgage on the site, before the transaction is finalised. The CS Bill is anticipated to be transposed into implementing regulations by mid-2004.

### Acid Sulphate Soils

*6.2.3 Preliminary investigations show some areas within the HVWRP boundary are recognised as posing a high and medium risk for acid sulphate soils. Proposals that may lead to the disturbance of acid sulphate soils should be planned and managed to avoid adverse effects on the natural and built environment, including human health and activities. ((10 & 11) DoE)*

Noted.

A Preliminary Site Assessment (PSA) will be conducted in accordance with applicable DoE guidelines in sections of the development area identified as being “a significant risk” according to the latest DoE risk mapping to confirm the presence or absence of acid sulfate soils, where direct or indirect disturbance of ASS is likely according to the WAPC’s (2003) *Planning Bulletin No. 64: Acid Sulfate Soils*, Guidance Statement A1.

Where ASS is confirmed, a Detailed Site Assessment (DSA) will be performed in accordance with WAPC’s (2003) *Planning Bulletin No. 64: Acid Sulfate Soils*, Guidance Statement A2. Subject to the outcomes of the phased investigation process, a detailed Acid Sulfate Soil Management Plan (ASSMP) may or may not be required at the subdivision stage to ensure that the proposed development is planned and managed to avoid potential adverse environmental effects on the natural and built environment. Where required, a comprehensive ASSMP will be developed and approved to the satisfaction of DoE prior to the commencement of works.

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The ASSMP will provide a framework of practical and achievable monitoring and control strategies, within which excavation and dewatering (if required) activities can be guided to avoid potential impacts associated with the direct and indirect disturbance of acid sulfate soils. The ASSMP is likely to include details of:

- Proposed prevention, minimisation and mitigation strategies for controlling environmental impacts caused by dewatering (if applicable) and excavation operations, including, but not limited to:
  - treatment and use of any excavated material;
  - treatment of acidity;
  - containment strategies to manage site runoff and infiltration;
  - techniques for managing water table levels (if applicable); and
  - if appropriate, management of any existing acidity and contamination being produced.
  
- Proposed monitoring programs for surface water and groundwater and remedial measures to mitigate potential impacts caused by disturbance of acid sulfate soils.
  
- Implementation responsibilities for environmental management.
  
- Reporting requirements and auditing responsibilities to ensure that agreed performance objectives are met, including quality assurance considerations.
  
- Contingency measures to rectify any deviation from the agreed performance standards.

### 6.3 Water Quality

Please refer to Section 4.3 Catchment Management and Water Quality of this report.

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## 6.4 Other

6.4.1 *There are groundwater contaminants e.g. oil already in my bore which is in the superficial aquifer approximately 190 ft. Dust coming from the quarries. Air pollution i.e. smell. (3)*

Noted.

Please refer to responses provided in Section 4.3 Catchment Management and Water Quality.

6.4.2 *The Master Plan sets out an aim of maintaining or improving the quality of air, water and noise. But is it actually achievable or empty rhetoric? (41)*

Noted.

Please refer to responses provided in Sections 4.2, 4.3, 5.4 and 6.1.

6.4.3 *As well as emissions of gaseous and wastewater pollution, some attention needs to be paid to release of life forms. The accidental or deliberate release of life forms by biotech industries could be potentially devastating to both human health and the environment. Another related issue is release of accidentally imported life forms such as insects, fungi and seeds. Such accidental imports will undoubtedly occur in a transport hub, and the proximity to wetlands and market gardens increases the likelihood of pest establishment. AQIS may be able to suggest mechanisms to minimise this problem. (41)*

Noted.

If any future industry was to develop or locate within the HVWRA that may involve the use of life forms it would be subject to separate legislation under the Commonwealth. Particularly, the *Gene Technology Act 2000*, which provides for the regulation of genetically modified organisms in Australia, in order to protect the health and safety of Australians and the Australian environment by identifying risks posed by or as a result

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of gene technology, and to manage those risks by regulating certain dealings with genetically modified organisms.

With respect to the importation of life forms this is subject to regulatory controls at the international, national and state level through Biosecurity Australia, the Australian Quarantine and Inspection Service, as well as Western Australia's Department of Agriculture.

