

**Special residential rezoning, subdivision and  
development of Ptn Wellington Location 1  
Cathedral Avenue, Shire of Harvey, Town Planning  
Scheme No 10 Amendment No 39**

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**Mr and Mrs Taylor**

**Shire of Harvey**

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

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 600  
November 1991**

## **THE PURPOSE OF THIS REPORT**

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's recommendations.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

## **APPEALS**

If you disagree with any of the assessment report recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

## **ADDRESS**

Hon Minister for the Environment  
18th Floor, Allendale Square  
77 St George's Terrace  
PERTH WA 6000  
**CLOSING DATE**

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 p.m. on 20 December 1991.

ISBN 0 7309 4682 7  
ISSN 1030 - 0120  
Assessment Number 581

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## Location and background

Location 1 Cathedral Avenue is situated on the eastern edge of the Leschenault Inlet approximately six kilometres north of the Australind townsite (see Figure 1). The property has an area of approximately 74 hectares and is bounded by Cathedral Avenue to the west and by the Old Coast Road to the east. There are special rural subdivisions on its southern and northern sides.

The land has three distinct topographic features: a low lying section about 120 metres wide along the western side adjacent to the Inlet and a steep slope forming a ridge running north to south immediately east of the flats, which becomes an undulating surface to the east of the ridge.

Elevation on the site ranges from approximately 28m AHD on the ridge to less than 2m AHD on the flats. The flats are subject to seasonal flooding.

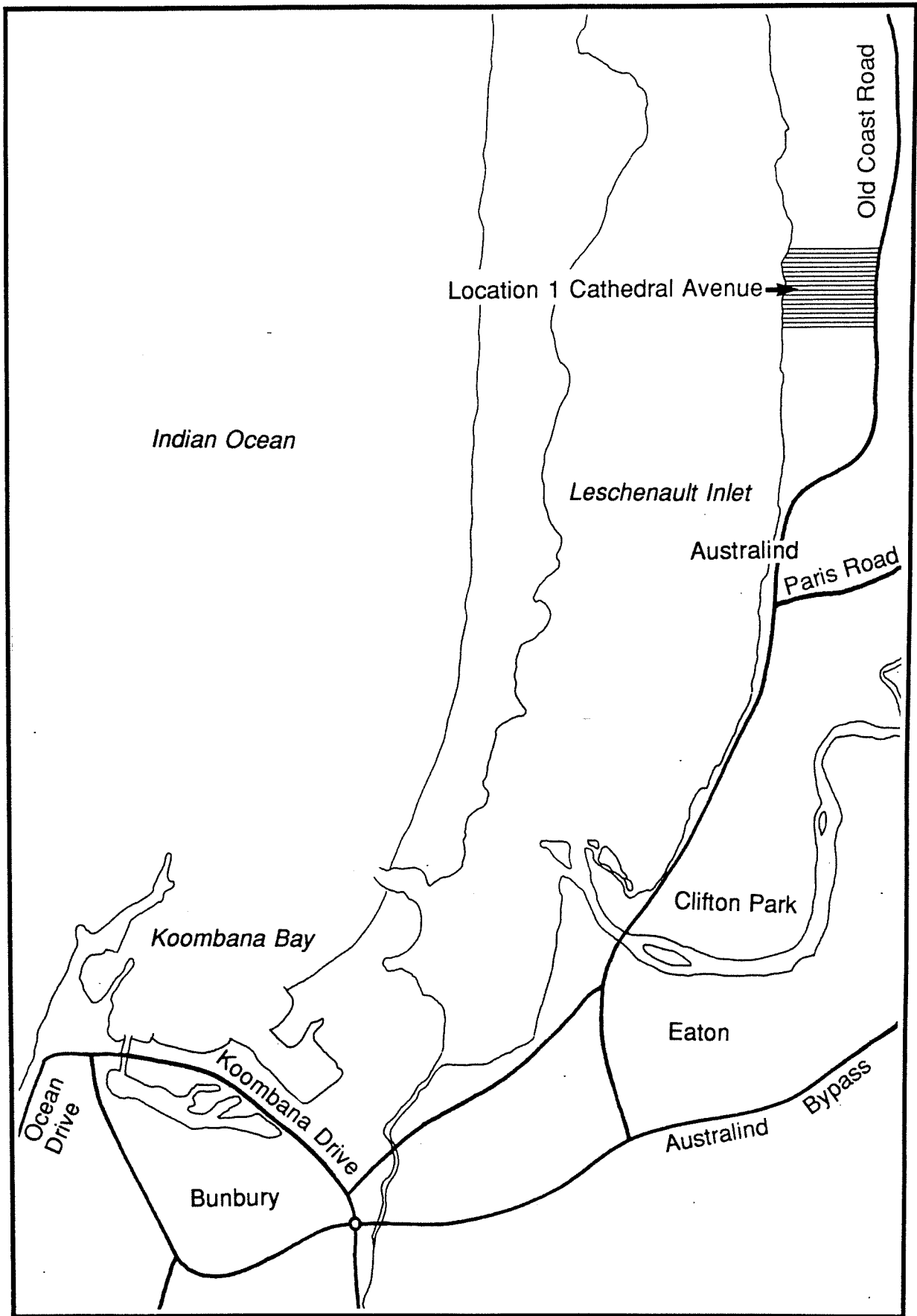
The native vegetation on the western flats have been extensively cleared and the land is used for agriculture. Vegetation on the remainder of the property has been disturbed by frequent fire and grazing which has removed the lower story over a significant proportion of the property. On the ridge and to the east of this feature there is a woodland of tuart, banksia, jarrah and marri. The woodland becomes a parkland of jarrah and marri on the east of the property.

