PEEL INLET MANAGEMENT AUTHORITY

Visual assessment

Estuary Road, Western foreshore, Harvey Estuary

Waterways Commission
Report No 46
1994

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VISUAL ASSESSMENT

ESTUARY ROAD, WESTERN FORESHORE, HARVEY ESTUARY

Report to the
Peel Inlet Managment Authority

K Filia

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FOREWORD

The Harvey Estuary foreshore contains a large variety of landscapes, both natural and modified. The foreshore area provides a visually attractive backdrop to the estuary, contain places of scientific or historic interest and contains unique natural environments. These landscape features are all worthy of protection .

Recent development along the western margins of the estuary and particularly in the vicinity of the Dawesville Channel is placing pressure on foreshore areas. Residential and tourist development is expanding at a rapid rate and an associated increase in recreational use of foreshore area is also expected. The potential for valuable landscapes to be degraded is high.

Control of inappropriate landuses is warranted in order to provide protection to the foreshore, retain its aesthetic attractiveness, and to prevent undesirable developments which may detract from the amenity of the foreshore.

This visual assessment of the Estuary Road area provides valuable information for future planing and management of the area. It identifies those features of the landscape which are worthy of protection and recommends action to improve the visual appeal of the area. The report also identifies the need for a Landscape Protection Precinct in which future development and land use can be controlled.

TERMS OF REFERENCE

The Peel Inlet Management Authority manages the waters and foreshores within the Peel Inlet Management Area. The management area encompasses the Peel Inlet, Harvey Estuary and associated rivers. In January 1992 the Peel Inlet Management Programme 1992 was released. The purpose of the programme is to develop a general strategy for the entire Peel Inlet Management Area as well as to make specific planning recommendations for particular sites around the waterways.

As one of the first steps in implementing recommendations made in the management programme a study of the Western Foreshore of the Peel Harvey Estuary was undertaken. From information collected during this study a draft management plan was prepared and released for public comment in February 1992. The aim of the draft management plan is "to provide for the proper long term management of the water and Crown land adjoining the Western margins of the Peel Harvey Estuary between Sticks Channel and Harvey River".

To complement the management plan the Peel Inlet Management Authority considered it necessary to undertake a visual assessment of the land corridor adjoining Estuary Road. This corridor runs along the western foreshore of the Harvey Estuary. This study provides the visual assessment and recommends a suitable boundary for a Landscape Protection Precinct. Information collected in the study will be incorporated into future management decisions for the area.

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SUMMARY AND RECOMMENDATIONS

Background

As well as providing a major focus for tourism in the area, the foreshore landscapes of the Peel-Harvey Estuary are a visual resource of considerable value and also have nature conservation values associated with plant and animal communities. The scenic landscapes are enhanced by the wide range of views accessible from the foreshore and are formed by elements such as land form, vegetation and types of land use.

Population growth and increasing development pressures can erode the existing natural scenic values of an area. The assessment of these values is an initial step in their preservation and in conservation.

The Peel Inlet Management Authority requested a visual assessment of Estuary Road be undertaken in order to ascertain a suitable boundary for a Landscape Protection Precinct.

This study will complement the "Western Foreshore of the Peel-Harvey Estuary" Management Plan (Woodcock 1992) and will provide information which will be used in planing and management decisions for the area.

Aims

The aims of the study were to identify the relative visual quality of the area from Dawesville Channel (south) to Island Point and to ascertain a suitable width for a Landscape Protection Precinct along the western side of Estuary Road in order to maximise public amenity by preserving the scenic resource.

This report outlines general recommendations for the protection and enhancement of the visual resource within the study area as well as specific recommendations for individual landscape units.

General recommendations

Landscape protection precinct

1. Establish a Landscape Protection Precinct to be incorporated into the City of Mandurah's Town Planning Scheme No. 3.

2. Assess the width of the proposed precinct from the lot boundary according to the value of the existing natural resource as identified in this visual assessment report.

Erosion control

3. Use appropriate control measures to mitigate the impact of erosion events through vegetational or structural means.

Weed control

4. Limit the use of chemical control for weed species; employ mechanical, slashing control techniques for large areas or spot control for minor areas.

Revegetation

5. Obtain professional advice as to the specific technique of revegetation required for each site, according to the site area, past success rate, cost and time constraints. Ensure that tree species selected in respect to height of electricity poles etc and that diverse, indigenous species are preferred.

Visual impact measures

6. To mitigate the visual impact of housing and to retain the perceived naturalness of the views the following measures should be considered by the council.

   - Retain existing tree cover on lots wherever practical ie application of tree preservation orders and building envelopes.
   - Performance standards should be applied to the colour and reflectivity of materials used on buildings within the study area.

   Guidelines on appropriate measures to take should be developed by council eg utilising community consultation, professional advice and drawing from the practice of other shires.

Entry and access roads

7. Given the importance of Iluka Road, Tims Thicket, Park Ridge Drive and southern Estuary Road as key entry links from Old Coast Road to Estuary Road, special vegetation and/or landscape treatment should be extended along part, or all of these streets in order to maintain the visual continuity of Estuary Road and develop an appreciation of the key entry points.

8. Future access off Estuary Road would be better if minimised and existing access is better rationalised. This is in order to maintain low key traffic loads, reduce fragmentation of the road corridor and create a favourable visual character.

Specific recommendations

Dawesville Sector

Landscape character unit 1 - Caddadup Reserve

- Rehabilitate the unit by planting diverse, indigenous species adjacent to the road to improve the visual amenity, biological integrity and habitat value of this unit.
- Manage the area defensively in terms of weed and feral animals.

Landscape character unit 2 - Caddadup Reserve

- Rehabilitate the unit by planting diverse, indigenous species adjacent to the road to improve the visual amenity, biological integrity and habitat value of the site.
- Selectively plant sites adjacent to the bowling club and encourage regeneration on the denuded road batters which are visible from the estuary.
- Manage the area defensively in terms of weed and feral animals.

Landscape character unit 3

- Protect the ridge outcrops and vegetation.

Landscape character unit 4

- Provide a unifying element along the linear housing strip, such as vegetation species indigenous to the area, that will reduce the visual impact of housing type, colour and verge treatment.
- Introduce elements of character to Dawesville, possibly in consultation with the community. Utilise actual or derivative streetscape elements from the Dawesville Channel area (once established) eg light fixtures, paving designs and materials or colour schemes.
- Provide more articulating elements such as curbed vegetation islands with due attention to vehicle and boat trailer turning circles.
- Reinforce the fringe and reed vegetation along the water's edge at Dawesville.

Landscape character unit 5

- Protect the ridge outcrops and reinforce the vegetation to provide increased screening and environmental value.

Landscape character unit 6

- Prepare a management plan for Warrungup Spring area to improve the facility and amenity of the area.
- Ensure that reserve 860 (water) remains an open space reserve reinforced and recognised for its value as an ecological buffer zone between residential areas and as a biological filter to estuarine waters.
- Revegetate Tims Thicket Road to reinforce the link to Old Coast Road.

Landscape character unit 7

- Regenerate and rehabilitate the site by using plant sources from roadside vegetation and from Reserve 860 opposite.
- Incorporate Tims Thicket Road into the proposed Landscape Protection Precinct (refer to General Recommendations).

Landscape character unit 8

- Regenerate and rehabilitate the site by using plant sources from roadside vegetation and reserve 860 opposite.
- Employ appropriate erosion control measures (refer to General Recommendations).

Landscape character unit 9

- Revegetate the wide, verge areas at Park Ridge and reinforce the existing vegetation. Continue a unifying, identifiable link along Park Ridge Drive (north) that will define a sense of entry.
- Reinforce the character of Park Ridge, possibly through means of community consultation. Prominent streetscape elements found at the Dawesville Channel complex, such as street lighting, seating or paving styles could be incorporated into this area to provide some consistency and diversity.

Landscape character unit 10

- Protect the ridge outcrops and vegetation.

Landscape character unit 11

- Employ erosion measures to protect soft edges (refer to General Recommendations).
- Evaluate the feasibility of providing a system of strategically placed, minor decking or board walk areas to extend and protect some areas of foreshore and allow pedestrian access and views. Such a system would enhance and link with any future, dual use paths.
- Instigate a revegetation program of indigenous species to promote a more sustainable environment.

Landscape character unit 12

- Reinforce roadside vegetation to strengthen the 'avenue' quality and the semi-rural, linear style of the unit.

Landscape character unit 13

- Revegetate the entry point to Old Coast Road and provide a sense of identity by signage and distinct planting to add emphasis to this entry point at Old Coast Road (refer to General Recommendations).

Island Point Sector

Landscape character unit 14

- Reduce the impact of commercial facilities on the foreshore by selectively planting indigenous species with consideration to retaining distant views of the headland opposite and to screening buildings and property infrastructure from visibility from the road.
- Reduce the impact of commercial facilities on the foreshore by selectively planting indigenous species with consideration to retaining distant views of the headland opposite.
- Increase identity to this entry point to and from Old Coast Road (refer to General Recommendations).

Landscape character unit 15

- Prepare a management plan for the site to control the impacts of future residential and visiting populations. It should include the following:
- Rationalised and articulated car parking areas so as to reduce the visual impact of vehicles and damage to the environment. These may take the form of a number of well sited, gravelled parking bays for 4-5 vehicles.
- Reduced damage to the environment, by providing walking trails, information signage and/or visitor information huts to educate the public about the history and natural resources of the area.
- Restricted vehicle access to the site as a whole beyond an ascertained, appropriate point.

1.0 INTRODUCTION

Most of us experience landscapes largely through "our sense of sight". When touring an area we admire aspects of the environment through a capacity for visual awareness and visual appreciation. We are largely visual creatures (S. Davies).

As well as providing a major focus for tourism in the area, the foreshore landscapes of the Peel-Harvey Estuary are a visual resource of considerable value and also have nature conservation values associated with plant and animal communities. The scenic landscapes are enhanced by the wide range of views accessible from the foreshore and are formed by elements such as land form, vegetation and types of land use.

Population growth and increasing development pressures can erode the existing natural scenic values of an area. The assessment of these values is an initial step in their preservation and in conservation.

The appearance of a landscape is a useable and definable resource, which can be evaluated along with other resources within a planning and management framework. It is proposed that a Landscape Protection Precinct be created and incorporated into the Mandurah City Council's new Town Planning Scheme No. (3) as it addresses the issues of protecting:

> "areas of scenic ecological value ... Landscape and vistas in relation to built areas"
>
> (Shire of Mandurah TPS No. 1a, District Zoning Scheme refer Appendix 2).

The current Town Planning Scheme provides that

> "a person shall not without the special approval of the council carry out any development including the uses permitted in the zone in which the land is situated including, but without limiting, the generality of the foregoing.
>
> (a) Clearing the land nor fill, lop, top or damage any tree or vegetation;
>
> (b) Alter the contour of the land by the filling or dredging thereof;
>
> (c) The erection of advertising signs."

An assessment of the visual resources of the western foreshore of the Estuary Road corridor was undertaken with the goals of:

(a) Enhancing and reinforcing the natural systems through suggested linkages of natural areas to established areas;

(b) Extending and linking areas to maintain full tree cover from view of the estuary waters.

The Peel Inlet Management Authority has considered it necessary to undertake a visual assessment of Estuary Road in order to ascertain a suitable boundary for a Landscape Protection Precinct. The study will complement the "Western Foreshore of the Peel-Harvey Estuary" management plan and provide information for future management of the area.

1.1 Aims of study

The aims of the study were :

- to identify the relative visual quality of the area from Dawesville Channel (south) to Island Point;and
- to ascertain a suitable width of a Landscape Protection Precinct along the western side of Estuary Road in order to maximise public amenity by preserving the scenic resource.

1.2 Study process

The study process involved:

- collection of basic biophysical data and photographs of site, site visits and notes,
- mapping of the visual catchment and landscape character units,
- examination of aerial photography, orthophotographic and Geographical Information System (GIS) and Mandurah City Council maps, and
- discussion with various professionals.

Where the data in the GIS maps was insufficient from a planning context the Mandurah Town Planning Scheme (TPS) maps were also used.

Limitations on the study occur where:

- amendments to the TPS have been approved since it was gazetted in 1983.
- unusually small lot frontages occur in some cases especially with the original buildings, therefore landscape protection setbacks of 10 or 15m may not be possible. In this case an area equivalent to a third of the frontage will suffice if the frontage is less that specified in the Landscape Protection Precinct conditions.
- new subdivision plans that have still to be approved at the time of compiling this report.
- zoning alterations introduced in the new City of Mandurah TPS 3.

1.3 Study area

1.3.1 Locality and description

The study focused on the land corridor adjoining Estuary Road. This corridor follows the western foreshore of the Harvey Estuary and runs generally parallel to Old Coast Road which is sited on the main ridge line further west of Estuary Road.

The study area encompasses two local authority areas: the City of Mandurah and the Shire of Murray. It is made up of two parts: Estuary Road and southern Estuary Road. They are connected by a stretch of Old Coast Road, approximately 6.5 km in length. Only the road corridors and land falling within the visual catchment from Estuary Road and southern Estuary Road were considered part of the true study area (refer to Figures 1 and 2).

Land uses within the study area include housing, utilities, recreation, nature reserves and foreshore. Prominent limestone outcrops occur on spurs projecting towards the estuary from the main ridge line.