Section 7.4.1 of the Proposed Master Plan states:

*An applicant shall submit sufficient information to enable the Commission to assess each application in accordance with the Statement of Environmental Intent, the Environmental Objectives, the Environmental Development Requirements, the other environmental provisions of this Part 7 and all relevant standards and legal requirements and show how these will be met.*

Furthermore, Section 7.4.2 of the Proposed Master Plan states that any development application will require the following information to be provided:

- (b) Description of all developments, processes and activities to be carried out on the land.*
- (c) Description of the potential for these developments, processes and activities to affect the environment and people.*
- (d) A list of all products, by-products, wastes and emissions to be directly or indirectly generated.*
- (h) The societal and environmental risks of any hazardous activity or substance and the mechanisms through which risk will be prevented or managed to an acceptable level;*
- (i) Management of the potential conflict between incompatible land uses and activities;*

The proponent is of the opinion that there are sufficient mechanisms within the Proposed Master Plan and through separate legislation to ensure that this issue is appropriately managed.

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## 7.0 SUBMISSIONS RELATING TO SOCIAL SURROUNDINGS FACTORS

### 7.1 Risk

*7.1.1 Concerns of incompatible land uses with hazardous industries and no controls for sustainable development of hazardous industry. Provision for separate storage of incompatible hazardous substances, both within a business, and within neighbouring businesses. ((23 & 29) DoIR & 41)*

Noted.

Section 7.3.6 Land Use Compatibility and Risk of the Proposed Master Plan states the following:

*Land use and development within the Redevelopment Area shall be carried out and managed in such manner as to ensure that the safety and amenity of surrounding land uses, employees and the general public is provided, while having regard to the rights of the community, landowners and developers, and shall:*

- (b) incorporate risk minimisation and compliance with off-site risk criteria, demonstrated through quantitative risk assessment;*
- (c) not incorporate land uses and development that may result in excessive individual, societal or environmental risk, unless it can be demonstrated that the risk can be adequately managed;*
- (d) not create significant individual or cumulative off-site environmental or social impacts or unduly disrupt or adversely affect neighbouring developments;*

Section 7.4.2 of the Proposed Master Plan identifies the environmental information required to be submitted with each development application in particular, the following is required:

- (f) A list of any dangerous and hazardous goods to be used or stored on, or transported to or from the site.*

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- (g) *The management and mechanisms through which dangerous and hazardous goods must be used, stored or transported, including emergency spill management and disposal.*
- (h) *The societal and environmental risks of any hazardous activity or substance and the mechanisms through which risk will be prevented or managed to an acceptable level.*

Therefore, it is considered that the above provisions will be provide for the appropriate management of hazardous industries and the land uses associated with these industries. Future developments associated with risk levels will be required, as appropriate, to undertake detailed Quantitative Risk Assessments.

*7.1.2 The Master Plan does not recognise hazardous industry (users of dangerous goods, radiation, etc) which could fall into any/all of the industry categories described in the Master Plan document. As such planning for hazardous industry in not accounted for. (29 DoIR)*

Disagree.

The response provided for Section 7.1.1 highlights the various provisions within the Proposed Master Plan which will ensure that the future planning and development within the HVWRA will be managed appropriately with regards to hazardous industry.

Furthermore, hazardous industry is controlled by separate legislation. Future development will need to comply with this as well as the stringent and onerous environmental provisions provided in Section 7 of the Proposed Master Plan.

*7.1.3 There is no definition of heavy industry other than the “Dover Report (1999)”. Therefore, any planning requirements made on the basis of this definition, including the State Buffer Policy are invalid. How does this affect the planning requirements for the Master Plan or lands/facilities bounding the plan area? (29 DoIR)*

Noted and acknowledged.

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Section 7.3.6 (f) of the Proposed Master Plan states:

*Be conducive to surrounding land uses and provide a transitional buffer between the residential areas surrounding the Redevelopment Area and heavy industry within the Kwinana Industrial Area.*

This provision will be amended to exclude the term heavy.

*7.1.4 Noxious and Hazardous industries need to be defined as 'X' not permitted uses in all precincts. Suitable definition of these uses should be defined within the Master Plan. (36 ToK)*

Disagree.

Noxious and hazardous industries are controlled under separate legislation. Future development will need to comply with this as well as the stringent and onerous environmental provisions provided in Section 7 of the Proposed Master Plan. Should future development meet these requirements then the proposed industry would be considered a suitable land use within the HVWRA.