The proposed subdivision was referred to the Environmental Protection Authority in February 1991 by the Department of Planning and Urban Development. The Authority determined that formal assessment was warranted due to the potential impact of the development on Leschenault Inlet, which is the subject of System 6 recommendation C66 and potential contamination of groundwater, which flows into the Inlet. The level of assessment was set at Consultative Environmental Review (CER). The CER was open for public review for a period of four weeks in July and August of 1991.

It should be noted that the Authority's assessment of this proposal primarily addresses the issue of long term protection of the Leschenault Inlet. This report does not include any assessment of aspects such as surface inundation or flooding during winter months. Other planning issues such as servicing requirements and the relevance to existing policies such as the Government's sewerage policies and the impact on adjacent land users may also need to be addressed by the agencies with responsibility for planning approvals.

**Any environmental approval granted through this process does not imply that planning approval will automatically follow.**

It may be that the decision making agencies require the local authority to undertake planning studies before a development of this nature can proceed in the area. As stated above, the Authority supports the concept of such overall planning studies which take into account the broad spectrum of planning and environmental issues in the selection of land for subdivision and development.



**Figure 1: Location map**

# 1. The proposal

Location 1 Cathedral Avenue, Australind is currently zoned for general farming under the Shire of Harvey's Town Planning Scheme No 10. The proponents, Mr and Mrs M Taylor, propose to rezone, subdivide and develop the site to create 114 Special Residential lots. One hundred and twelve of these will range in size from 4000m<sup>2</sup> to 8200m<sup>2</sup>. The remaining two lots are 4.76ha and 4.74ha and are located on the flats close to the Leschenault Inlet.

As part of the rezoning process it is intended by the Department of Planning and Urban Development to apply special provisions on the development to control land use. The proposed provisions form part of the proposal as assessed by the Authority and are considered important in aiding the management of potential environmental impacts associated with the development. Consequently, if the proposal were to proceed, the environmental management provisions should be applied in full. -

# 2. Submissions

As part of the CER process the proposal was circulated for comment amongst targeted agencies and public interest groups for a period of four weeks. During the public review period six submissions were received by the Authority: one from a government agency, one from a conservation group, one from the local authority and three from local residents.

All six submissions were opposed to some part of the proposal. However, none of the submissions opposed the proposal outright. The issues in the submissions have been divided into groups as follows:

**Table 1. Issues raised in submissions**

Issue	Number of submissions raising the issue
<b>1 Environmental issues:</b>	
1.1 Possibility of ground water pollution (primarily from nutrients associated with septic tanks)	1
1.2 Concerns for the foreshore area	4
1.3 Concerns for indigenous flora on the site	1
1.4 Concerns for indigenous fauna on the site	2
1.5 Impact on the Leschenault Inlet (primarily pollutants/nutrients in run off)	4
1.6 Domestic animal controls	2
1.7 Soil conservation	2
<b>2 Planning issues:</b>	
2.1 Development should be delayed until the Cathedral Avenue and Northern Estuary Management Plan has been finalised	3
2.3 Public education	2
2.4 Lot sizes	2
2.5 Future of Cathedral Avenue and the associated paper barks	1
2.6 Aesthetics of the proposed development	2
2.7 Retention of public open space	1

The key environmental issue identified by the submissions was the potential impact of the development on the Leschenault Inlet and the foreshore.

Several planning issues were also raised. While the Authority agrees that they may be legitimate concerns, it does not believe it is the appropriate agency to address these issues and that alternative avenues exist through the planning process which can be adequately address these concerns.