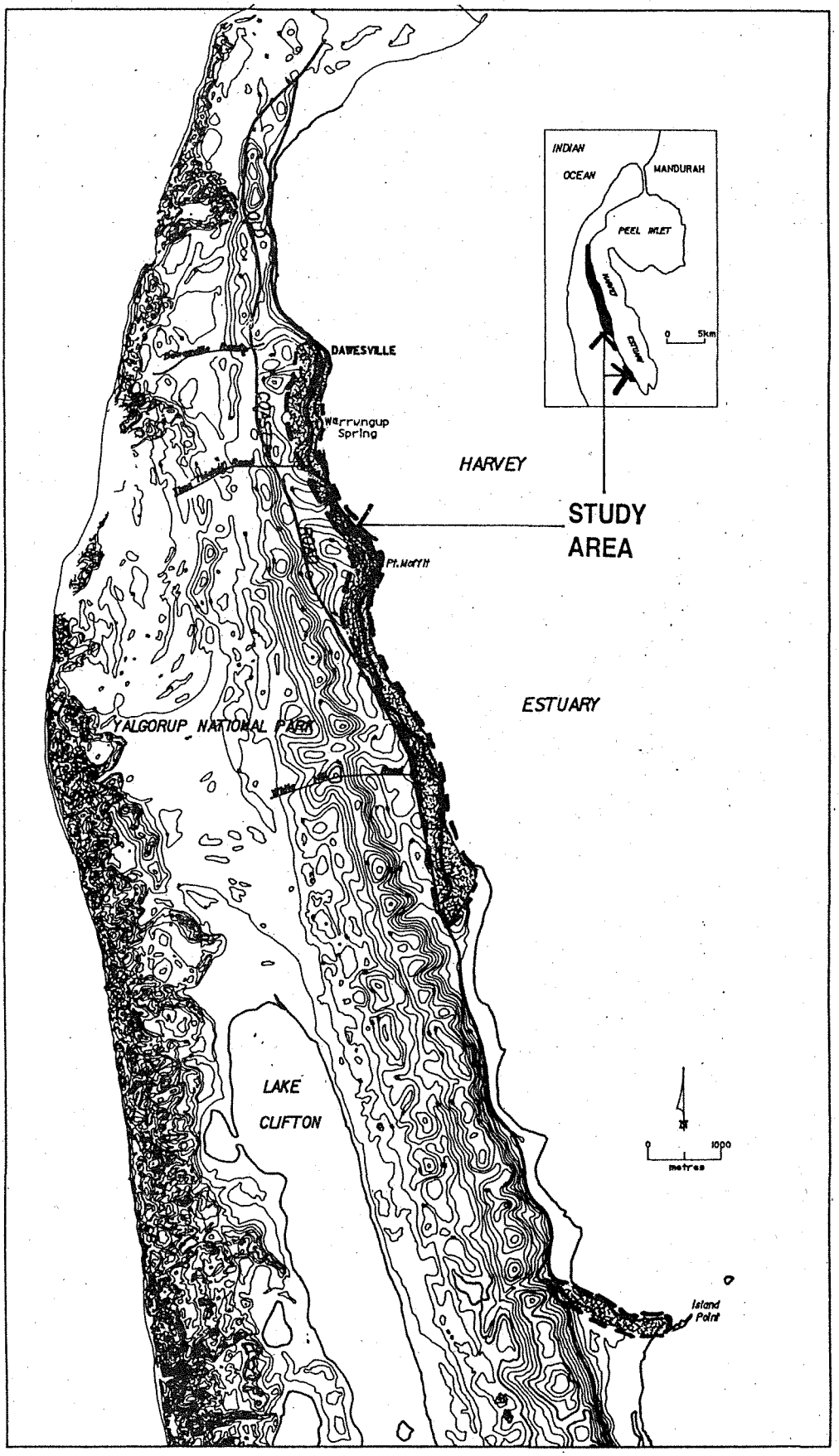


Figure 1
STUDY AREA

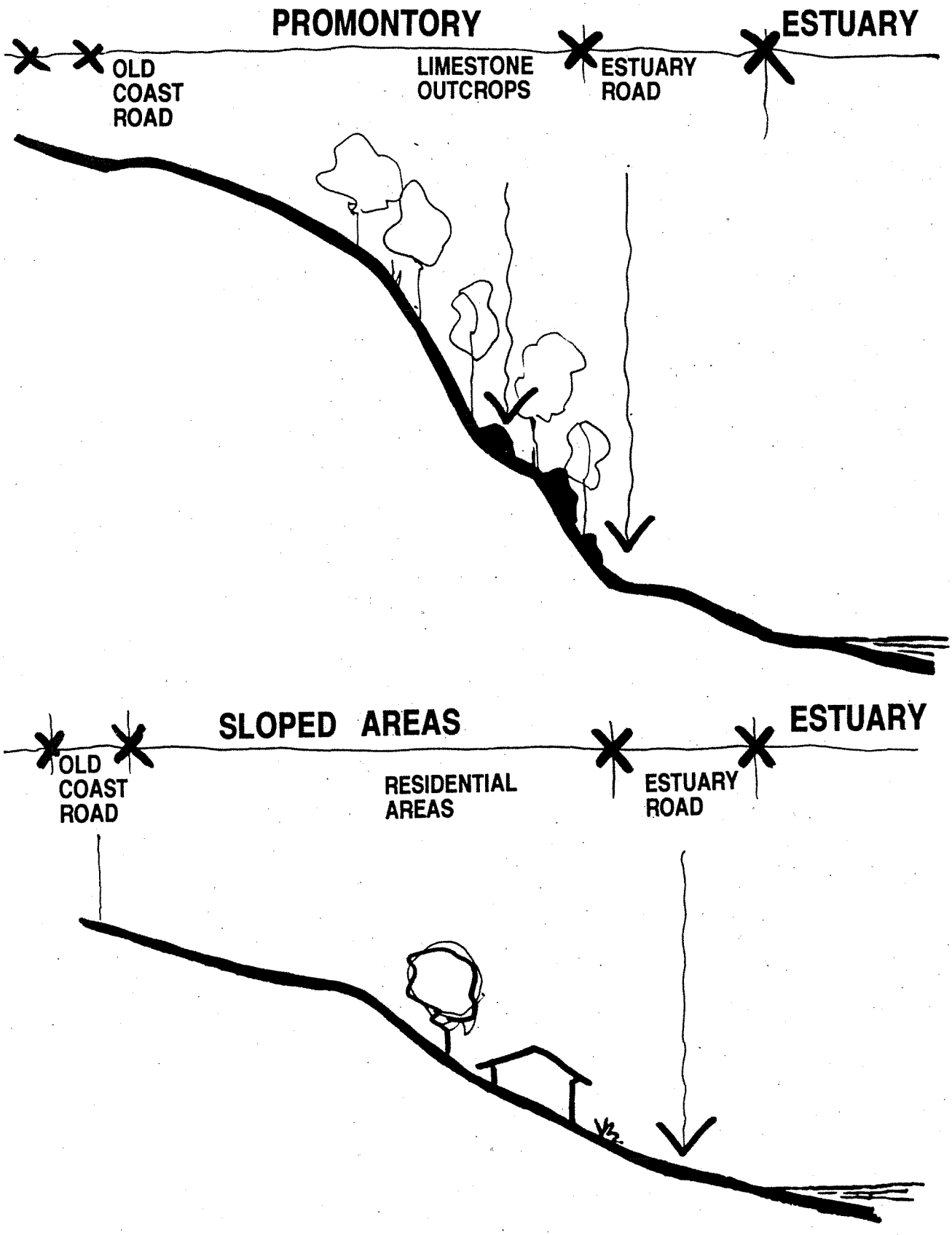


Figure 2
TYPICAL PROFILES THROUGH STUDY AREA

2.0 VISUAL ASSESSMENT

Although methods of visual assessment differ in detail, a common underlying framework exists. This is termed an aesthetic model.

The assumptions of this model are that the formal aesthetic properties of line, form, colour and texture are inherent in the visual elements and features of a landscape. Visual quality can be determined by the classification and analysis of the aesthetic properties of such elements, their interrelationships and combinations. The terminology used to describe the visual resource is explained in Section 7 Glossary.

2.1 Discussion of method

The following steps were undertaken in the visual assessment:

- **Division of the subject area into discrete mapping units**

  These are known as landscape character units (LCUs). They are homogeneous in terms of landscape characteristics or factors in common. In particular these factors are: slope/land form, vegetation/land cover and land use.

- **Description and illustration of the landscape character units (LCUs)**

  This was achieved through on-site observation and examination of materials of different topographical scale.

- **Development of a set of site-specific aesthetic criteria and a rating score (refer Table 1)**

  General aesthetic criteria have been derived from observing elements of the site and assigning a rating system which is defined by accepted views of people's preferences according to published literature on the subject (refer to Appendix 1).

- **Assignment of a relative visual quality rating to LCUs**

  The relative visual quality rating is assigned on the basis of the level scored by each unit attained after analysis of it against the aesthetic criteria. See previous paragraph (refer to Table 1).

2.2 Visual catchment area

2.2.1 Defining the visual catchment area

The visual catchment area is the land and water surface visible from the subject road corridor. Frequently the vegetation and ridgeline/outcrop limit the view and define the boundary of the area seen.

2.2.2 Roadside

An open area west of Estuary Road was selected and a specific contour line adopted which was the limit of vision at that point. This line generally formed the boundary of the visual catchment area for the site with some adjustment according to the contour level of the road. At some locations along the foreshore distant catchment areas are visible; these have been referred to as 'wide views' (refer to Figure 4).

2.2.3 Estuary waterway

Defining the visual catchment area from the water required a different approach to that taken along the roadside. Photographs were taken at a set distance from the water's edge with some areas of prominence incorporated into the assessment of scenic value.

2.3 Key points

The following features of the subject site were identified:

- Wide views
- Areas of limestone outcrop
- Areas of visual prominence
  - from road
  - from water
- Recreation sites
- Visual catchment from road

3.0 GENERAL RECOMMENDATIONS

This section provides recommendations for improving the visual appeal and landscape amenity of the study area. The recommendations apply to the entire area and reference to individual landscape character units is not given.

3.1 Landscape protection precinct

The foreshores of the Peel Harvey Estuary contain a large variety of landscapes, both natural and man made. These landscapes are worthy of protection as they provide a visually attractive backdrop to the waterway and often contain places of historic, scientific or aesthetic interest. Protection of important landscape features around waterways is often difficult because large proportions of the land is in private ownership.

A means to provide protection to valued landscape areas, while avoiding the need for acquisition is the incorporation of a landscape protection precinct in the local town planning scheme. The precinct would encompass valuable landscape areas and would include policy and guidelines to protect these areas. This may include landuse planning and development controls for certain areas.

The identification of the boundaries of a Landscape Protection Precinct should be based on a visual assessment of the area. Mandurah City Council is currently developing a new District Town Planning Scheme. The opportunity exists to establish such a precinct based on the visual assessment made in this report.

Recommendations

1. Establish a Landscape Protection Precinct to be incorporated into the City of Mandurah's Town Planning Scheme No. 3.

2. Assess the width of the proposed precinct from the lot boundary according to the value of the existing natural resource as identified in this visual assessment report.

3.2 Erosion control

Erosion is occurring at some sites along the foreshore of Peel Harvey Estuary. Although erosion is a natural process it is often accelerated as a result of uncontrolled public access or the removal of foreshore vegetation, which stabilises foreshore areas. Areas where erosion is severe can be visually unattractive and can detract from the overall landscape along the foreshore. Views from the water to the foreshore are often unsightly in these areas.

Erosion control methods are often required where severe erosion is occurring or where there is limited foreshore land between the waterway and adjacent developed land. Stabilisation of water banks with natural vegetation is the preferable method, however this may only be possible in areas where the water is slow moving and the gradient is flat. In other areas where banks are steep and actively eroding it may be necessary to employ engineering techniques.

Choice of erosion techniques so that they blend in with surroundings, are unobtrusive to the eye and where possible incorporate the use of natural vegetation are preferable. A consistent approach to erosion control can not only provide long term protection for foreshore areas but also enhance the appearance of the area.

Recommendation

3. Use appropriate control measures to mitigate the impact of erosion events through vegetational or structural means.

3.3 Weed control

Weeds are a major problem along foreshore areas of most waterways, Previous studies indicate that much of the western foreshore of the Peel-Harvey Estuarine system is infested with exotic plants. Of particular concern are Buffalo grass (Stenotaphrum secundatum), kikuya grass (Pennisetum cladestenum) and Watsonia (Watsonia bulbillifera)(Woodcock 1992).

Introduced species particularly monocotyledons such as kikuyu, water couch, couch, buffalo and wild bearded oats compete with native species for water,. nutrients, light and space and are often more successful due to their colonising strategies (Woodcock et al 1993).

Weed invasion in foreshore areas detracts from the naturalness of the area and can reduce native species which are an important element of an attractive landscape. If allowed to spread there is a real possibility that weed communities may completely replace indigenous vegetation. Control of weeds is therefore especially important in areas planted with native species. In areas where revegetation is occurring weed control is also important to avoid competition with young plants in the first few years of planting.

Weed control methods may include both mechanical and chemical methods. Mechanical methods are preferable, however are often time consuming and labour intensive. These methods may also result on exacerbation of erosion. A recent study carried out by the Swan River Trust indicates that the chemical flauziflop-butyl used under specific conditions does not harm aquatic and terrestrial invertebrates and can successfully control introduced grasses. Should a chemical control method be chosen, flauziflop-butyl is considered to be environmentally acceptable.

Recommendation

4. Limit the use of chemical control for weed species; employ mechanical, slashing control techniques for large areas or spot control for minor areas.

3.4 Revegetation

When assessing landscape amenity of an area, the existence of indigenous vegetation is regarded as a high priority. Naturally vegetated areas are considered attractive and improve visual quality of the environment.

Development and human use of foreshore areas often results in the destruction of natural vegetation and revegetation is often required. Replacement of natural species can contribute to the local ecology by providing wildlife habitats and stabilising foreshore areas whilst assisting in the visual integration of degraded areas with existing natural areas. An improvement in the visual appearance of the foreshore area will result.

Revegetation should include use of species indigenous to the area or those adapted to the climate and soil of the region. Local seed collection is always preferable. Techniques employed need to be appropriate to each revegetation site and include consideration of past experiences.

Revegetation may also include designs which screen certain features which detract from the landscape such as electricity poles etc. Consideration should be given to height, location and growth rates of plant material prior to revegetation to ensure maximum visual benefit is gained.

Recommendation

5. Obtain professional advice as to the specific technique of revegetation required for each site, according to the site area, past success rate, cost and time constraints. Ensure that tree species selected in respect to height of electricity poles etc and that diverse, indigenous species are preferred.

3.5 Visual impact measures

Residential development is occurring at a rapid rate along the western foreshore of the Harvey Estuary and in particular in the vicinity of the Dawesville Channel. Developments have the potential to impact on the visual appearance of the foreshore and if not appropriately designed and located may have an adverse impact on the landscape amenity.

Measures to control inappropriate development are warranted in order to provide protection to the foreshore, retain its aesthetic attractiveness, and to prevent undesirable developments which may detract from the amenity of the foreshore. These measures need to be implemented through local government planning processes.

In order to minimise visual impact developments need to be appropriately positioned and scaled to blend in with surroundings. Natural vegetation should be retained where possible and colour and materials of buildings should be carefully chosen.

Recommendation

6. To mitigate the visual impact of housing and to retain the perceived naturalness of the views the following measures should be considered by the council.

   - Retain existing tree cover on lots wherever practical ie application of tree preservation orders and building envelopes.
   - Performance standards should be applied to the colour and reflectivity of materials used on buildings within the study area.

   Guidelines on appropriate measures should be developed by council eg utilising community consultation, professional advice and drawing from the practice of other shires.

3.6 Entry and access roads

Estuary Road is linked to the Old Coast Road by a number of entry roads. These roads provide key linking points to foreshore areas and provide the first impressions to anyone visiting the area. The landscape treatment along these roads may therefore have a dramatic impact on the observers visual perceptions of Estuary Road.

The landscape treatment of entry roads should complement the visual appearance of Estuary Road. Landscape concepts developed for Estuary Road should be extended along part , or all of these streets in order to maintain visual continuity. These concepts may include contiguous verge and edge treatments and revegetation themes.

Access roads, including driveways to private residences, can break up the continuity of the landscape. As views must be maintained for cars using these access roads, the potential for maintenance of vegetation between the roads is reduced. To improve the visual amenity of the area, access roads should be kept to a minimum. Where two residence exist side by side it is preferable that one shared access point be developed (Refer to diagram overleaf).

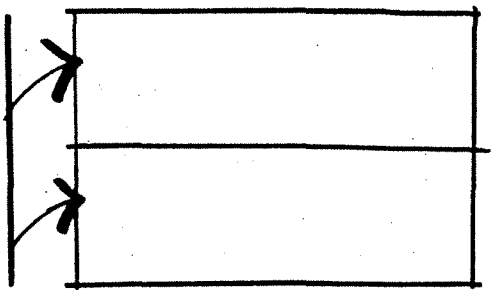
Recommendation

7. Given the importance of Iluka Road, Tims Thicket, Park Ridge Drive and southern Estuary Road as key entry links from Old Coast Road to Estuary Road, special vegetation and/or landscape treatment should be extended along part, or all of these streets in order to maintain the visual continuity of Estuary Road and develop an appreciation of the key entry points.

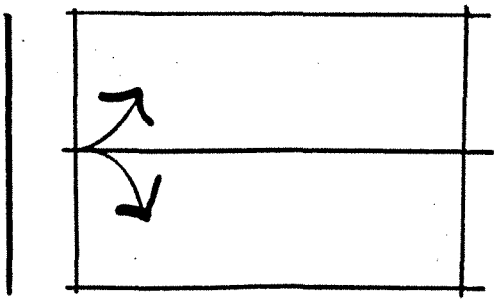
8. Future access off Estuary Road would be better if minimised and existing access is better rationalised. This is in order to maintain low key traffic loads, reduce fragmentation of the road corridor and create a favourable visual character.

i) Current and most common access

Estuary Road



Estuary Road



ii) Not two Access points but one

PROPOSED SHARED ACCESS OFF ESTUARY ROAD IF POSSIBLE.

4.0 LANDSCAPE CHARACTER UNITS

"Character types are areas of land which have common distinguishing visual characteristics, predominantly based upon landform and major land cover patterns influenced by vegetation, waterforms and landuse" (Williamson and Calder, 1979).

The study area was divided up into units for the purpose of description, analysis and recommendation. Boundaries were drawn which included the associated foreshore area, particularly if it was a major recreational site. Generally, the study area was divided into landscape character units (LCUs) according to the view from the road within the context of the visual catchment area (refer Figure 2). Fifteen LCUs were identified. These have been divided into two sectors: the Dawesville Sector and the Island Point Sector. The former is composed of 13 LCUs and the latter 2 LCUs.

Each landscape character unit has two or more typical photographs, a location map, an assigned relative visual quality rating score and specific recommendations.