To create a separate definition would be unnecessary and inconsistent with the Model Scheme Text.

*7.1.5 Attention is drawn to the Dangerous Goods Safety Bill and Drafting Instructions for Major Hazard Facility Regulations. Indications are that the regulations with regard to risk will become tighter in the interest of public safety. This is likely to have implications for buffers to industrial areas and transport corridors. (23 DoIR)*

Noted.

The yearly consolidation review will ensure that the Proposed Master Plan, Planning Strategy and Planning Policies will reflect the latest regulatory controls and requirements on this matter.

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*7.1.6 Risk related or major hazard facilities only permitted when in compliance with EPA Risk Criteria and relevant buffer/risk contours are contained within the boundaries of the Master Plan area. (36 ToK)*

Agreed.

Please see response provided in Section 7.1.1 regarding the provisions provided within the Proposed Master Plan for land use compatibility and risk.

*7.1.7 The Environmental Review essentially states that the maximum risk load will be knowingly exceeded by 2020. Risk assessment associated with this development needs to be repeated, this time including routine events. (42)*

Noted.

Section 7.1.4 of the Environmental Review, states that the manufacture and transport of a range of materials in the KIA creates a level of risk. Modelled risk contours of Individual Fatality Risk (IFR) outlines the unacceptable risk area for a fully developed KIA, in 2020, extending into the south-western quarter of the HVWRA. The highest contour shown for cumulative level of risk from the KIA extends into the HVWRA is 100 in a million per year. The EPA's criterion for cumulative risk imposed upon an industry is that the level should not exceed a target of one hundred in a million per year.

New industries that propose to locate within the HVWRA may potentially increase the levels of individual, societal and environmental risk within the HVWRA. Particular industrial processes and storage of particular amounts of chemicals and materials can result in an increased level of risk requiring management through separation distances or other means. For example, increased levels of risk could be created by proposed fuel depots allowable within some of the precincts. Therefore, the risk of cumulative impacts needs to be considered during the structure planning and development application stage.

*7.1.8 The 2020 risk contour based on the premise that heavy industry would be located in Naval Base and Hope Valley (as far east as the proposed Fremantle Rockingham Highway Alignment). If Hope Valley is to accommodate*

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*transport/general industry and not heavy industry than this contour would follow a different alignment. (23 DoIR)*

Agreed.

This will be appropriately addressed at the later stages of planning when further detail will be available.

*7.1.9 Any recovery or disposal of hazardous or toxic materials should not be permitted in Precinct 8. Monitoring would be required to ensure that it does not impact on residential sites close by. (41)*

Noted.

Please refer to response provided in Section 7.1.1.

*7.1.10 Developments adjoining Rowley Road need to be aware of risk from road cargoes. (23 DoIR)*

Agreed.

This will appropriately addressed at the later stages of planning.

*7.1.11 Squeezing pipelines into existing road reserves is not good enough from the planning and safety viewpoints - safety being the critical factor. (23 DoIR)*

Noted.

Detailed design and planning will need to be undertaken by developers in conjunction with the responsible utility as part of the structure planning and development process. Furthermore, Section 7.3.6 Land Use Compatibility and Risk of the Proposed Master Plan provides a comprehensive set of provisions which will ensure that individual, societal and environmental risk is managed appropriately.

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## 8.0 SUBMISSIONS RELATING TO OTHER FACTORS