### **3. Environmental impacts and management**

In assessing this proposal, the Authority has identified the long term protection and management of the Leschenault Inlet as the principle environmental issue.

At present the "Cathedral Avenue and Northern Estuary Management Plan" is being formulated by the Waterways Commission on behalf of the Leschenault Inlet Management Authority (LIMA) in association with the Shire of Harvey. Its purpose is to protect the Leschenault Inlet, its foreshore areas and the wildlife which it supports and to provide long term management recommendations. This plan is due to be completed in mid 1992.

Until such time as the Management Plan is complete, the Authority considers development in the vicinity of Leschenault Inlet should be carefully controlled to prevent the further degradation of this important water body. The Waterways Commission has indicated in their submission to the Authority on the proposal that they are opposed to development on the flats adjacent to the Inlet until the study is complete.

The following specific issues have been identified by the Authority as being important for the long term protection of the Inlet.

#### **3.1 Protection of groundwater and Leschenault Inlet**

##### **Land capability**

An assessment of the site's environmental capability has been undertaken by the proponent to determine whether the site is capable of sustaining special residential development without resulting in an unacceptable environmental impact. This assessment indicated that the soil on the site has a low capability to assimilate nutrients and that a number of design constraints and management provisions should be applied to minimize nutrient export from the site. The type of constraints identified by the Authority fall into two categories: those which apply to the developer and are implemented prior to the issuing of titles for the proposed lots and those which apply to the local authority and must be reflected in the local authority's town planning scheme.

##### **Sewage disposal**

The development is proposed to be serviced by septic tanks. Domestic septic tanks typically release about 3.5kg of phosphorus and 35kg of nitrogen into the soil each year and a significant portion of these nutrients can reach the groundwater table in sandy soils. Within the proposed site soils have a very low nutrient retaining capability and a high proportion of the nutrients escaping from a septic system will be transported by the underground water flow. As the groundwater beneath this site is directed to the Leschenault Inlet, nutrients will enter the water body via the groundwater flow.

Conventional septic tanks have typically been used for sewage disposal in this area in the past because the low density of housing makes it unviable to connect residences to reticulated sewerage. In order to overcome potential groundwater contamination the developer has proposed that 8m<sup>3</sup> of red mud be applied to soils on the site. Red mud has a high phosphorus retention index and would be used to help retain nutrients on site. This is anticipated, in theory, to retain phosphorus from each septic system, on site for approximately 100 years. At the end of this time the red mud's absorptive capacity will have been exceeded and the nutrient stripping system would need to be replaced.



The Authority notes the number of Special Rural properties involving on-site sewage disposal via septic tanks and is concerned that the cumulative impact of nutrients leaching from the septic systems may cause adverse environmental impacts on Leschenault Inlet over time. Accordingly the Authority encourages the Shire of Harvey and the Leschenault Inlet Management Authority to review ways and means of managing cumulative impacts through for example their Town Planning Schemes and Management Plan respectively.

Any septic tanks should be located at least 2m above known groundwater levels and have a minimum setback of 100m from the Leschenault Inlet.

### **3.2 Foreshore reserve**

The Leschenault Inlet on the western edge of the site has some foreshore reserved for conservation (Reserve No 36857). This is vested in the Shire of Harvey for "public recreation". However, there is no foreshore reserve along the southern part of the proposed development area. The Authority considers that it is important to retain a foreshore reserve adjacent to the Inlet. The creation of a foreshore reserve would allow for the opportunity for the retention and/or rehabilitation of native vegetation, which can provide a nutrient and sediment filter for surface water run off into the Inlet as well as providing a refuge for native fauna. The retention of a foreshore reserve could also help to protect the foreshore from erosion as a result of clearing and animal grazing. Foreshore reserves can also provide a recreational focus for people living in the area, provided they are fenced off from livestock to allow for natural regeneration and provided that pedestrian access is well defined. The boundary of the foreshore reserve should be determined following consultation with the LIMA.

### **3.3 Other issues**

There are a number of other issues which the Authority considers should be addressed by the proponent.

- **Drainage management**

Drainage should be managed to ensure that nutrients and drainage water resulting from the development of Location 1 are not exported off the site. The Authority considers that provision should be made to retain on site, the run-off from a 1 in 10 year storm event.

- **Retention and rehabilitation of native vegetation**

Existing native vegetation should be retained and degraded areas revegetated where possible.

- **Land management**

Land use and land management controls need to be in place to ensure that activities on the site do not generate additional nutrient loads which may lead to further contamination of groundwater and consequently the Leschenault Inlet.

- **Flooding**

Provision should exist to limit the risk from flooding or surface inundation on the low lying blocks during winter months.