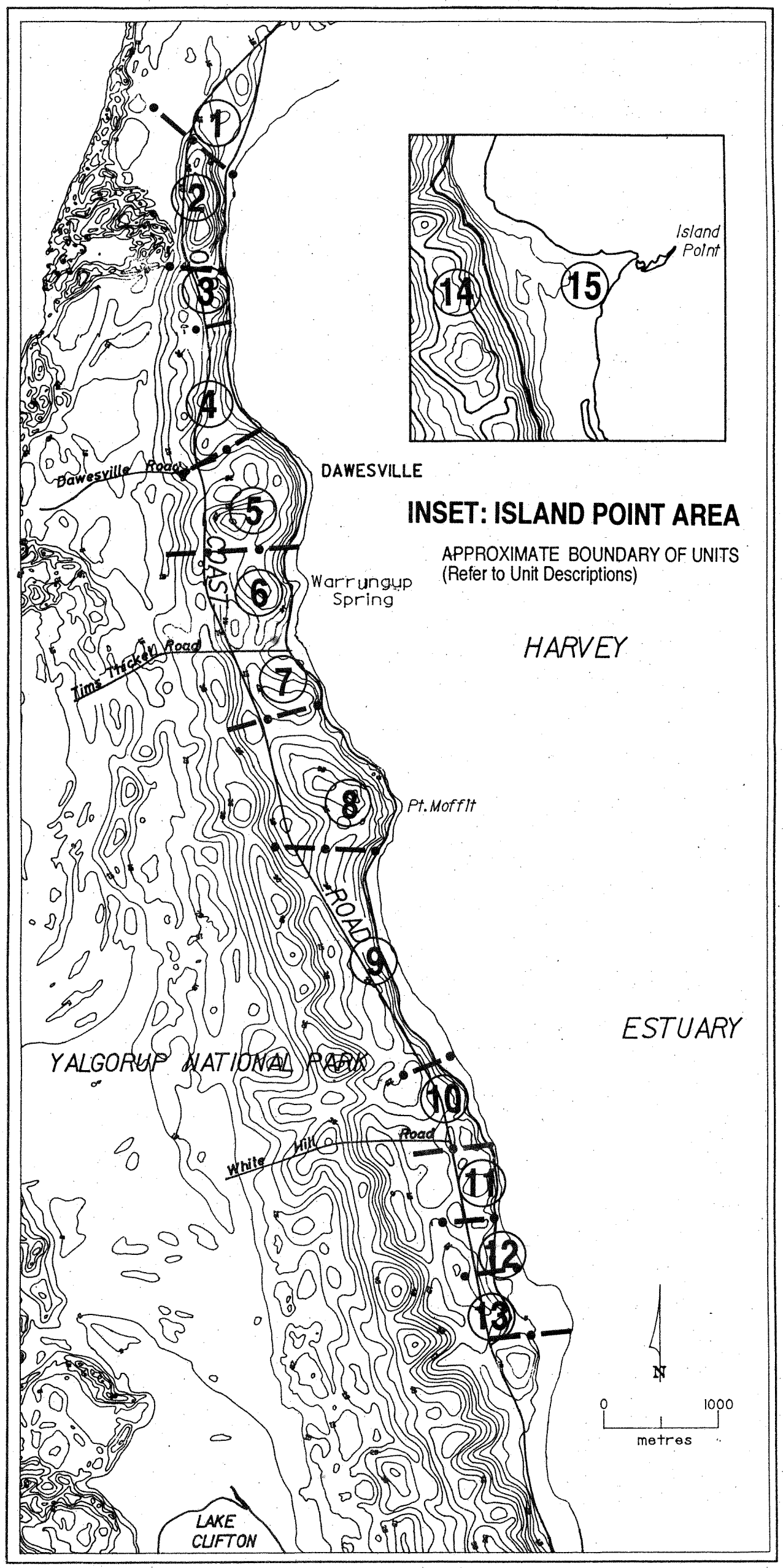


Figure 3
LANDSCAPE CHARACTER UNITS

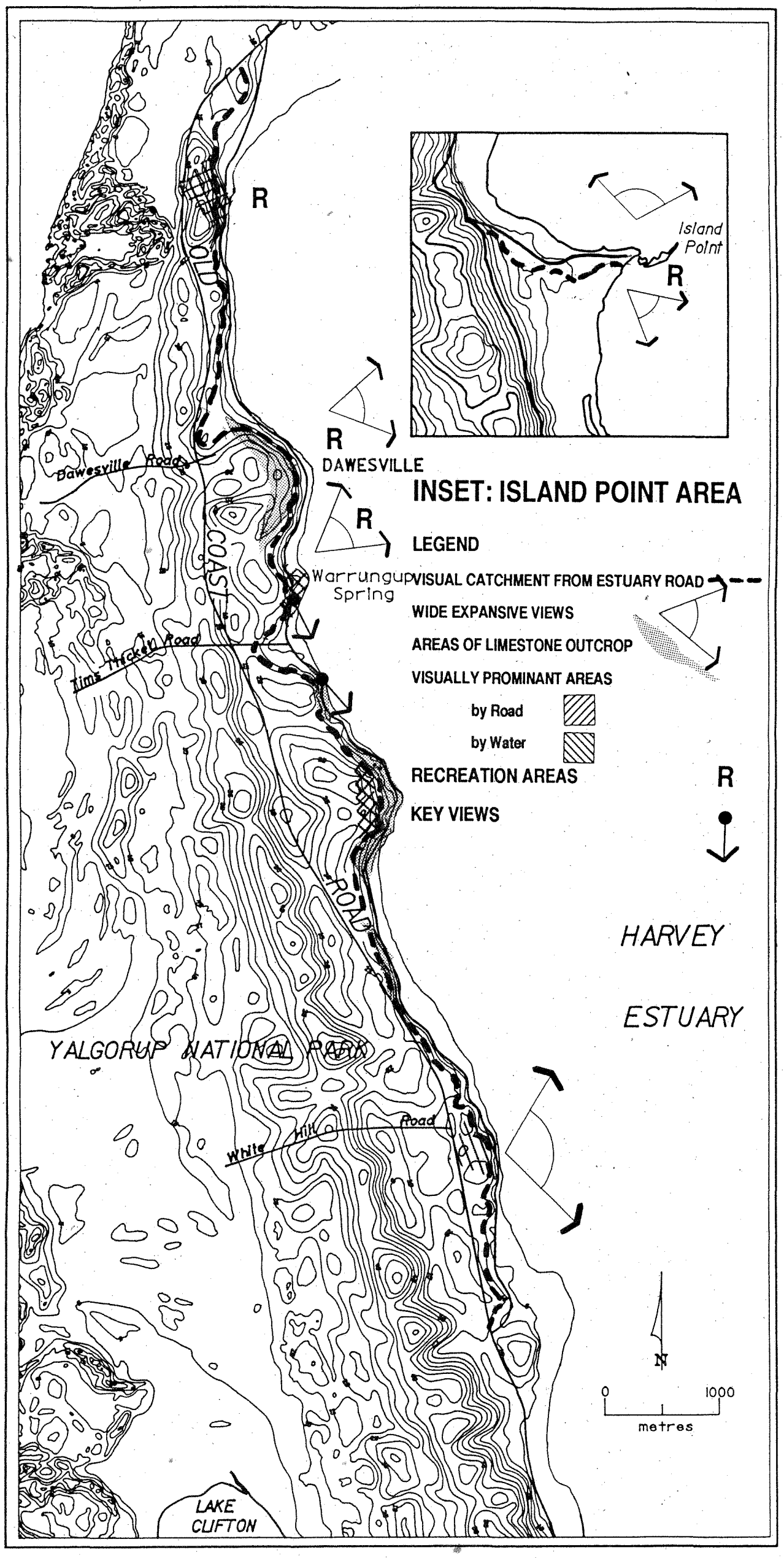


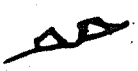
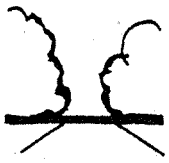
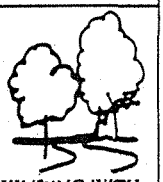
Figure 4
KEY VISUAL FEATURES

Table 1

LANDSCAPE CHARACTER UNIT ANALYSIS RATING TABLE

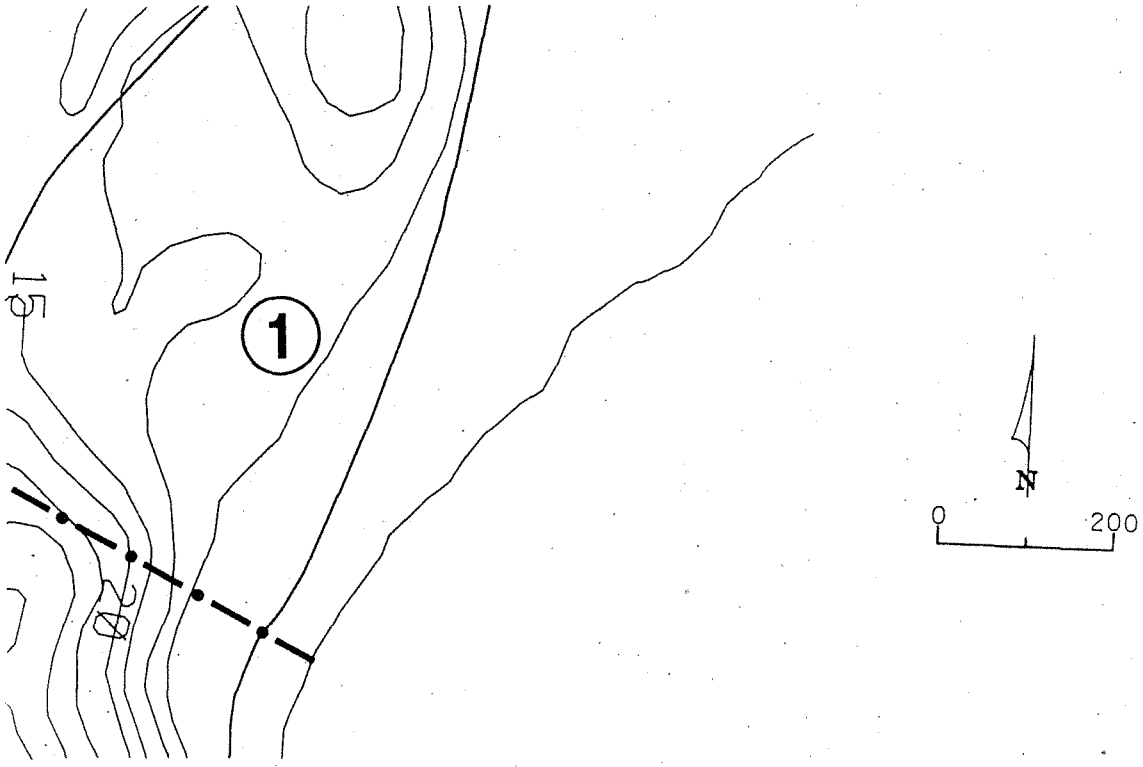
AESTHETIC CRITERIA

(Refer to 2.1, Discussion of Method)

SCORE	-1	0	1	2	3	4
LANDFORM		FLAT	 UNDULATING	 STEEP BANKS		
VEGETATION STRUCTURES			 GRASS VERGE	 SHRUBS & TREES REL. DENSE FORMATION	 OUTCROPS & TREES/SHRUBS	 MATURE TREES & LOW VEGETATION
PREDOMINANCE OF ROCK OUTCROP			 LOW	 MEDIUM	 HIGH	
ROAD FORM				 SEMI OPEN	 ENCLOSED	 WINDING WITH SOME VISTAS, MATURE VEG.
BUILT FORM	 INTRUSIVE BUILDING ELEMENTS	 REGULAR BUILDING/SUB DIVISION	 SCATTERED BUILDINGS & COTTAGES	 UNOBTRUSIVE NO BUILDINGS		
RECREATION & CONSERVATION RESERVES		RELATIVELY DISTURBED	MUNICIPAL eg ILUKA ST AREA	SEMI NATURAL eg WARRANGUP SPRING/ISLAND POINT	NATURAL RELATIVELY UNDISTURBED	

- Composed of general **Aesthetic Criteria,** eg Landform, Vegetation Structures etc. - (derived originally from the site)
  according to published literature of people's preferences (Refer Appendix 1)
- The **Relative Visual Quality Rating** is assigned on the basis of the score each unit attains after analysis of it against this Aesthetic Criteria.

The Dawesville sector



4.1 Landscape character unit 1

The northern sector of Caddadup Reserve A2851; flat foothill with degraded vegetation. Associated with unit 2 but differing in terms of reserve status but differing topography.

Unit 1 is closest to Dawesville Channel, and is situated along the most northerly end of the Estuary Road study area.

It currently functions as a visual and ecological buffer between Harvey Estuary and the Dawesville Channel project. Unit 1 is exposed to large amounts of particulate pollution in the form of dust and debris from the development. The vegetation is degraded, sparse and disturbed along the roadside.

As a complete reserve, Caddadup Reserve A2851 is highly valuable in terms of a visual buffer and biological resource to the area. It also serves to provide an environmental 'setting' for the bowling club and to offer a form of sanctuary and ambience.

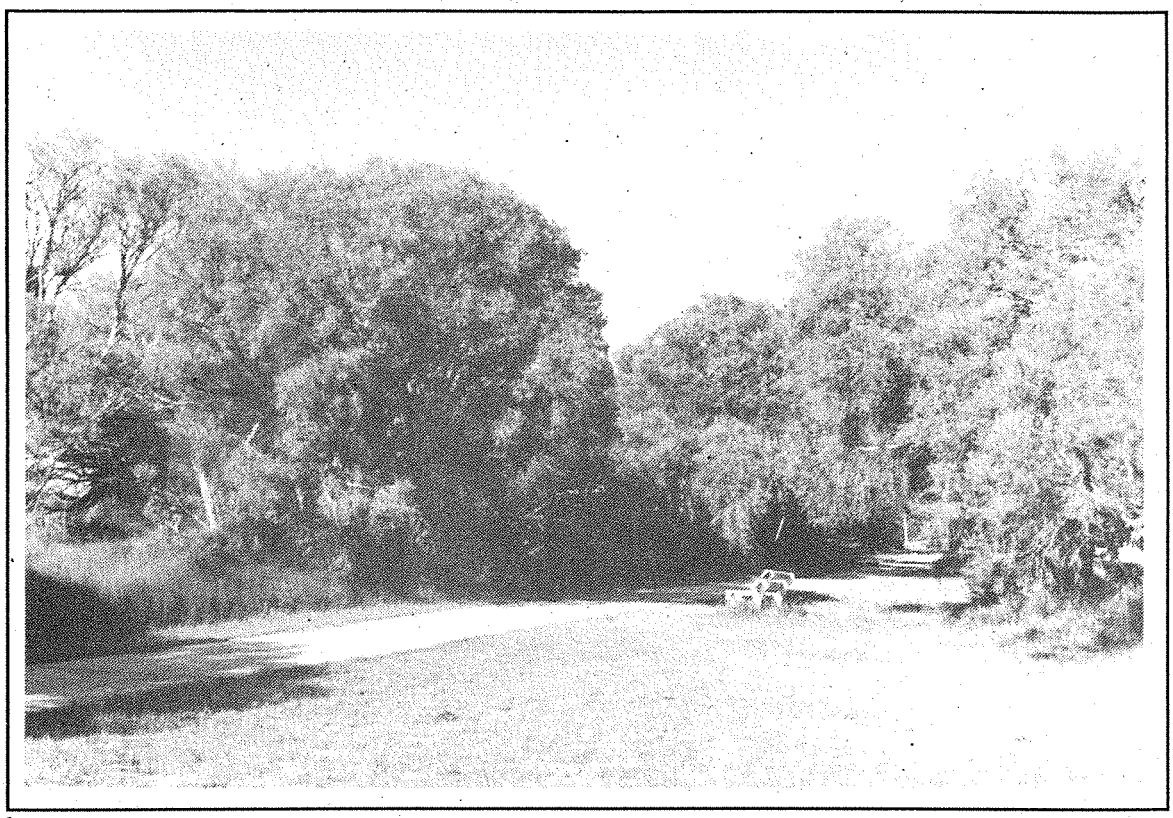
Foreshore

Foreshore reserve 36087 is occupied by a public building but is distant to and lacks views of the estuary.

Relative visual quality rating - medium

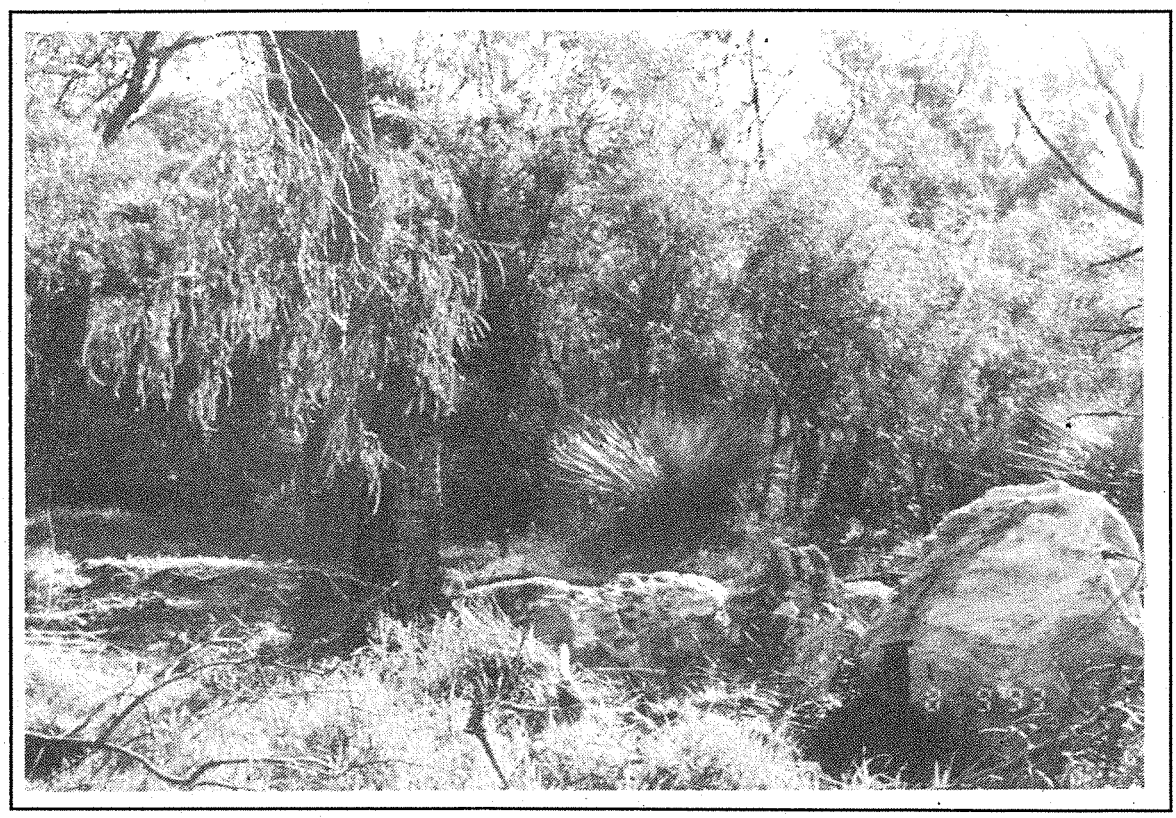
Recommendations

- Rehabilitate the unit by planting diverse, indigenous species adjacent to the road to improve the visual amenity, biological integrity and habitat value of this unit.
- Manage the area defensively in terms of weed and feral animals.



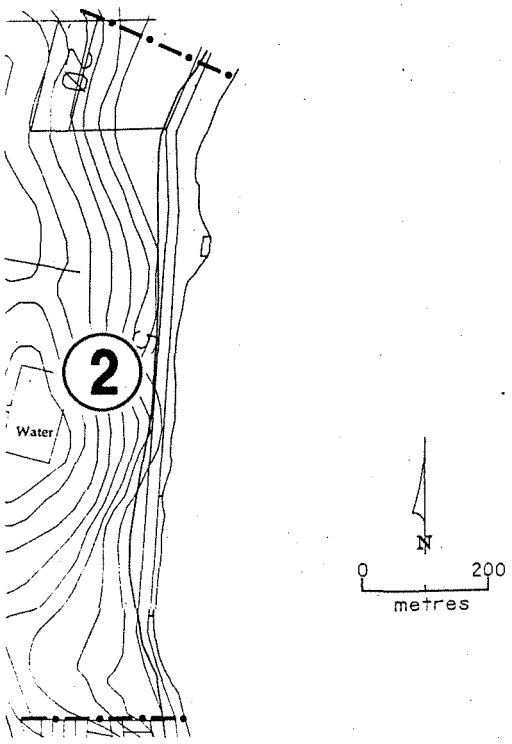
LANDSCAPE CHARACTER UNIT 1 **Photo 1**

TYPICAL FORESHORE - A narrow foreshore that provides a leisurely cycle ride or walk through shady areas with limited views to the estuary along the way.



LANDSCAPE CHARACTER UNIT 1 (Continued) **Photo 2**

ADJACENT TO DAWESVILLE CHANNEL - Large rock debris scattered during site works, adjacent to the Dawesville Channel project.



4.2 Landscape character unit 2

The major section of Caddadup reserve A2851. A steeply contoured area that is generally well vegetated along the road, providing an attractive background to the estuary and foreshore from the water.

Classed as a recreation and camping reserve, this landscape character unit contains a bowling club, water tank and an associated road infrastructure. A strip south of the bowling club and right angled to Estuary Road has been excessively cleared to provide a convenient road to the facility. This has resulted in steep and exposed batter slopes devoid of vegetation. (see photo 5) in addition to this element, informal vehicular entry has degraded the area, reducing the density of vegetation and integrity of species overall. Unfortunate practices in the past include the removal of soil from some areas of this and other LCUs.

In spite of this degradation the unit is a potential habitat for reptiles and possums and merits more protection than has been afforded to it in the past. Selective planting will improve its visual quality, environmental value and improve the appearance of the existing facilities increasing the coherence of the site over time.