### 8.1 Precinct 13

- 8.1.1 *Precinct 13 should be retail sales land use due to proximity to urban residential properties. (41)*
- 8.1.2 *Precinct 13 should be included as part of the urban development zone. (44)*
- 8.1.3 *HVWRA should not include Precinct 13 because it is already too large and this area is too close to wetlands and natural vegetation. (58)*
- 8.1.4 *Precinct 13 should be eastern gateway / business park to remain within the Master plan area regardless of whether or not it is within the air quality buffer. Strongly against rural use. (23 DoIR)*
- 8.1.5 *Strongly supports "Light Industry, Service Industry" and "Medical Centre / Office" as permitted uses in Precinct 13. (51)*
- 8.1.6 *CCI supports designating this area permissible for general, service, light, transport and warehousing operations. (50 CCI)*
- 8.1.7 *Precinct 13 should not be guided by the constraints of the KIA. There is every reason for this precinct to be removed from the HVWRA and developed under the normal MRS. The notion of the Master Plan holding this area as 'a buffer to the buffer' is ludicrous and does not resolve the planning for this area as was intended. Given the small acreage of this area and its location, KABZ supports its release from the industrial zoning. ((60 & 61) KABZ)*
- 8.1.8 *Concerned with the uncertain future of Precinct 13 (lot is part of the precinct). Integrity of the Kwinana Buffer will be compromised if the land use within Precinct 13 is not compatible with those conditions. Seek to ensure that no residential development or uses are permitted to remain or occur within Precinct 13 and that only development of a light industrial commercial or eco-industrial nature is permitted to locate in this precinct. This will retain valuable industrial land and prevent urban encroachment restricting industrial activity. Even if the*

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*buffer is subsequently modified as part of the review of the buffer, the maintenance of residential uses at this site would create the potential for land use conflicts and could restrict the ability of the KIA and the remaining area covered by the Master Plan to operate effectively. (39, 51, 50 CCI & 57 KIC)*

*8.1.9 Feel that the protection of Wattleup Lake must be of prime concern when considering the boundaries and redevelopment of the HVWRA as a whole and the redevelopment of Precinct 13, in particular. Protection of both the environment and groundwater of the HVWRA is of particular concern to and believe that Precinct 13 should exclude any land use which does not maximise the protection of the environment. To this end a rural land use should be prohibited. (51)*

*8.1.10 Clear that land uses permitted within Precinct 13 must be consistent with the following criteria: compatible with the Kwinana Buffer; be a buffer between the existing rural and residential areas to the east and the industrial land uses to the west; minimise land degradation, minimise wetland degradation; minimise pollution of groundwater; encourage land rehabilitation; allow light industrial and/or commercial redevelopment in accordance with the thrust of FRIARS and the HVWRP and prohibit rural as a land use. (51)*

Comments noted and acknowledged.

Through the public submissions period the Proposed Master Plan requested community comments on the preferred land use for Precinct 13.

From the ownership group there were two for and two against land use being allocated to industrial. The Kwinana Air Buffer Zone (KABZ) Community Group submission alluded to its urban potential. Also submissions from Department of Industry and Resources (DoIR), Kwinana Industry Council (KIC) and Chamber of Commerce and Industry (CCI) were for land use being allocated to industrial.

Therefore, given the low level of responses it is recommended Precinct 13 continue existing rural uses in order to preserve potential options for future developments. These options would need to take into account the finalization of the Kwinana Buffer Review and any localised strategic planning outcomes through State or local planning initiatives, such as the Jandakot Structure Plan or the City of Cockburn Planning Strategy.

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## 8.2 Infrastructure

- 8.2.1 *Social, noise and environmental problems associated with upgrading and ongoing use of the road and railway feeding into and out of the development area need to be considered. Road transport routes need to be defined to limit the impact of freight and passenger traffic on remaining residents. (36 ToK, 41 & 42)*
- 8.2.2 *An environmental assessment should be undertaken to determine the likely impacts from the increase of rail movements on noise and vibration. (36 ToK)*
- 8.2.3 *Master Plan has not addressed the issue of impacts of freight routes (road and rail) on future land uses and development e.g. noise. For the redevelopment of areas close to freight rail and road links, an adequate buffer distance between the freight link and the development is required to ensure compatibility between the land uses. (53 FPA)*
- 8.2.4 *For the management of freight related noise, it is recommended appropriate buffers be put in place at the Structure Plan stage, as part of the Design Guidelines. Buffer areas and other noise amelioration methods are required for the development near freight transport corridors to manage potential impacts. In order to achieve sustainable development, land uses adjoining freight corridors (road and rail) must take into account the potential impacts of freight movement. (53 FPA)*
- 8.2.5 *Traffic movements generated from activities within the Master Plan area should avoid routes through predominantly residential and rural/residential areas to limit potential amenity impacts on remaining residents. (36 ToK)*

Noted.

An overview of the transport network has been provided in Section C2.4.4 Transport Strategy in the Proposed Master Plan Report.

The opportunity to consider the issues associated with road and rail will appropriately be at the structure planning and development stage, where further detailed assessment can

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be undertaken in order to determine appropriate buffers and management measures required to mitigate potential noise and vibration impacts from major roads and rail.