- **Lot sizes**

Lot sizes and land uses within the area should take into consideration the potential for land degradation and be managed accordingly.

The Authority considers that these issues are best addressed by the Local Authority and that management measures should be incorporated as part of the conditions for subdivision following consultation with officers from LIMA and the Department of Planning and Urban Development.

## **4. Conclusions and recommendations**

The Environmental Protection Authority concludes that the proposal to subdivide Location 1 Cathedral Avenue as described in the CER is environmentally acceptable subject to the following recommendations. In reaching this conclusion, the Authority has taken into consideration issues raised in submissions received following the public review period. The Environmental Protection Authority is aware that a number of decision-making authorities must provide approvals for a development if it is to proceed. These include the Department of Planning and Urban Development and the Shire of Harvey.

### **Advice to the decision-making authorities**

The Environmental Protection Authority advises that any environmental approval granted throughout this process does not imply that planning approval will automatically follow. As discussed in Section 3 of this assessment report a number of planning issues which may include environmental aspects may need further consideration and should be taken into account by the decision making agencies in their respective approval processes. Decisions made by these agencies should be consistent with the following:

- the Cathedral Avenue and Northern Estuary Management Plan as prepared by LIMA;
- an endorsed Local Rural Strategy, as approved by Council and existing sewerage policies;
- consistency of the use of alternative wastewater systems with the Government's Sewerage Policies;
- flood risk on flood prone areas;
- visual amenity of the development; and
- appropriate lot sizes and land use.

In view of the extensive involvement of other decision making agencies and existing statutory planning controls which can incorporate conditions to ameliorate potential environmental impacts the Authority has concluded that the proposal as described in the CER is environmentally acceptable subject to the following recommendations.

### **Recommendation 1**

**The Environmental Protection Authority has concluded that the proposed "Special Residential" development on Location 1 Cathedral Avenue, Harvey as described in the CER and modified during the process of interaction between the proponent, the Environmental Protection Authority, the public and the government agencies that were consulted is environmentally acceptable.**

**In reaching this conclusion, the Environmental Protection Authority identified the main environmental issues requiring consideration as:**

- **nutrient impacts on the Leschenault Inlet; and**
- **protection of the foreshore area and flats on the west edge of the site.**

**The Environmental Protection Authority notes that the first of these environmental issues has been addressed adequately by the proponent but that other decision making authorities have also to be satisfied with the proposed effluent disposal systems, nutrient management arrangements and storm water run-off provisions.**

**The Environmental Protection Authority considers the remaining issue can be addressed by the developer and the local authority. The Authority recommends that a foreshore reserve be created adjacent to the Inlet. The boundary should be determined following consultation with the Leschenault Inlet Management**

Authority and the Shire of Harvey and be to the satisfaction of the Department of Planning and Urban Development. The Authority also considers that the flats adjacent to the Inlet and west of the ridge should not be developed further until the foreshore reserve boundary has been determined.

## **On the local government authority**

### **Recommendation 2**

The Environmental Protection Authority recommends that the local authority be responsible for the on-going implementation and management of the following:

- 2.1 Lot sizes should be not less than 4000m<sup>2</sup>.**
- 2.2 Outside the area cleared for building envelopes, fences, firebreaks, access and service corridors, the existing native vegetation and areas subject to rehabilitation should be maintained.**
- 2.3 The only permissible primary land use should be residential, and no more than one residence should be permitted on each lot unless it can be demonstrated that an additional residence would not result in any significant additional nutrient application.**
- 2.4 Ancillary land uses could be permitted provided they do not involve any additional nutrient application or additional clearing of land.**
- 2.5 The type and number of livestock should be limited in accordance with the guide-lines prepared by the local authority.**

## **On the developer**

### **Recommendation 3**

The Environmental Protection Authority recommends that the developer be required to undertake the following:

- 3.1 Install a storm water disposal system on site in a specific locality which is capable of retaining run-off from a 1 in 10 year storm event to the satisfaction of the Shire of Harvey or according to guidelines prepared by the Shire of Harvey.**
- 3.2 Avoid removing native vegetation, with the exception of minimal clearing necessary for building envelopes, fences, firebreaks, vehicle access and service corridors.**

The Authority's experience is that it is common for details of a proposal to alter through the detailed design and construction phase. In many cases alterations are not environmentally significant or have a positive effect on the environmental performance of the project. The Authority believes that such non-substantial changes, and especially those which improve environmental performance and protection, should be provided for.

The Authority believes that any approval for the proposal based on this assessment should be limited to five years. Accordingly, if the proposal has not been substantially commenced within five years of the date of this report, then such approval should lapse. After that time, further consideration of the proposal should occur only following a new referral to the Authority.