Foreshore

Glimpses of Pt Grey headland are frequently accessible, through the old, existing tuart trees. Pt Grey lies parallel to and approximately 2 km east of LCU 1 and 2. A variety of indigenous vegetation is represented. The grey foliage of a stand of casuarina species contrasts with eucalyptus and melaleuca species along the foreshore.

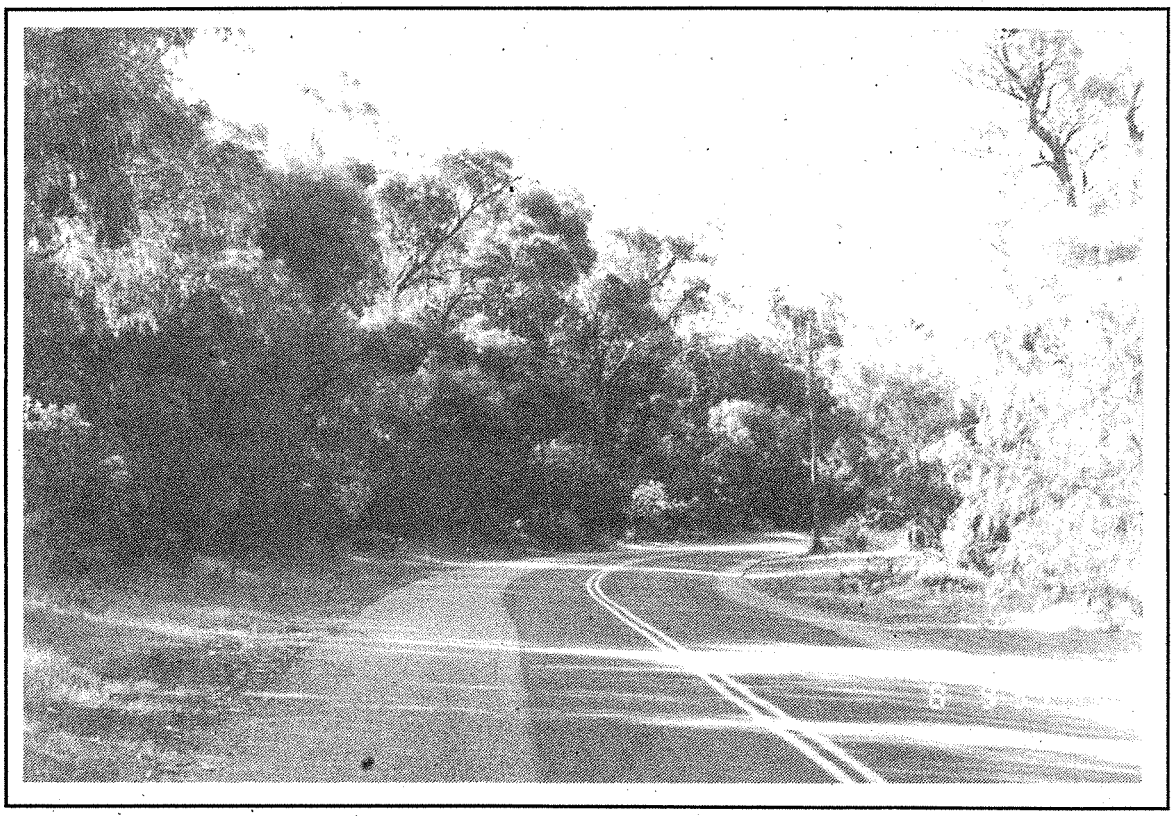
Relative visual quality rating - medium

Recommendations

- Rehabilitate the unit by planting diverse, indigenous species adjacent to the road to improve the visual amenity, biological integrity and habitat value of the site.
- Selectively plant sites adjacent to the bowling club and encourage regeneration on the denuded road batters which are visible from the estuary.
- Manage the area defensively in terms of weed and feral animals.

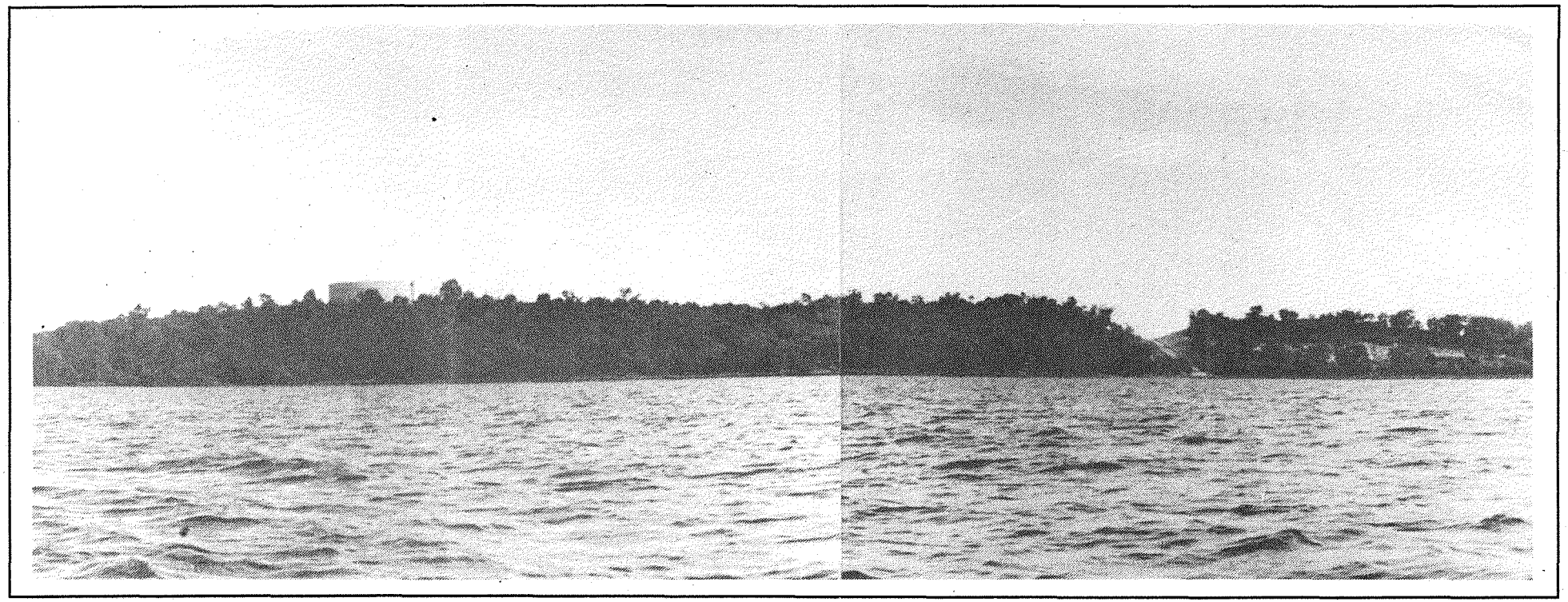
LANDSCAPE CHARACTER UNIT 2 **Photo 3**

This scanty, disturbed growth adjacent to the road detracts from the image of this public facility. Appropriate screening vegetation should be planted which still allows some views of the bowling green and bowlers and enhances the visual appeal of the bowling club.



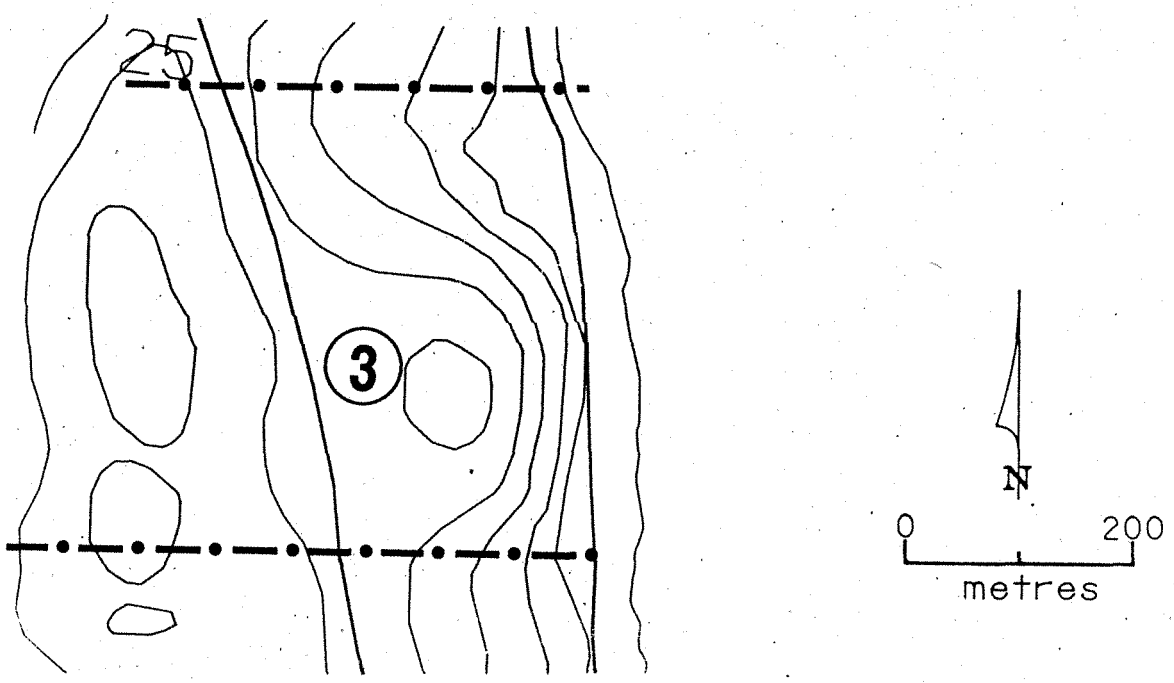
LANDSCAPE CHARACTER UNIT 2 **Photo 4**

Vegetation lining the road has been cleared to allow for a generous line of sight for the motorist. These verges could be maintained by tractor using an extendable mowing or slashing arm.



VIEW FROM THE WATER **Photo 5**

The existing water storage tank and the cleared batters of the new road access to the club are both visually prominent elements of the estuary.



4.1.3 Landscape character unit 3

Reserve A2851 - characterised by 'fan-shaped' topography and housing located within the ridge, 15m distant from the paved road.

Houses are sited within the contours of the ridgeline. Verge tree/rock garden combinations are enhanced with 'borrowed' views, or those accessible by the close proximity of the unit to the reserve. Plants growing in the reserve have frequently colonised the gardens here, or were spared from clearing during the original subdivision.

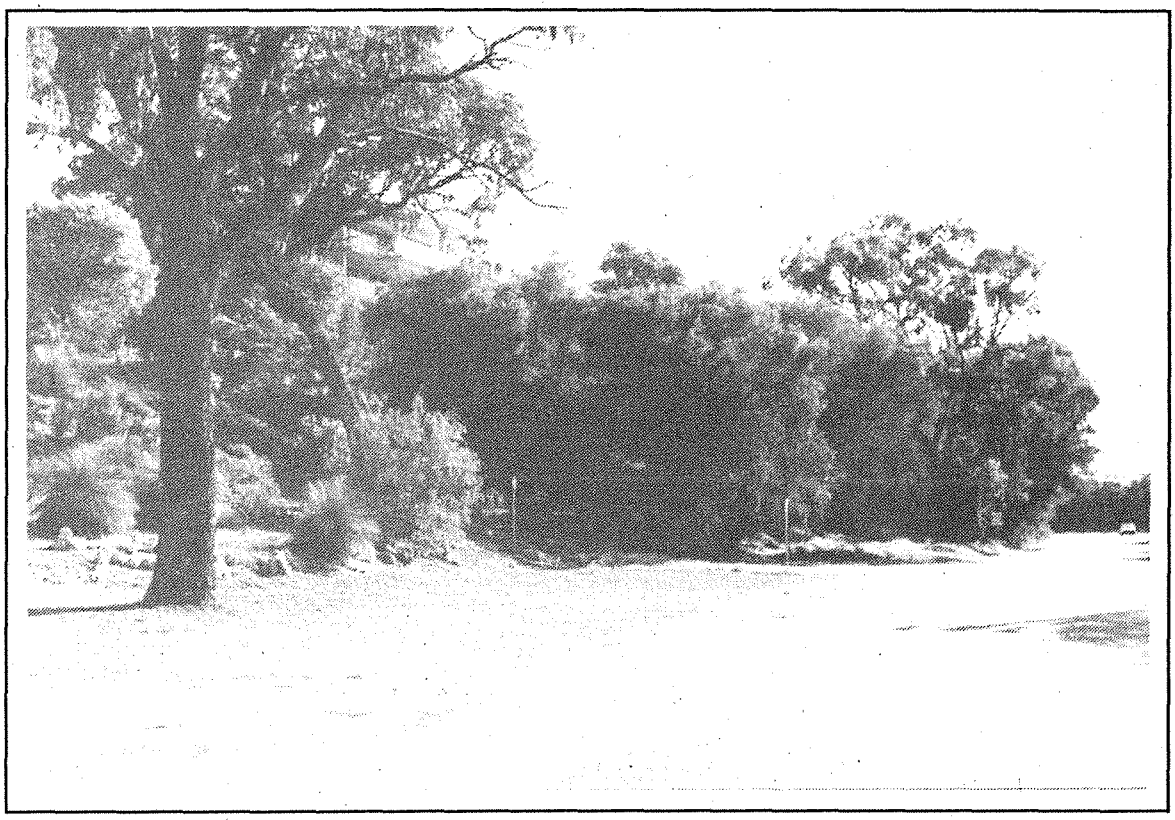
Foreshore

Areas of thick vegetation often limit views through to the estuary.

Relative visual quality rating - medium

Recommendations

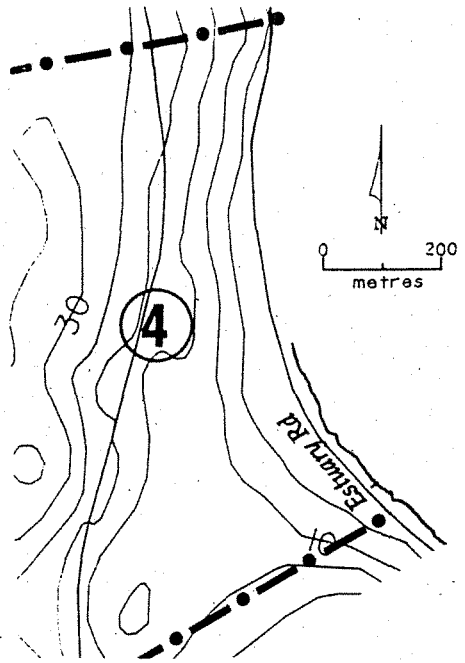
- Protect the ridge outcrops and vegetation.



LANDSCAPE CHARACTER UNIT 3 **Photo 6**

The gardens contain similar plant species and topography type to that found in Caddadup reserve.

LANDSCAPE CHARACTER UNIT 3 **Photo 7**



4.1.4 Landscape character unit 4

Housing ... Commercial elements

As the ridgeline moves to the west, house lots become less likely to contain remnant reserve vegetation. Treatment of the road verge varies in its complexity with each individual residence. There are decorative vines growing on old tuart trees/exotic tree species to a grassed expanse only and a variety of housing/garden types in between. The straight lines of the road follow the linear relief.

Foreshore

The foreshore width varies between 5 and 30m along Estuary Road. It widens to reveal a high contrast, carpark/grassland reserve with active recreational facilities. The stands of diverse tree species across the western edge of the carpark and alongside Estuary Road blend well with the adjoining, natural areas of reserve and provide a buffer to the sight of the extensive of gravelled carpark. Birdlife is relatively prolific in the area with the mature trees, reserve vegetation and grassed areas providing reasonable habitat.

The foreshore region would benefit from reinforcement of the fringe and reed vegetation along the water's edge, without necessarily sacrificing any outstanding views.

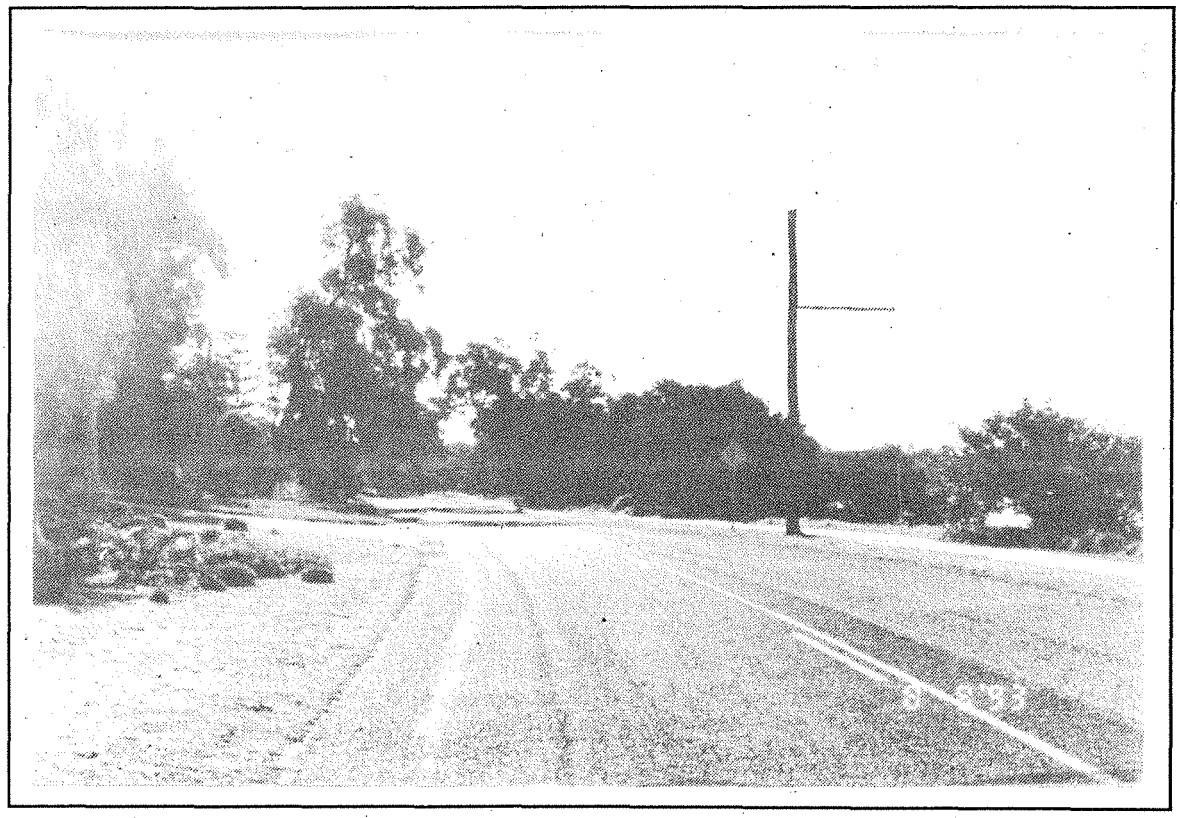
Relative visual quality rating - low

Recommendations

- Provide a unifying element along the linear housing strip, such as vegetation species indigenous to the area, that will reduce the visual impact of housing type, colour and verge treatment.
- Introduce elements of character to Dawesville, possibly in consultation with the community. Utilise streetscape elements from the Dawesville Channel area (once established) eg light fixtures, paving designs and materials.
- Provide more articulating elements such as curbed vegetation islands with due attention to vehicle and boat trailer turning circles.(Refer photo 8).
- Reinforce the fringe and reed vegetation along the water's edge at Dawesville.