Furthermore, redevelopment must maintain and, where practicable, reduce noise levels within the project area through appropriate design and management. It is therefore a provision of the Proposed Master Plan that prior to the consideration of any Development Application, a proposed development that is likely to lead to increased road or rail transport noise must prepare a noise assessment report. It is noted that in the preparation of such a report, the impact of existing sources of noise within the site be included in any cumulative noise assessment.

*8.2.6 The development and planning for the Fremantle to Rockingham Control Access Highway and Rowley Road extension including provisions for landscaping and enhancement of the roadway and surrounds as well as provision for environmental linkages and Water Sensitive Design in consultation with the Town of Kwinana. (36 ToK)*

Agreed.

The opportunity to consider this will appropriately be at the development stage of planning.

### **8.3 Heritage**

*8.3.1 There will be a need to maintain heritage sites and provide public access. Public access to heritages should be kept low key. (23 DoIR & 41)*

Agreed.

This will be appropriately addressed at the structure planning and development stage.

*8.3.2 Special Planning Control Areas need to be implemented for all heritage sites to conserve and protect them from inappropriate development. Special Planning*

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*Control Areas need to be immediately implemented for all heritage sites to conserve and protect sites from inappropriate development. (36 ToK)*

Disagree.

Individual sites will be protected in accordance with relevant legislative requirements. Details will be resolved at the structure planning stage. There is no need for Special Planning Control Areas.

*8.3.3 Hope Valley area in general needs to be listed in the Master Plan as a heritage site. This is to recognise the townsite as an early development area within the Town of Kwinana and in accordance with the Council's Municipal Heritage Inventory. (36 ToK)*

Noted and acknowledged.

Recognition of Hope Valley townsite heritage can be accommodated in the detailed structure planning through recognition of names and sites, and other initiatives.

*8.3.4 Figure 6 – European and Aboriginal Heritage Sites (in the Proposed Master Plan Report). Sites within the Redevelopment Area should be related to the proposals contained on Figure 5, in respect to the greenbelts proposed for Precincts 1, 3 and 14. ((25 & 27) CoC)*

Agreed.

Further detail for this will be appropriately provided at the structure planning stage.

## **8.4 Landscaping**

### Analysis

*8.4.1 Master Plan Figure 4 – Conservation Areas does not include any landscape analysis, such as areas of vegetation or landscape significance, views or ridge*

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*lines. There is no appreciation of land form or natural catchments for servicing and staging. The unique sites reserved for Parks and Recreation are not shown on this plan. ((25 & 27) CoC)*

Noted and acknowledged.

The purpose of this figure was to identify regionally significant conservation areas such as *Bush Forever* sites, System 6 as well as wetlands. Figure 5 of the Proposed Master Plan Report identifies the proposed Parks and Recreation reserves.

A landscape analysis has not been undertaken. However, Planning Policy 1.3 Landscaping identifies that the WAPC and Responsible Authority will develop and prepare a landscape strategy for principal public domain, including redevelopment entry and exit points and other landmark public domain areas, principally road reserves, as part of structure planning Whereas, landscaping guidelines for land will be developed in the private domain.

### Management

*8.4.2 Landscape Development and Management Strategy to be prepared addressing entrances, major arterial routes. Landscaping to be addressed through the structure planning process utilising where possible local species and water sensitive design. (36 ToK)*

Agreed.

Planning Policy 1.3 Landscaping will provide a framework to address some of these issues.

*8.4.3 Planning Policy 1.3 should be altered to advocate the use of local native species. Also need to consider weed potential when looking at landscape plant selection. (37 ToK & 41)*

Agreed.

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Planning Policy 1.3 will be amended to reflect this.

*8.4.4 Who will be responsible for ongoing maintenance of the landscaped parklands, the street verges and adjacent areas, the road reserves and the wetland remnant bushland? Where exactly is the funding for this to come from? The landowners and developers should be paying for all or most of the establishment costs and this needs to be factored into costs at these initial planning times. Some mechanisms for obtaining 'landscape establishment funds' need to be developed and enacted. (41)*

Planning Policy 1.3 Landscaping identifies that as part of the development of precincts, landscape strategies for public domain areas will be prepared as part of structure planning, funding for this will be acquired through Section 6.3 Development Contribution Areas of the Proposed Master Plan.

With respect to public open space and reserves, management and maintenance will be the responsibility of the responsible authority.

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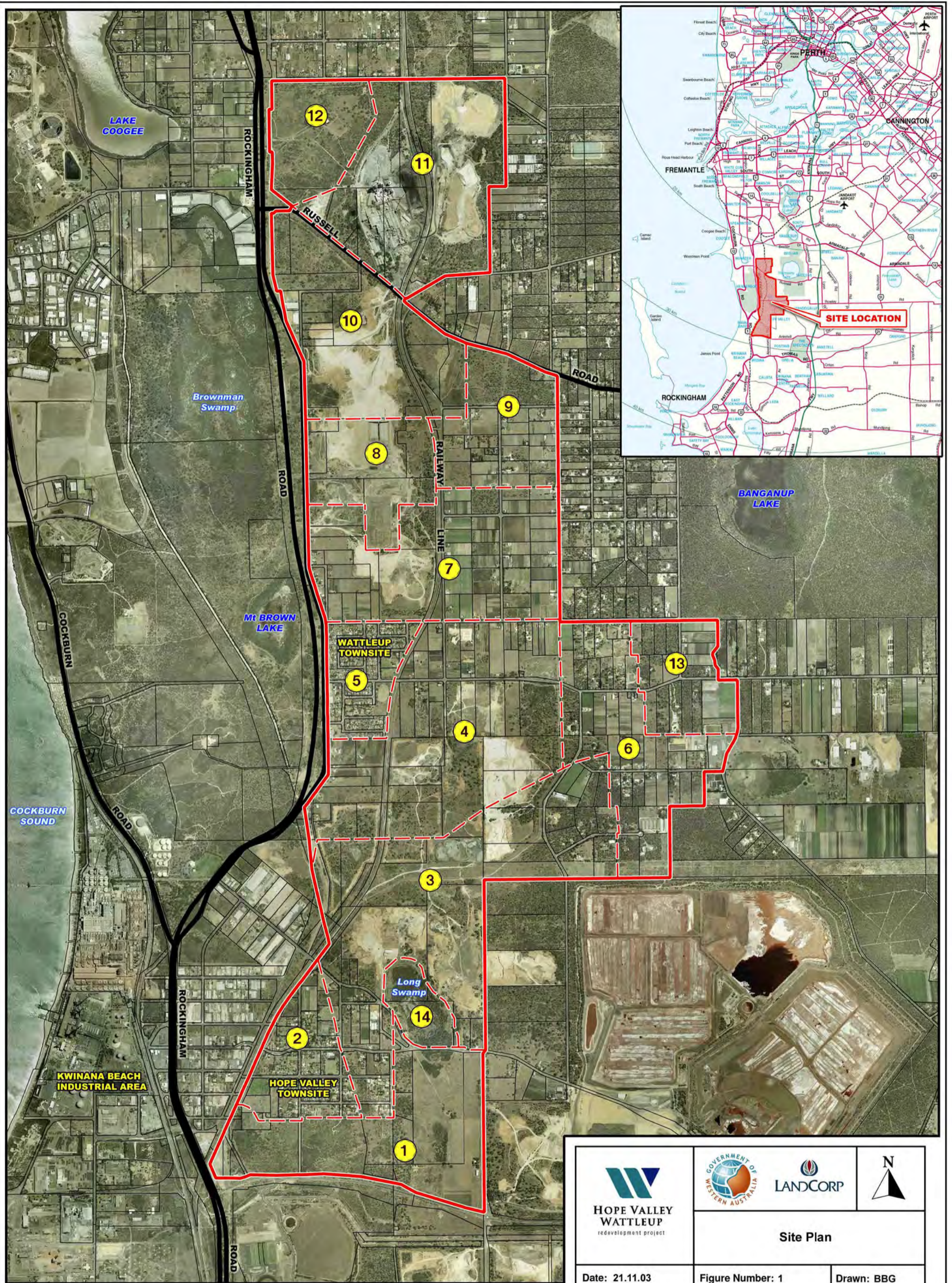
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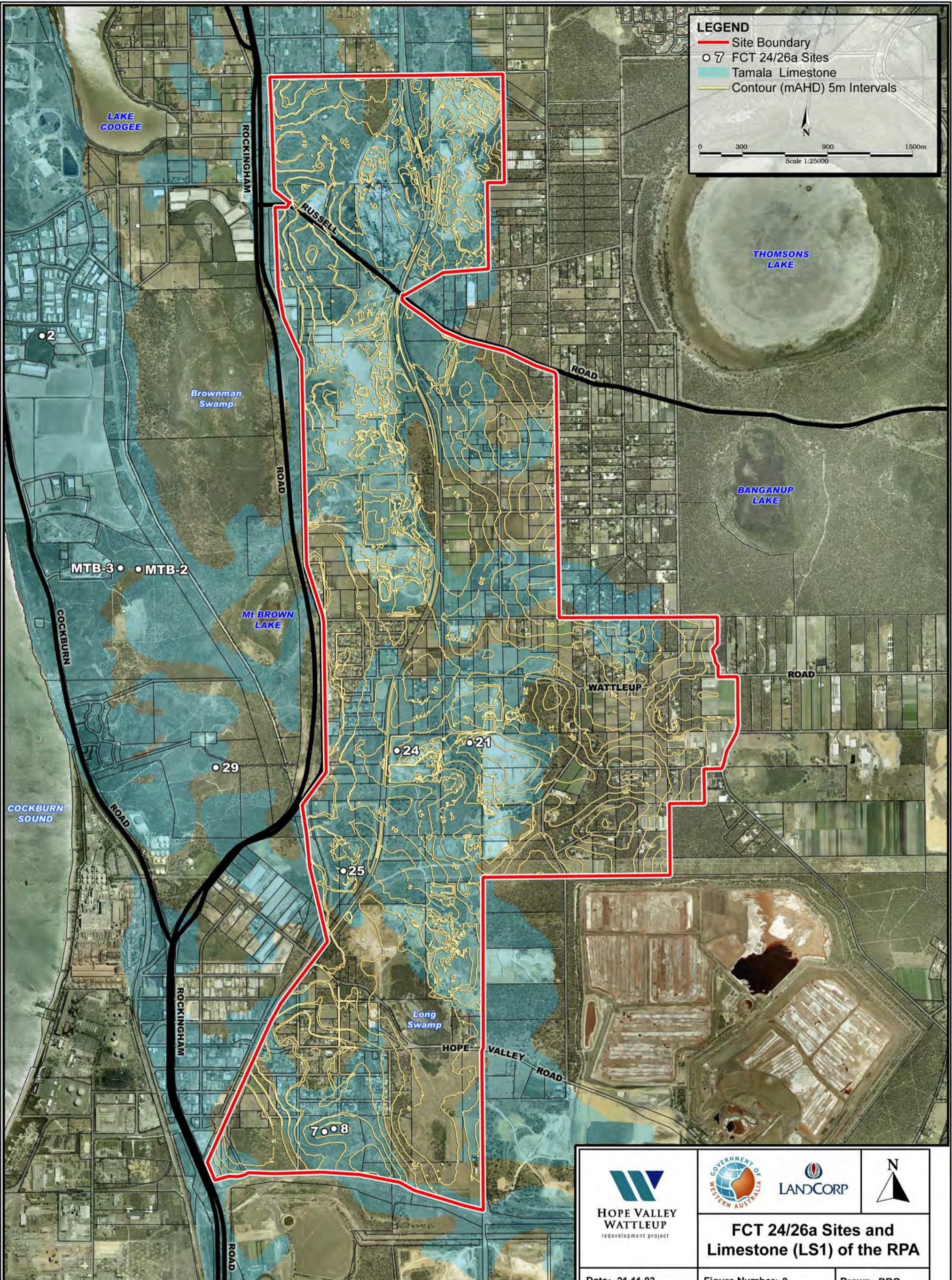
## **FIGURES**