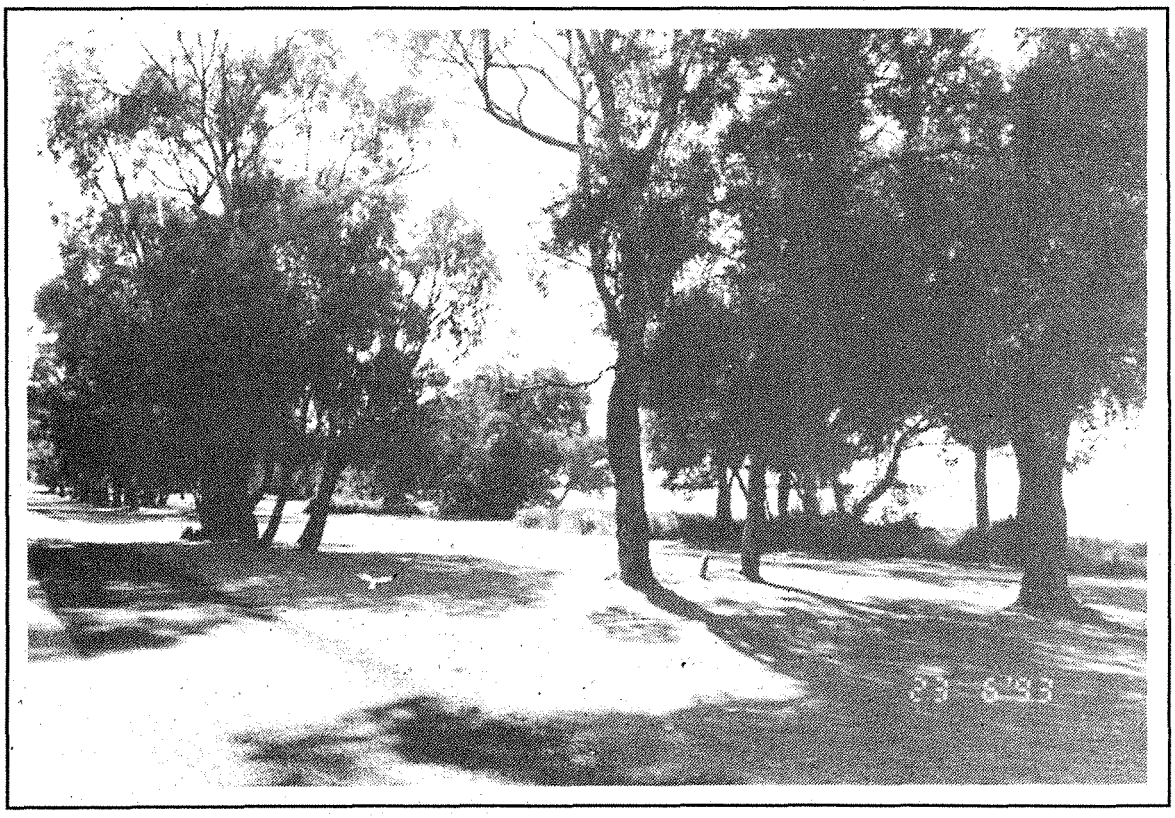
LANDSCAPE CHARACTER UNIT 4 **Photo 8**

Iluka Street, Estuary Road, typical of grass verges visable from the waters of Harvey Estuary. (Refer to 4.4.1 Entry Roads).



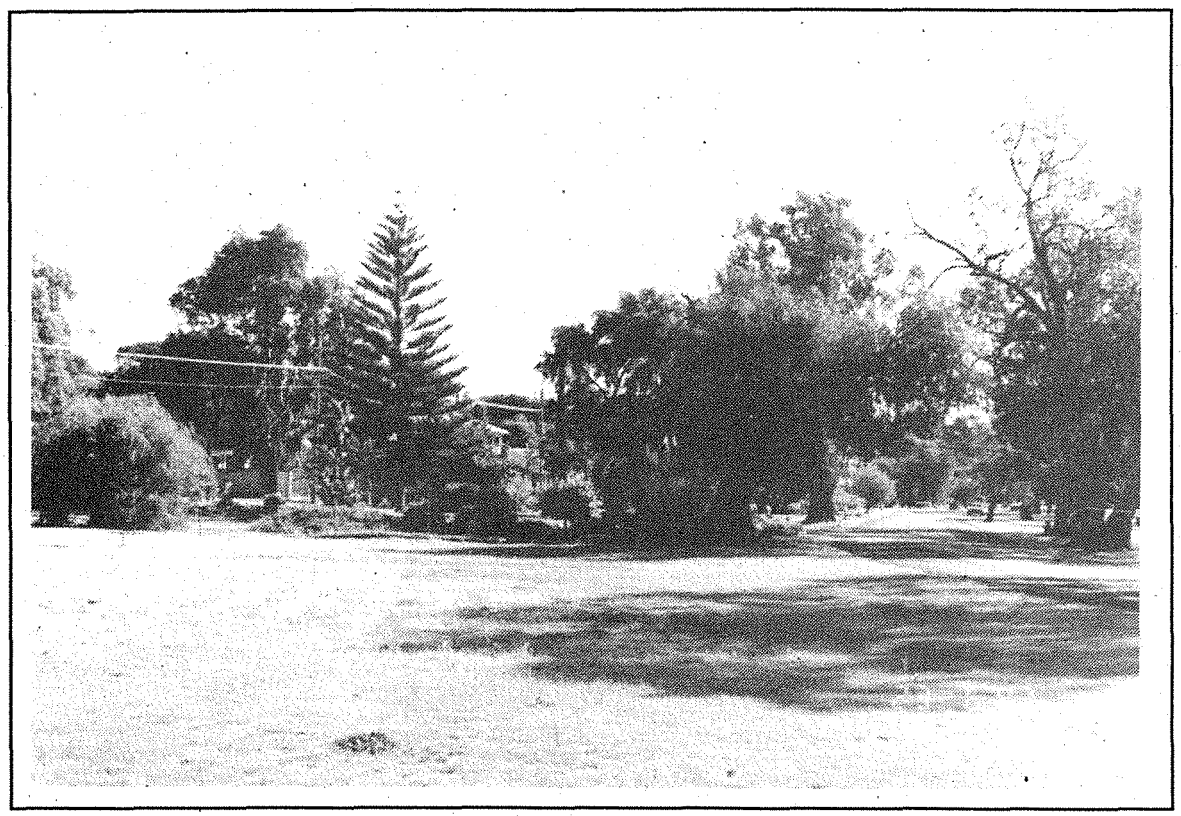
LANDSCAPE CHARACTER UNIT 4 (Continued) **Photo 9**

It is important that the reserve areas, north and south of the housing regions, do not become isolated 'islands' ecologically and visually. A unifying element will reduce the jarring visual impact created by the multiple of housing styles and verge treatments.



LANDSCAPE CHARACTER UNIT 4 **Photo 10**

Flatter topography exists here, with similar land use a strong factor in identifying the area as a unit.

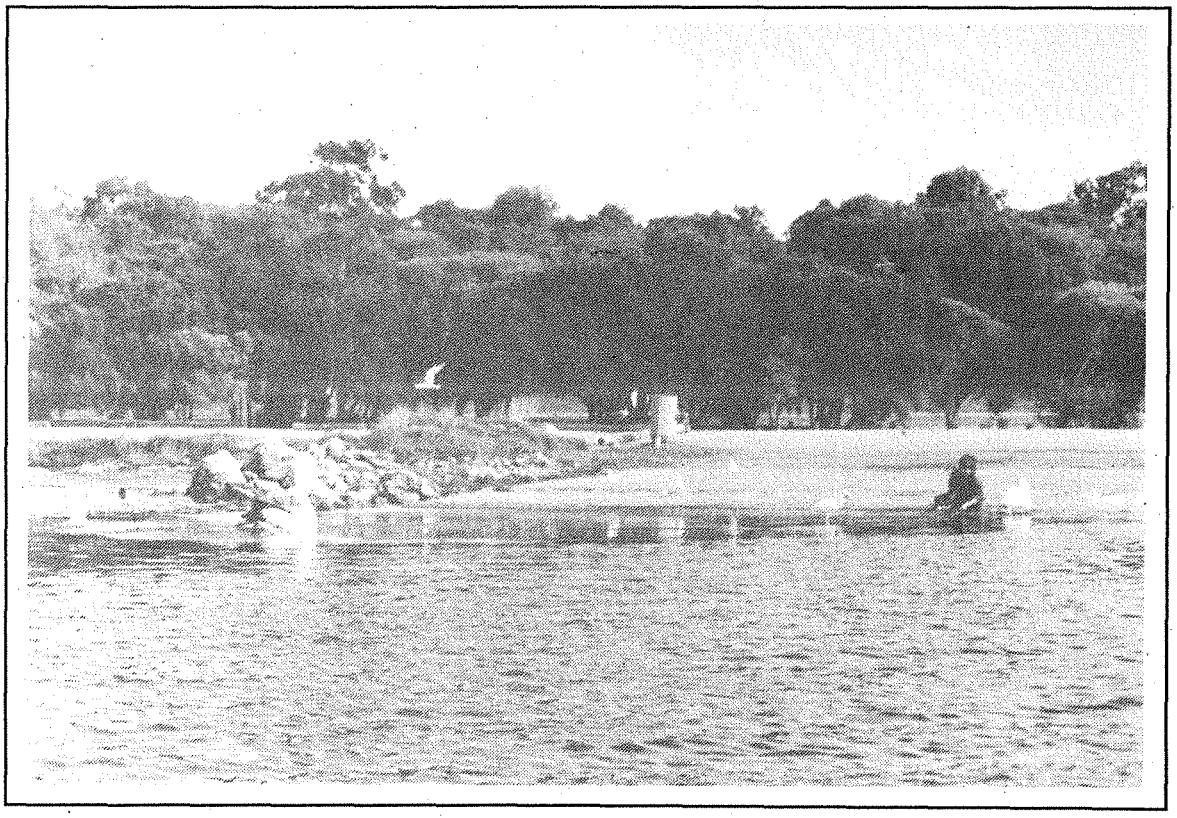


LANDSCAPE CHARACTER UNIT 4 (Continued) **Photo 11**

The narrow open portion of the reserve provides a balance between the natural and municipal character of the foreshore.

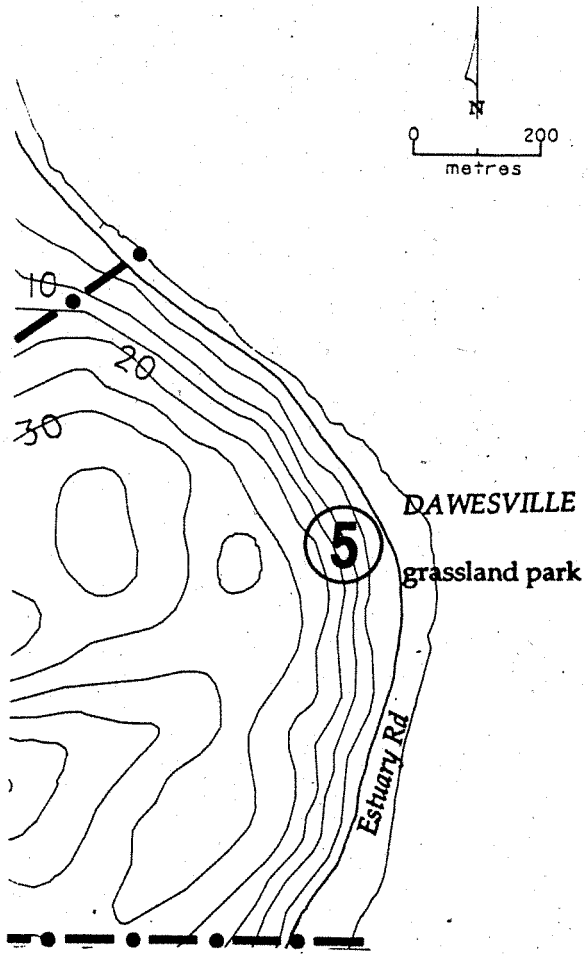
LANDSCAPE CHARACTER UNIT 4 (Continued) **Photo 12**

Who gives way? Where do we park? This bleak expanse of gravel carpark and exsposed facilities is both confusing and unsafe. Providing more articulating elements such as protected islands of vegetaion (with due attention to vehicle and boat trailer turning circles) would reduce the situation and provide a visual connection to the existing natural areas of foreshore.



LANDSCAPE CHARACTER UNIT 4 (Continued) **Photo 13**

The same area viewed from the estuary is both improved and softened by a dense canopy of vegetation in the background.



4.1.5 Landscape character unit 5

Characterised by large lot housing forms that are built into steep ridges. Similar to unit 3

The existence of the high, regular ridgeline in this unit ensures that buildings conform to this strong visual element. Bushy thickets along the foreshore reserve recede to offer rare glimpses of water and old cottages which contrast with high ridgeline houses. A curving road follows the ridgeline resulting in a thin, eroded foreshore. Generally the housing relates to its setting more sympathetically than in the previous unit. Few fences are visible and side areas of remnant vegetation are found between some of the houses. Steepness characterises this unit with areas of occasional outcrops and ridges of indented limestone and vegetation.

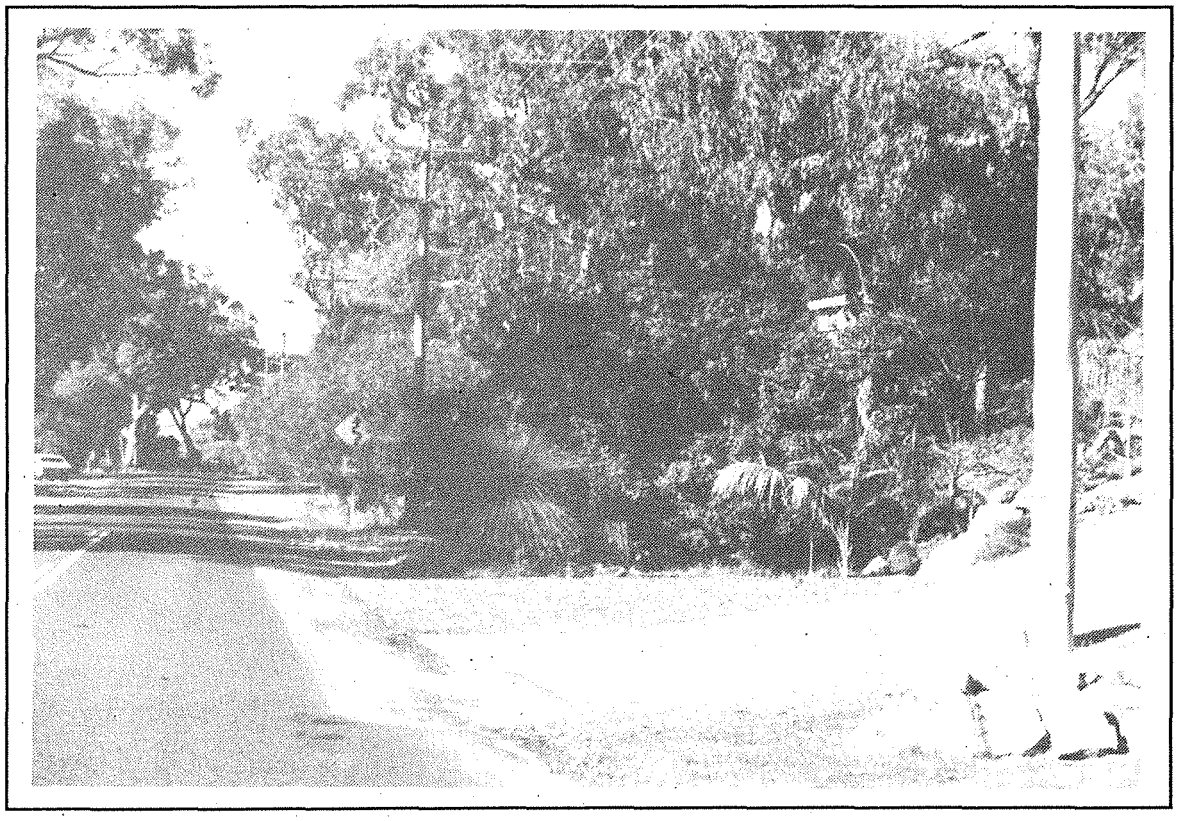
Foreshore

Soltoggios Point is visually prominent from the waters of the estuary.

Relative visual quality rating - medium

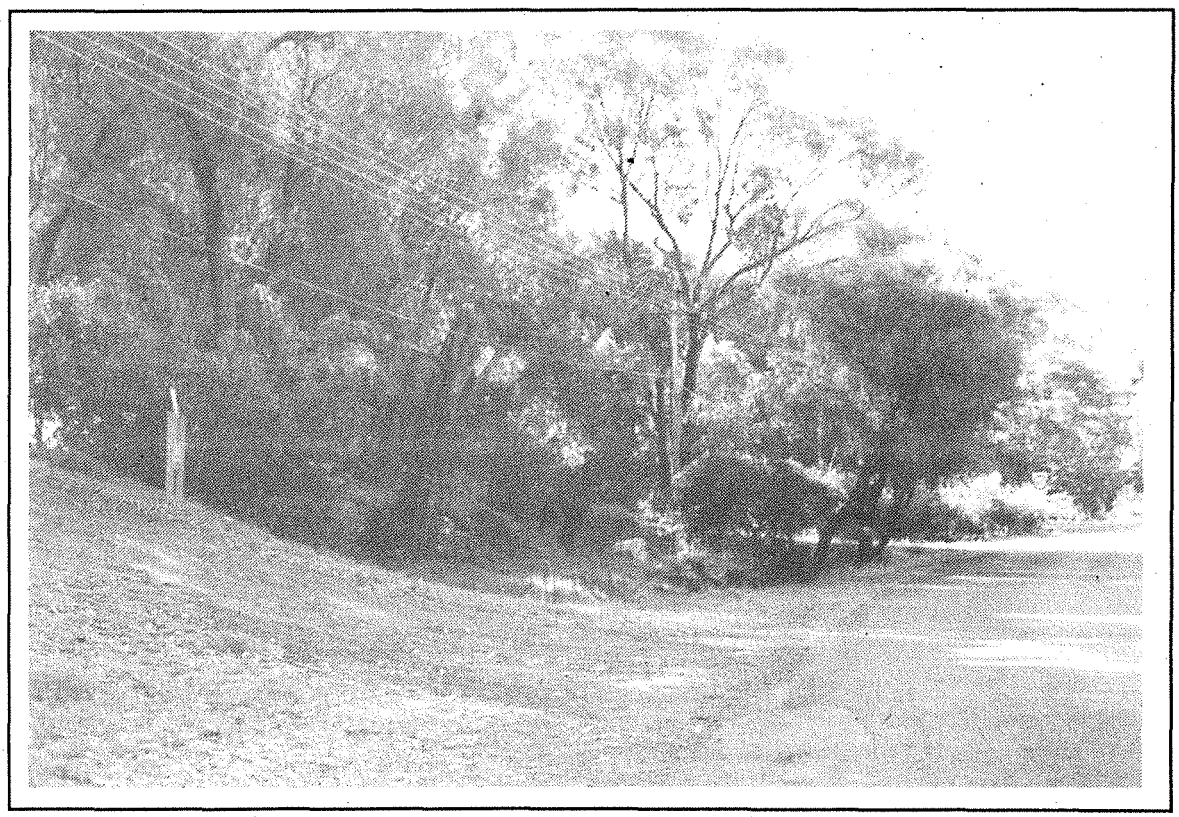
Recommendation

- Protect the ridge outcrops and reinforce the vegetation to provide increased screening and environmental value.

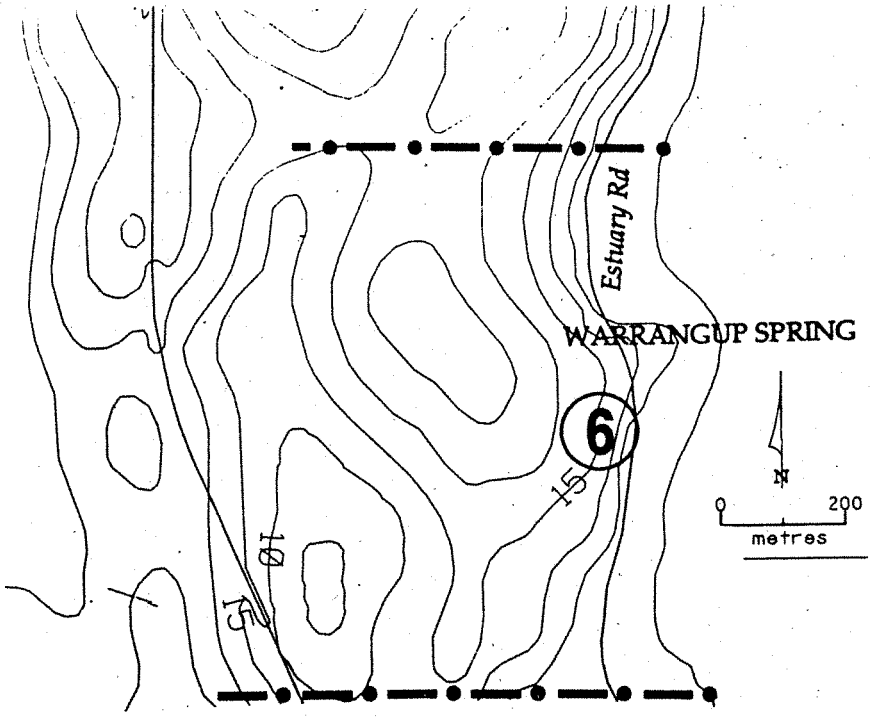


LANDSCAPE CHARACTER UNIT 5 **Photo 14**

Typically well vegetated frontages with predominately large lot homes positioned on steep slopes.



LANDSCAPE CHARACTER UNIT 5 (Continued) **Photo 15**



4.1.6 Landscape character unit 6

Rolling/steep topography of Reserve 860 and Warrungup Spring

The road winds through Reserve 860, with its rolling/steep topography and follows the line of a small bay then climbs abruptly over Warrungup Spring and beyond. The open vegetation has a sparse understorey but should regenerate well after recent fires.

Foreshore

The foreshore side of Estuary Road is more appealing in this unit and is visually prominent (refer photo 21).

The high point in the road adjacent to the spring offers dramatic views south through rocky terrain and strange, obliquely angled trees. Views can be gained through trees along the southern side of the road, to distant regions of the western foreshore. There are numerous visual opportunities and dramatic aspects in this unit.

Relative visual quality rating - medium - high

Recommendations

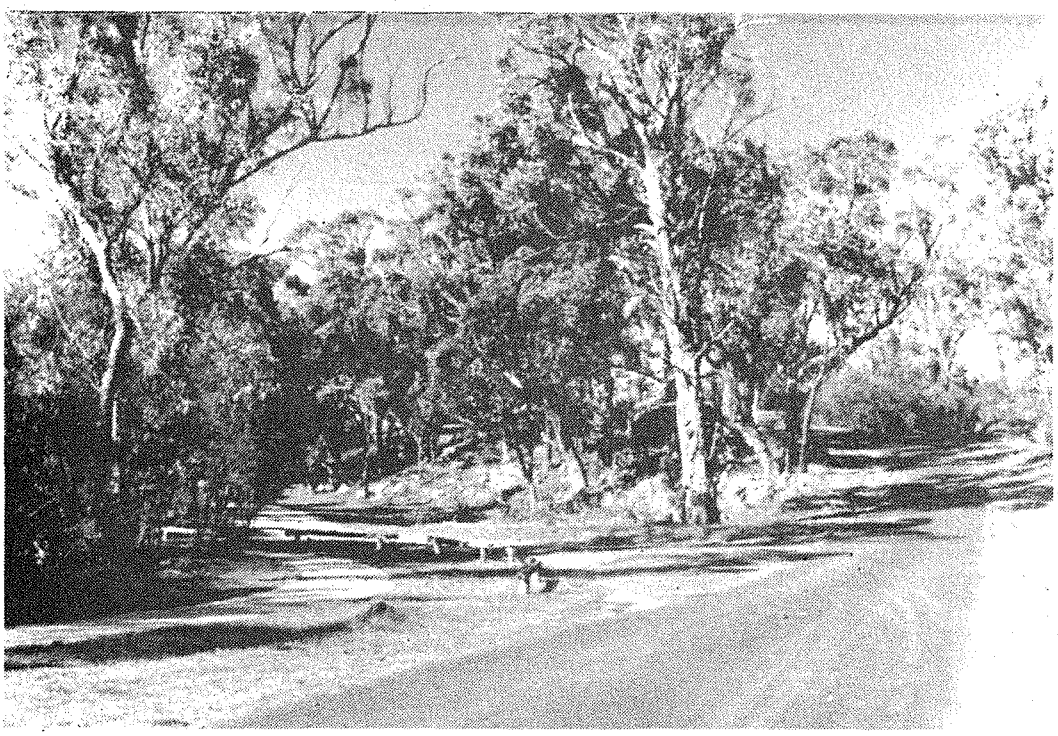
- Prepare a management plan for Warrungup Spring area to improve the facility and amenity of the area.
- Ensure that reserve 860 (water) remains an open space reserve reinforced and recognised for its value as an ecological buffer zone between residential areas and as a biological filter to estuarine waters.
- Revegetate Tims thicket road to reinforce the link to Old Coast Road.

LANDSCAPE CHARACTER UNIT 6 **Photo 16**

Views are accessible across to the eastern foreshore through burnt, thin trunked wetland trees and colinizing reed vegetation.

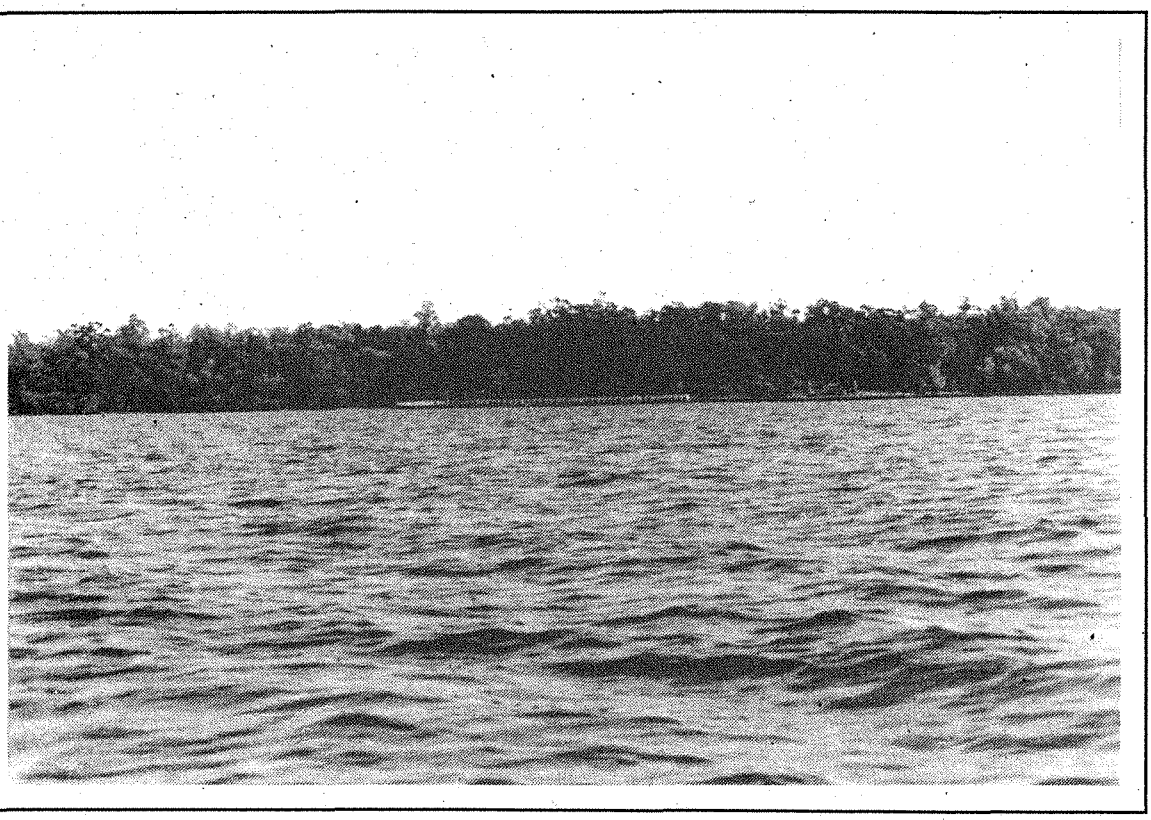
LANDSCAPE CHARACTER UNIT 6 (Continued) **Photo 17**

A short walk through this area reveals the northern aspect of Warrungup Spring.



LANDSCAPE CHARACTER UNIT 6 (Continued) **Photo 18**

Entry to Warrungup Spring (foreshore side) or continuing along the steeply inclined road confronts the visitor with a difficult choice as both merit exploration.



LANDSCAPE CHARACTER UNIT 6 (Continued) **Photo 19**

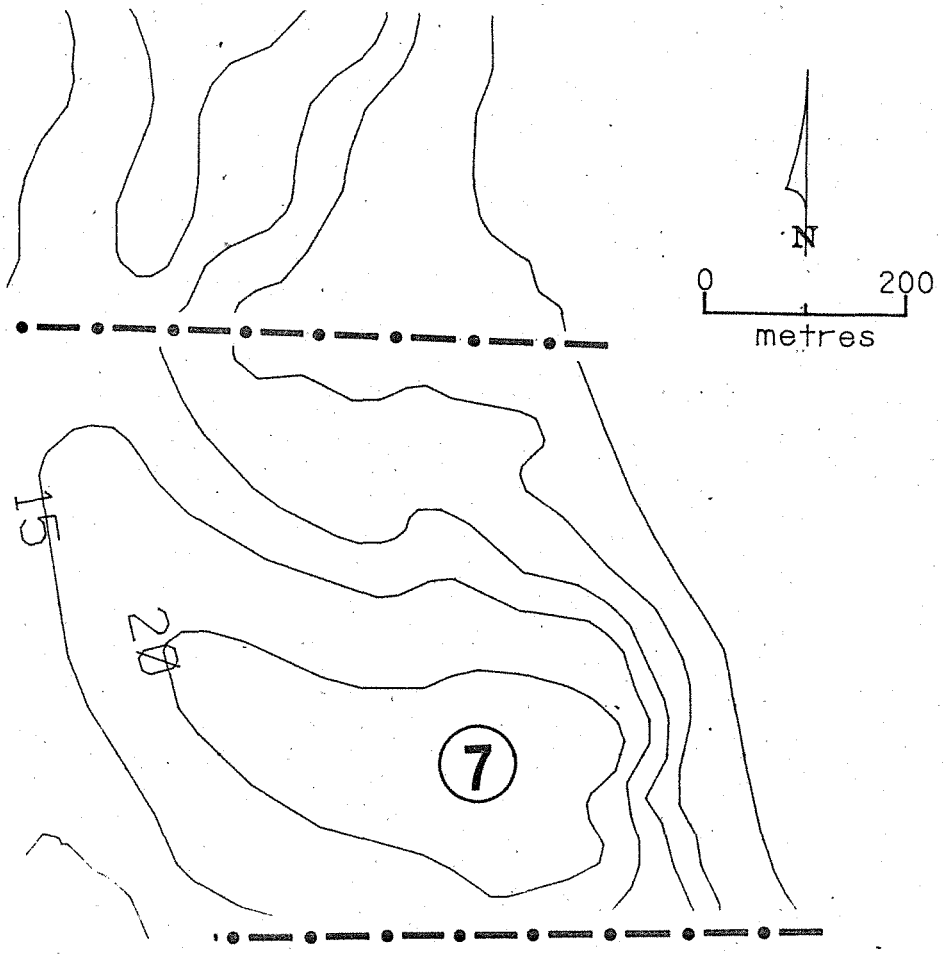
Warrungup Spring is a prominent landmark from the estuary waters.

LANDSCAPE CHARACTER UNIT 6 (Continued) **Photo 20**

Typical vegetation of Reserve 860 in recovery phase after recent burning.

LANDSCAPE CHARACTER UNIT 6 (Continued) **Photo 21**

The loop road through Warrungup Spring encompasses some of the best features along Estuary Road with its rocky outcrop, diverse vegetation and easterly, southerly and northerly views to vegetated headlands.



4.1.7 Landscape character unit 7

A low lying, natural drainage area encompassing the southern reaches of Reserve 860, with parkland cleared fields (private lots) and residences on the foreshore side.

Foreshore

The foreshore is wide and inaccessible with many diverse elements in terms of the built form, vegetation and cultural type.

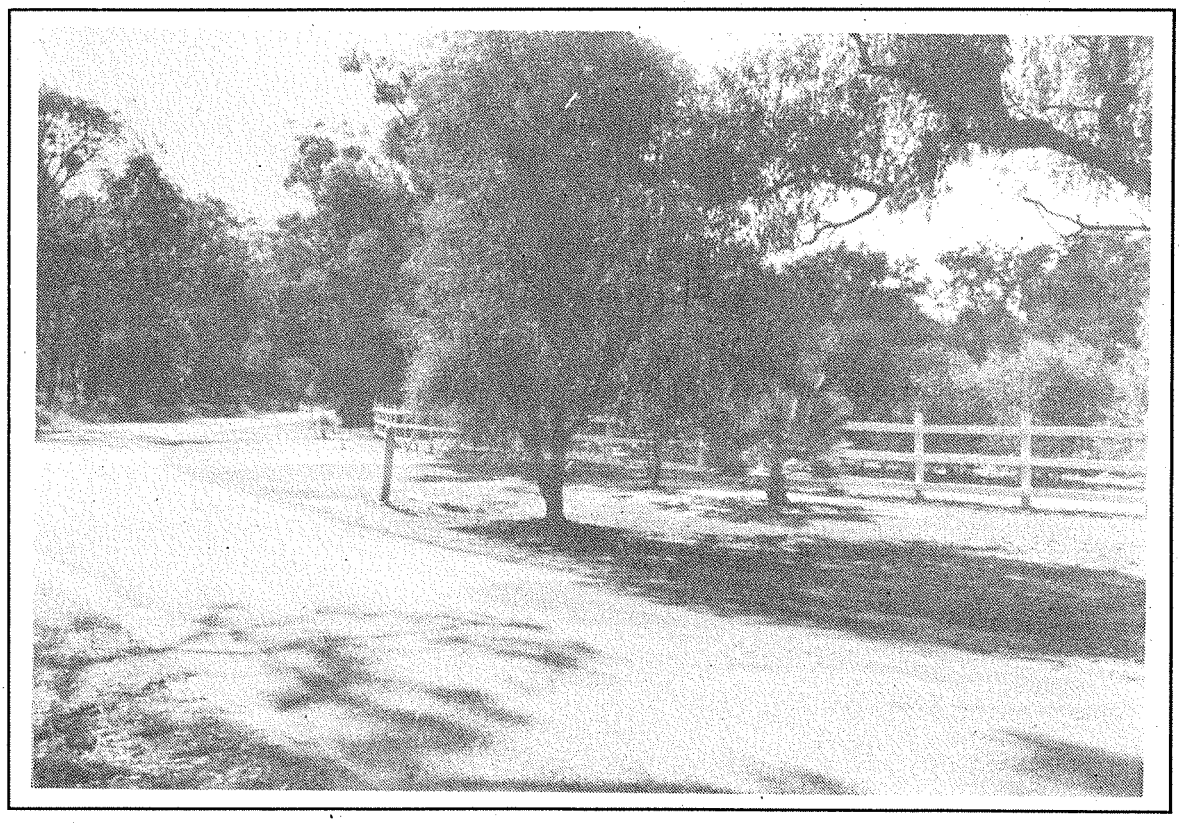
Relative visual quality rating - medium

Recommendations

- Regenerate and rehabilitate the site by using plant sources from roadside vegetation and from Reserve 860 opposite.
- Incorporate Tims thicket road into the proposed Landscape Protection Precinct (refer to General Recommendations).