LEGEND	
	Site Boundary
	Precinct Boundary
	Precinct Number

	<b>Site Plan</b>		
Date: 21.11.03	Figure Number: 1	Drawn: BBG	
Source:			
Kilometres Scale: 1:25,000			






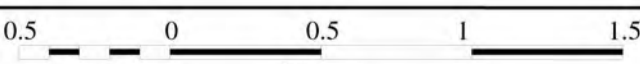
**LEGEND**

- Site Boundary
- 7 FCT 24/26a Sites
- Tamala Limestone
- Contour (mAHD) 5m Intervals

N

0 300 900 1500m

Scale 1:25000

 <b>HOPE VALLEY WATTLEUP</b> <small>redevelopment project</small>	 <b>GOVERNMENT OF WESTERN AUSTRALIA</b>	 <b>N</b>
<b>FCT 24/26a Sites and Limestone (LS1) of the RPA</b>		
Date: 21.11.03	Figure Number: 2	Drawn: BBG
Source:		
 Kilometres Scale: 1:25,000		

**APPENDIX A**

**List of Submitters**

## List of Submitters

Submission No.	Surname	Name	Organisation	Submission
1	Ambrose	Peter	Readymix Holdings	MP
2	Berner	Sonia		MP
3	Berner	Sonia		ER
4	Beswick & Madden			MP
5	Caratti	R.M. & G.A.		MP
6	Cicanese	Vincenzo		MP
7	Coffey	Chris	Cockburn Sound Management Council (CSMC)	MP
8	Coffey	Chris	Cockburn Sound Management Council (CSMC)	ER
9	Davis	Greg	Department of Environment (DoE)	MP
10	Dawson	Maxine	Department of Environment (DoE)	MP
11	Dawson	Maxine	Department of Environment (DoE)	ER
12	De San Miguel	D.F. & M.J.		MP
13	De San Miguel	Marie		MP
14	De San Miguel	Brian		MP
15	Dewar	Sue & Terry		MP
16	Dixon	S.		MP
17	Domasz	Peter		MP
18	Foley	Brian	Alcoa World Alumina	MP
19	Forrest	Richard	Water Corporation (WC)	MP
20	Forrest	Richard	Water Corporation (WC)	ER
21	Gepp	Teresa	Department of Conservation & Land Management (CALM)	MP
22	Gepp	Teresa	Department of Conservation & Land Management (CALM)	ER
23	Grigson	Tom	Department of Industry & Resources (DoIR)	MP
24	Grigson	Tom	Department of Industry & Resources (DoIR)	ER
25	Hiller	Steve	City of Cockburn (CoC)	MP
26	Hiller	Steve	City of Cockburn (CoC)	ER
27	Hiller	Steve	City of Cockburn (CoC)	MP #2
28	Johnston	Rosita		MP
29	Kamarudin	Stephen	Department of Industry & Resources (DoIR)	MP
30	Knott	Robin & Lesley		PB
31	Knott	Robin & Lesley		MP
32	Kursar	Dragutin		MP

Submission No.	Surname	Name	Organisation	Submission
33	Lambasa	David		MP
34	Leach	Frank	Ombulgarri Nominees	MP
35	Lees	Ray & Rose		MP
36	Lohman	Aaron	Town of Kwinana (ToK)	MP
37	Lohman	Aaron	Town of Kwinana (ToK)	ER
38	Lombardo	David	Comse Nominees	MP
39	Martin	Dr. D.J.		MP
40	Mateljak	Cvitko		MP
41	McLay	Dr. Paula		MP
42	McLay	Dr. Paula		ER
43	McLellan	John	J & S Drilling	MP
44	Mihaljevich	Milenilo & Frances		MP
45	Moore	Janet		MP
46	Morzenti	B.		MP
47	Paulik	Garry		MP
48	Powers	Stephen		MP
49	Rampton	John	Chamber of Commerce and Industry (CCI)	ER
50	Rampton	John	Chamber of Commerce and Industry (CCI)	ER
51	Redman	Helen & Paul		MP
52	Sanders	Daphne		MP
53	Sanderson	Kerry	Fremantle Port Authority (FPA)	MP
54	Smith	Doug	Town of Kwinana	MP
55	Stephens	Lindsay	Landform Research	MP
56	Taylor	Garry & Terri		MP
57	Taylor	Martin	Kwinana Industries Council (KIC)	MP
58	Turner	Kenneth & Dianne		MP
59	Valenti	Kim	Valenti Lawyers	MP
60	Vidovich	Brian	K.A.B.Z. Community Group	MP
61	Vidovich	Brian	K.A.B.Z. Community Group	ER
62	Ward	Gareth	Cockburn Cement Limited	MP
63	Zlentic	Stipe		MP