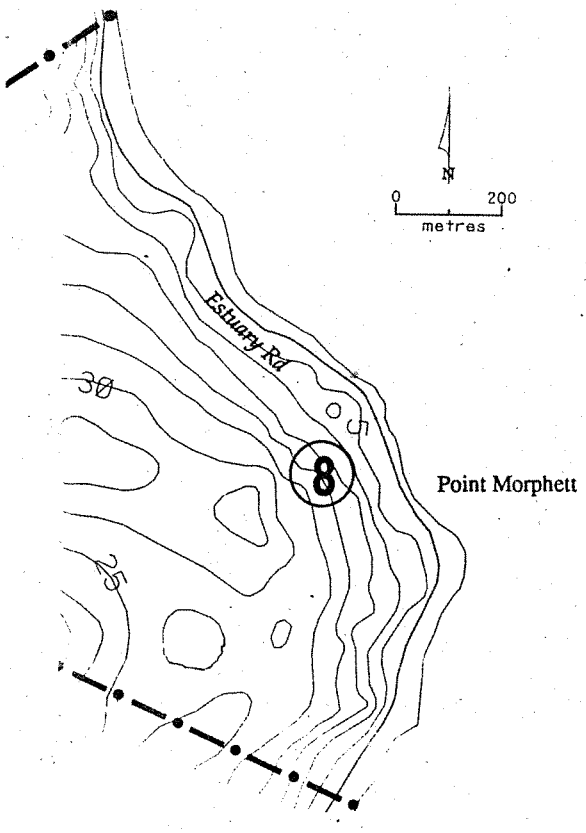
LANDSCAPE CHARACTER UNIT 7 (Continued) **Photo 22**

A contrasting area opposite (south) in a cleared/ parkland state which provides a rural ambience.



LANDSCAPE CHARACTER UNIT 7 (Continued) **Photo 23**

This verge treatment relates poorly to the reserve.



4.1.8 Landscape character unit 8

Very scenic route through remnant vegetation, with changing vistas, steep rocky topography and few visible housing forms. Pt Morphitt is the most easterly point.

The road varies in its alignment to the ridgeline. Initially the ridge is very steep then it flattens and retreats west with residual, minor limestone promontories and bays displayed. A few attractive cottages still exist close to this section of the road.

There are limited views south but occasional wide views with frequent vistas along the road; the foliage forms a 'window like' effect punctuating the winding roads. Mature indigenous and occasional examples of mature vegetation (principally date palms) each side and adjacent to the foreshore provide interest and a sense of enclosure (refer to photo 24).

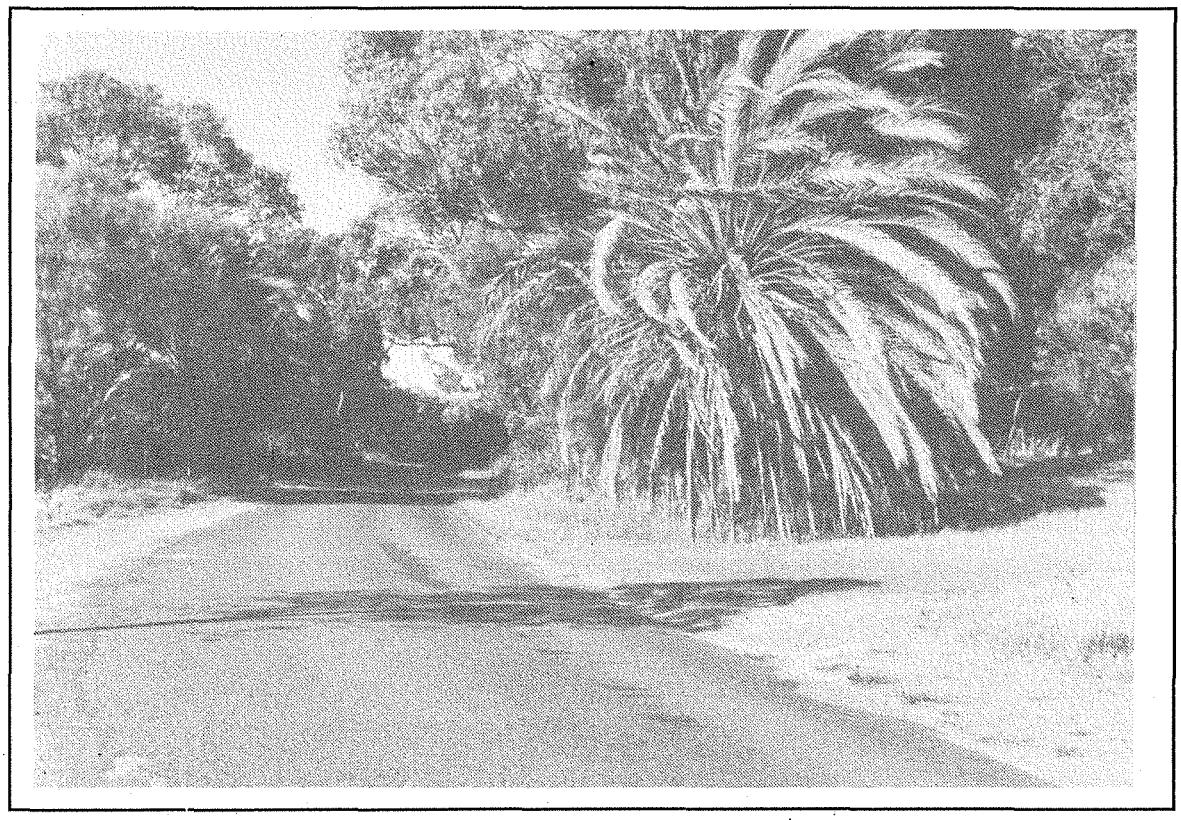
Foreshore

The foreshore is frequently at its narrowest along the initial part of this unit, with water and sedge vegetation very close (possibly requiring reinforcement with rock walling). It widens at point Morphitt and beyond to Park Ridge. A 'wild garden' effect can be seen along the narrow reaches, where vegetation is rampant and contains a varied association of species.

Relative visual quality rating - high

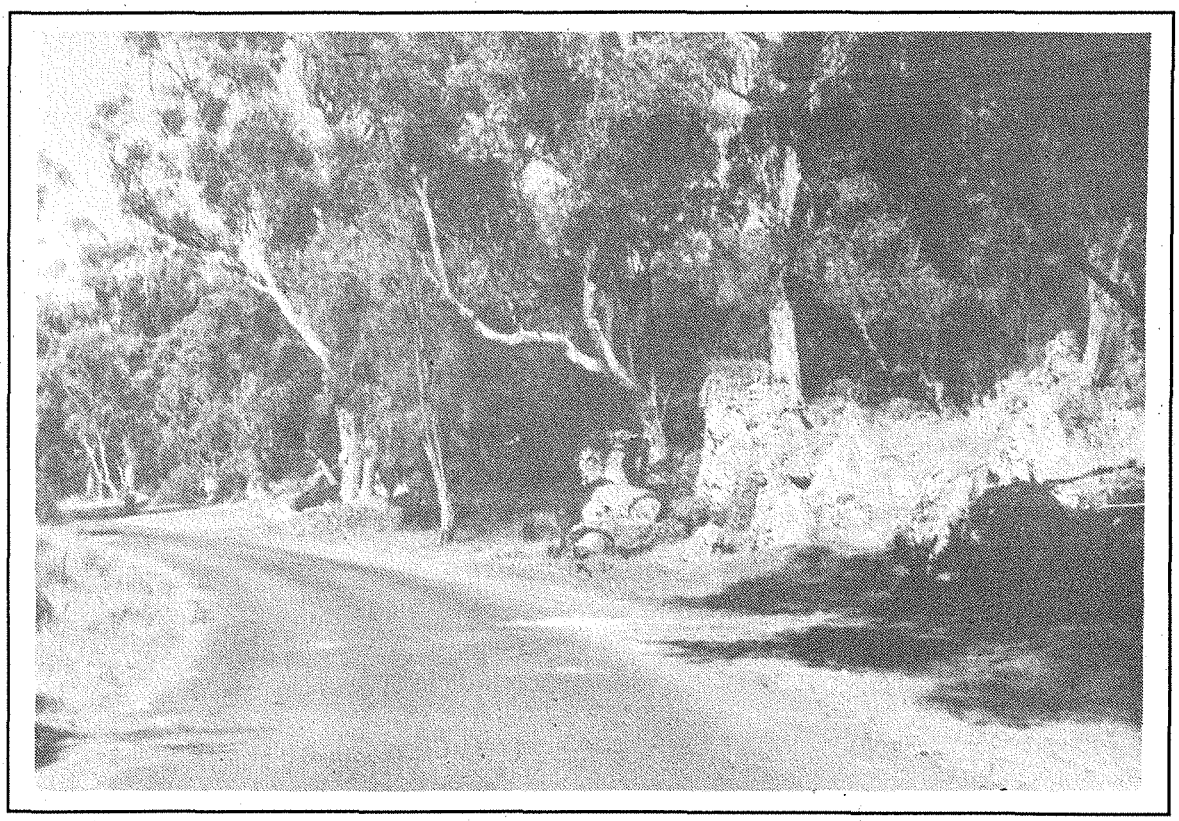
Recommendations

- Regenerate and rehabilitate the site by using plant sources from roadside vegetation and Reserve 860 opposite.
- Employ appropriate erosion control measures (refer to General Recommendations).



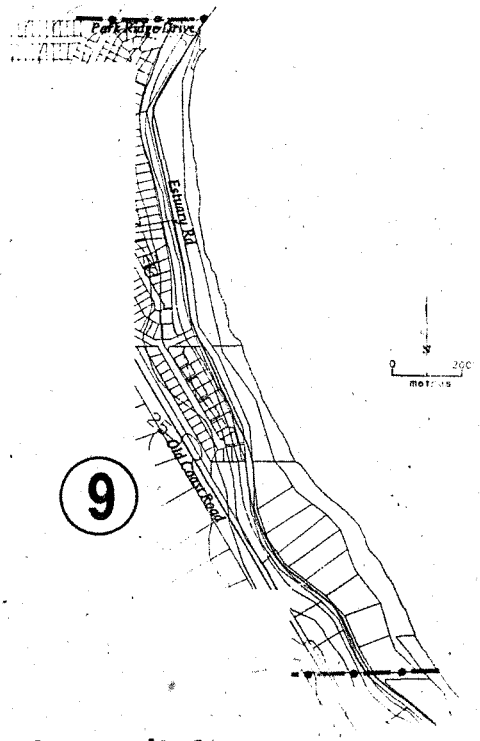
LANDSCAPE CHARACTER UNIT 8 (Continued) **Photo 24**

Mature cultural forms of vegetation are infrequent and confer historical interest on the road.



LANDSCAPE CHARACTER UNIT 8 (Continued) **Photo 25**

Rocky vegetated outcrops provide surprise elements and add to the dramatic aspect of the scenic route. Note potholes left foreground.



4.1.9 Landscape character unit 9

Park Ridge housing is built on higher areas with bush grove occupying the flatter regions on the foreshore.

This unit has a relatively uniform steepness with the ridgeline distant from Estuary Road. The closest area to Old Coast Road is in the vicinity of bush grove, where trucks are actually visible from the estuary.

Park Ridge

Scattered vegetation and housing forms are situated within the steeper ridges with vacant, verge areas of approximately 20m width characterising this unit. In many areas houses are on each side and generally of equal distance from the subject road. The streetscape lacks coherence and interest due to these neglected verges fronting the homes. There is a lack of visibility to the foreshore due to the density of vegetation.

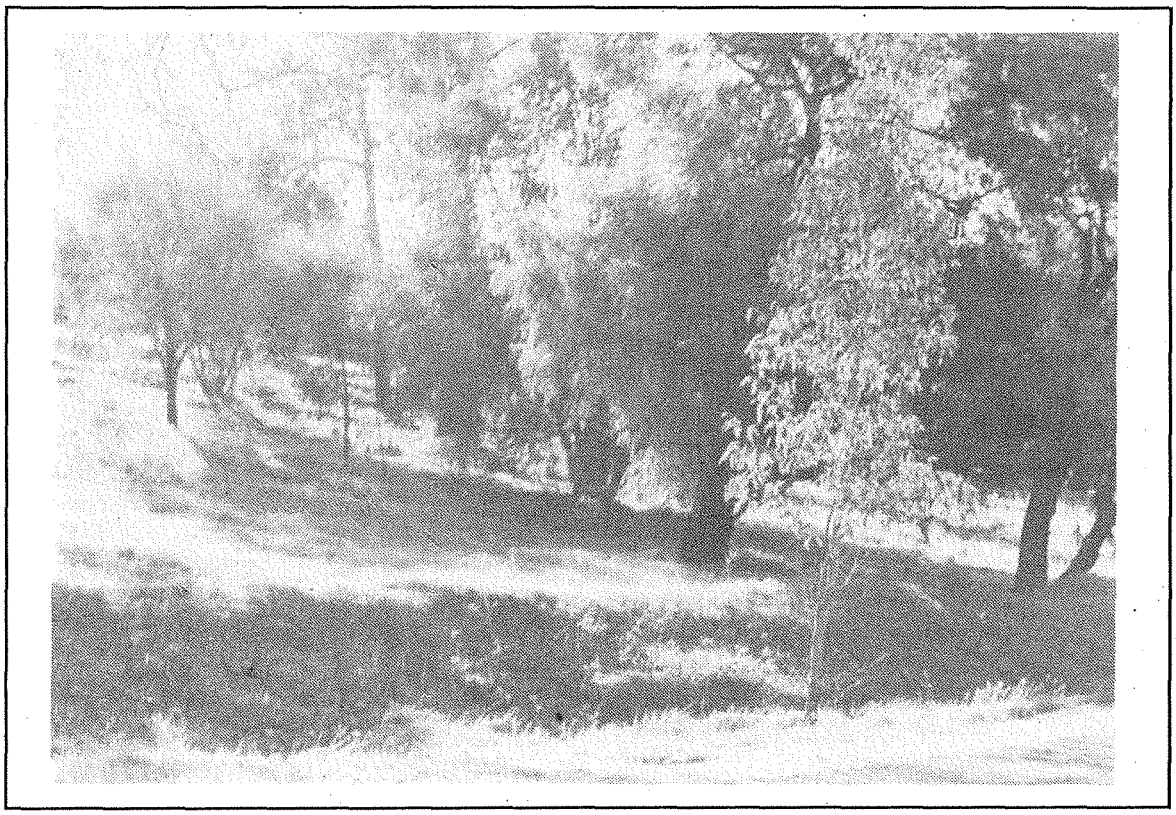
Foreshore

A wide, flattened area of the foreshore, cleared of much natural vegetation, provides for the housing/lifestyle needs of bush grove residents. There is also a small, municipal type of park with boating facilities for use by the residents of Park Ridge and visiting public.

Relative visual quality rating - low

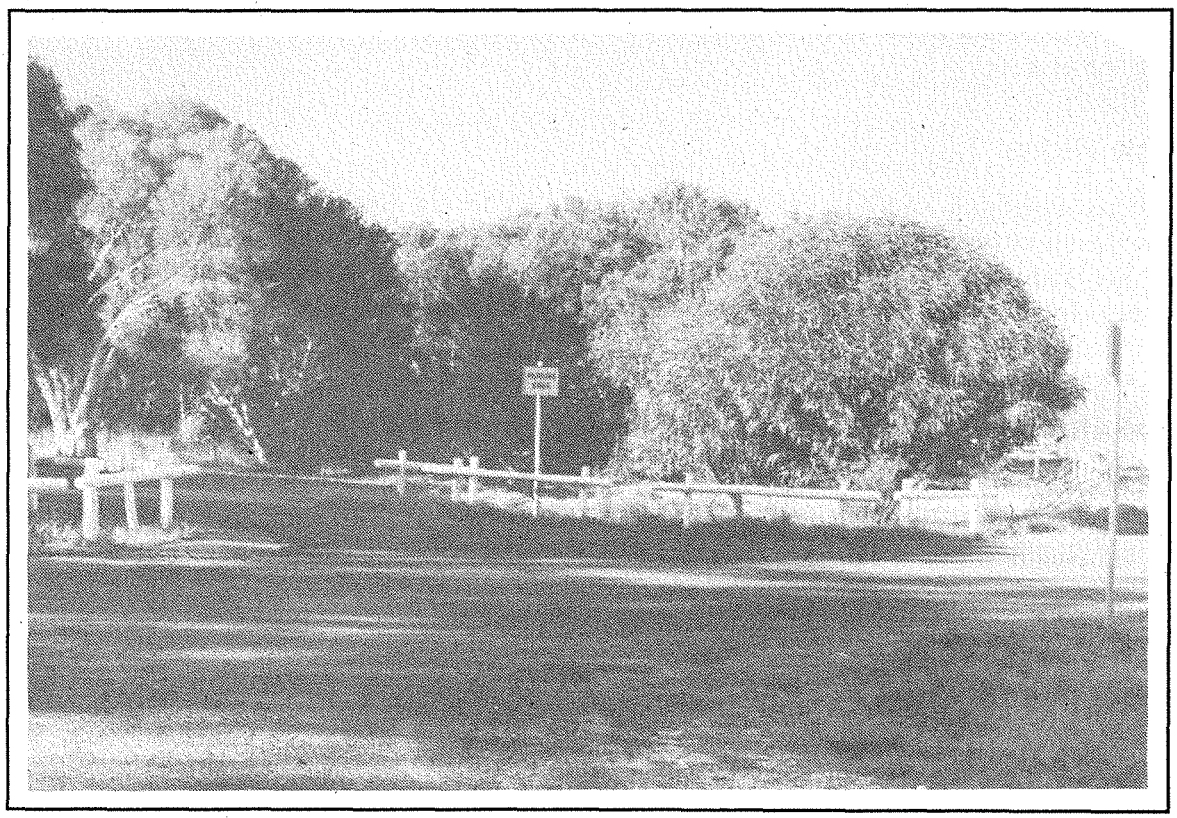
Recommendations

- Revegetate the wide, verge areas at Park Ridge and reinforce the existing vegetation. Continue a unifying, identifiable link along Park Ridge Drive (north) that will define a sense of entry.
- Reinforce the character of Park Ridge, possibly through means of community consultation. Prominent streetscape elements found at the Dawesville Channel complex, such as street lighting, seating or paving styles could be incorporated into this area to provide some consistency and diversity.



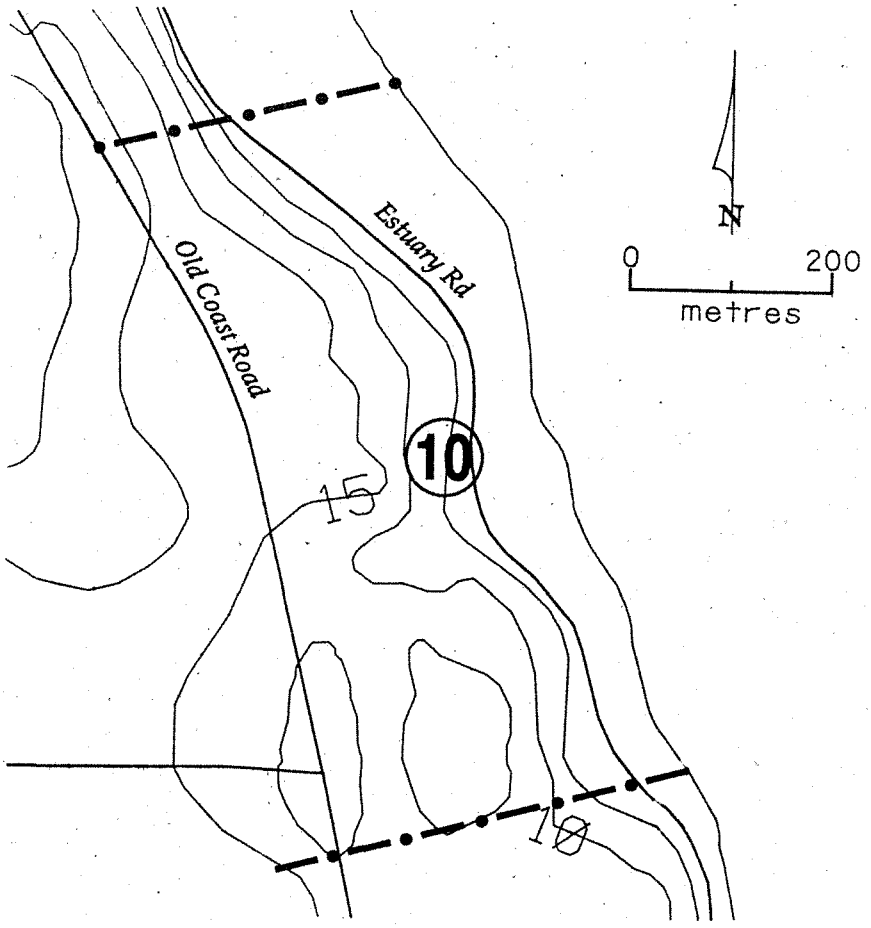
LANDSCAPE CHARACTER UNIT 9 **Photo 26**

Park Ridge - note extra wide verges with scattered trees are fronting the houses.



LANDSCAPE CHARACTER UNIT 9 (Continued) **Photo 27**

Adjacent to Dawesville Channel - Small municipal park at Park Ridge with boating facilities and views of the estuary.



4.1.10 landscape character unit 10

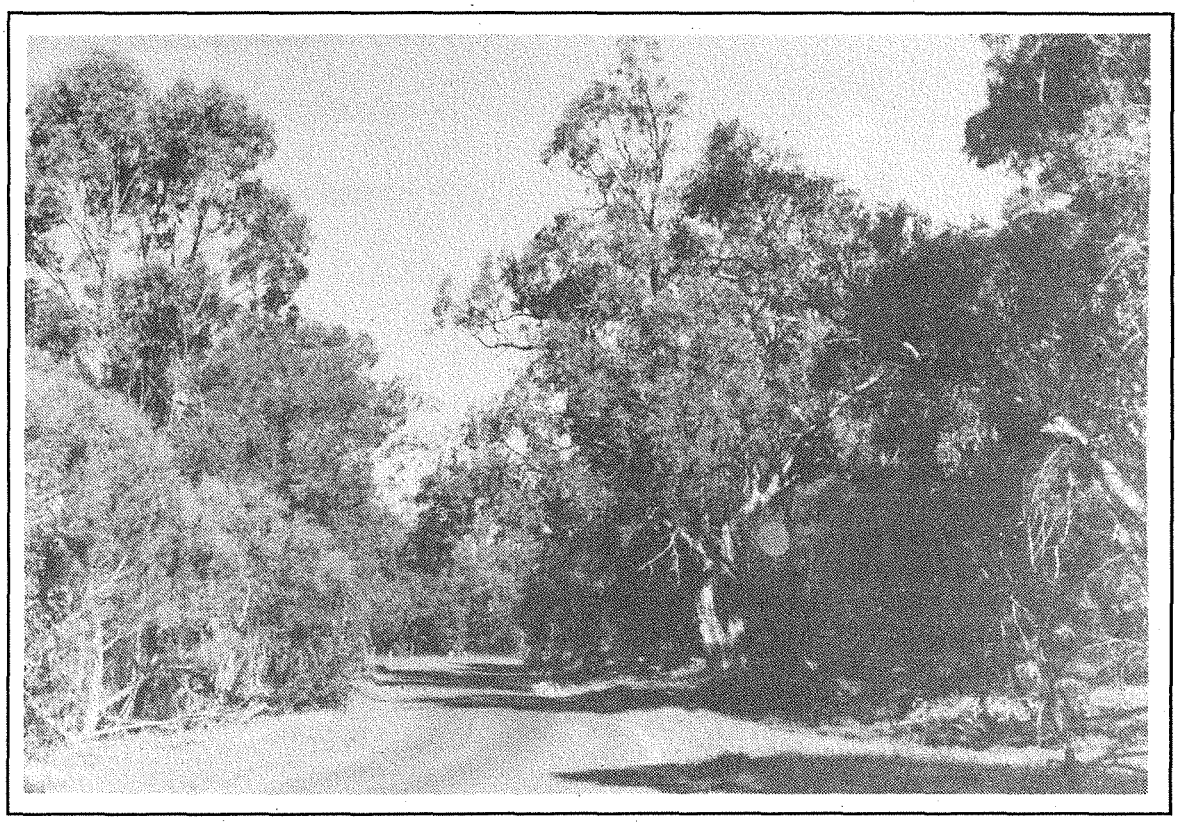
An enjoyable complex sector of the scenic route.

This unit consists of a very engaging stretch of road with foreshore views, hills and jutting, grassy rock ridges. There are rural lots each side of the road but housing is not usually visible as the road winds through the landscape.

Relative visual quality rating - medium - high

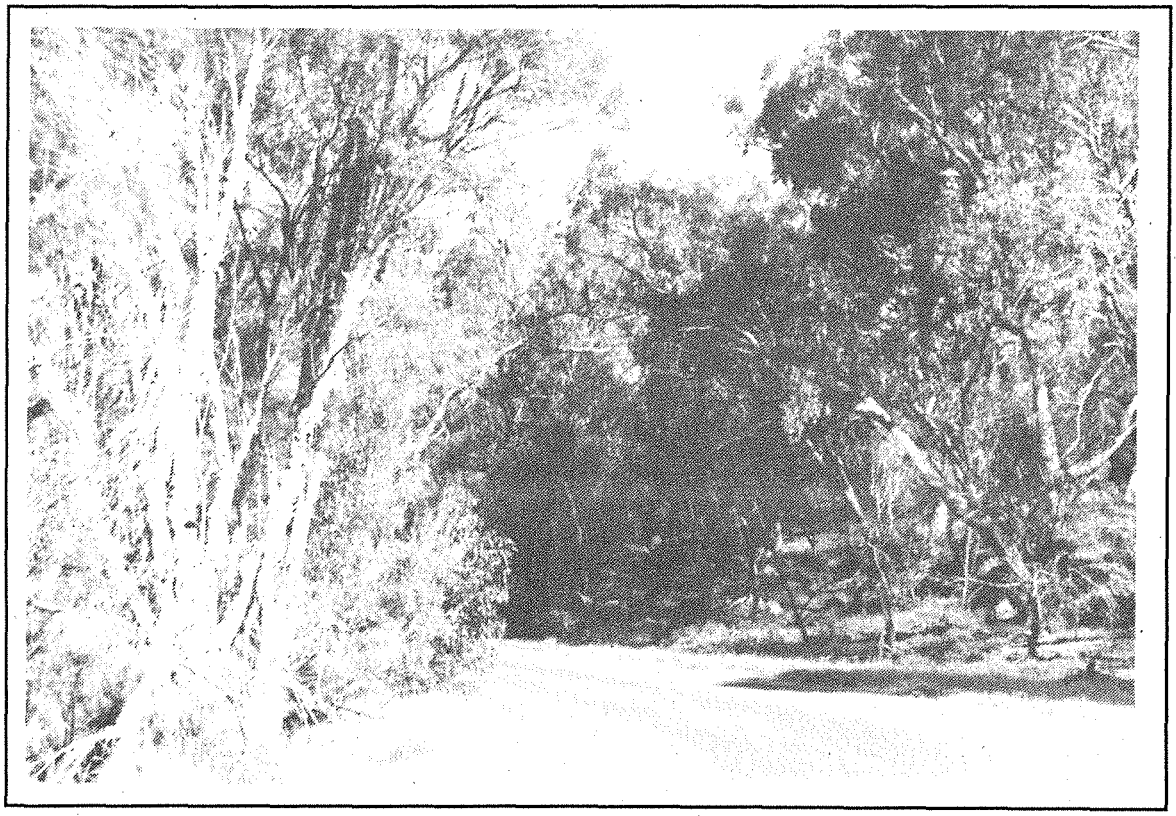
Recommendation

- Protect the ridge outcrops and reinforce the vegetation.

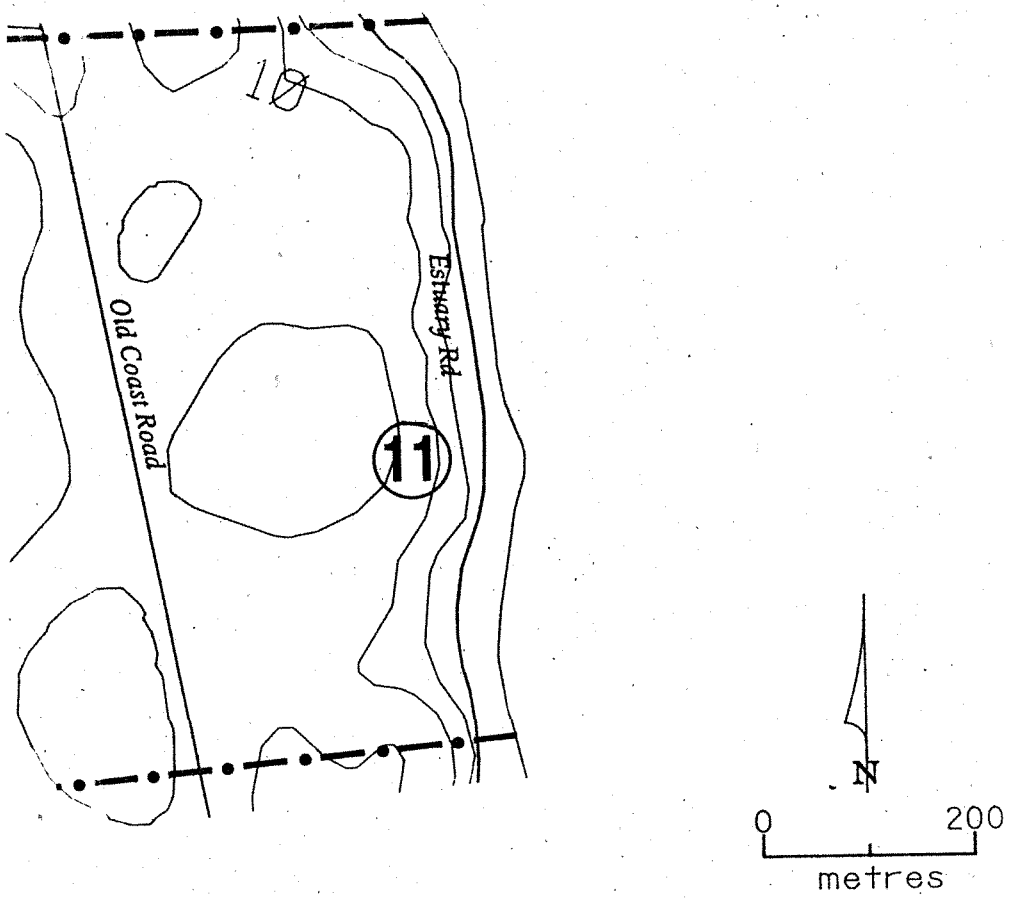


LANDSCAPE CHARACTER UNIT 10 (Continued) **Photo 28**

A winding stretch of road with well vegetated lots each side.



LANDSCAPE CHARACTER UNIT 10 (Continued) **Photo 29**



4.1.11 Landscape character unit 11

A frequently open, linear area with very narrow foreshore and views across to the eastern headland and beyond.

Extensive views are attainable in this unit which is chiefly characterised by its proximity to the water. The topography remains low with the ridges less defined and more regular than in the previous unit. The road winds into a fan shaped drainage outlet that is reflected in the coastline of the estuary. This area of Estuary Road is also visually prominent from the estuary. The impact of recreational use on sensitive, erodable areas of the foreshore should be reduced.

Relative visual quality rating - medium - high

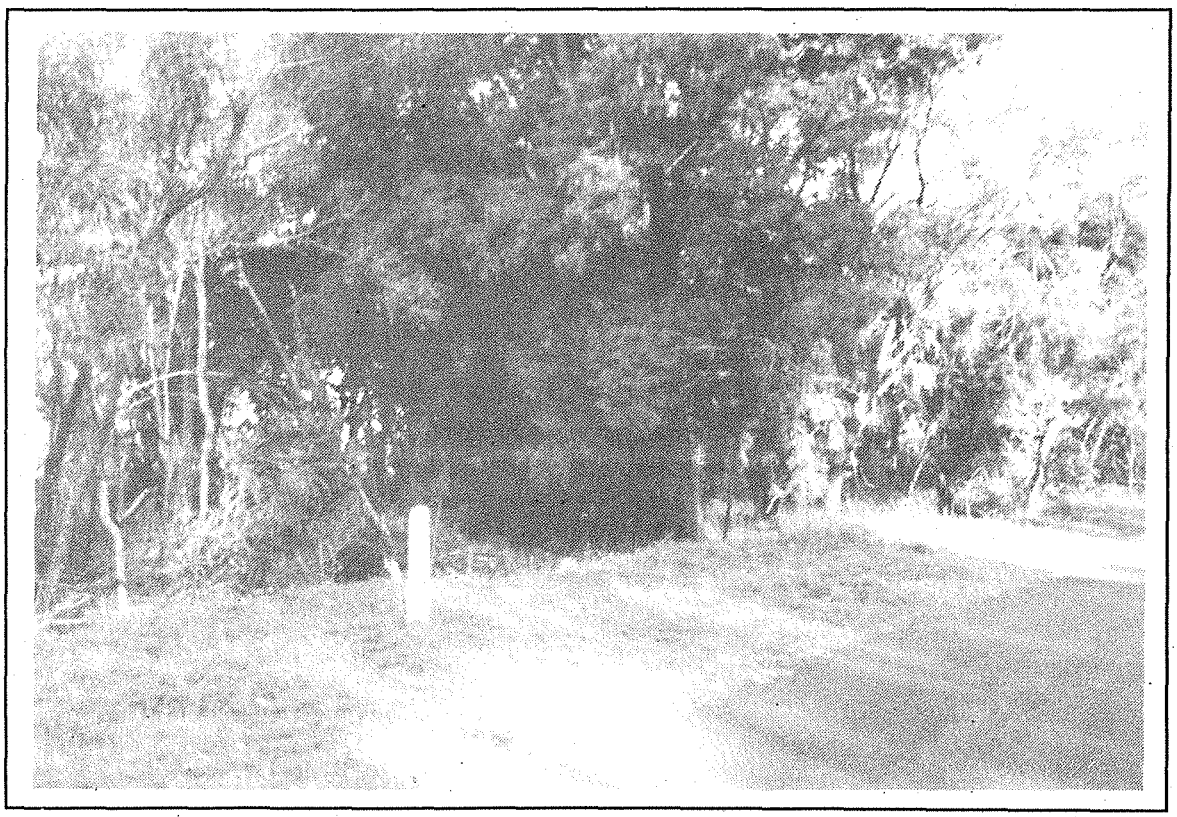
The narrow width of the foreshore restricts and limits formal vehicle access to it.

Recommendations

- Employ erosion measures to protect soft edges. (refer to general recommendations)
- Evaluate the feasibility of providing a system of strategically placed, minor decking or boardwalk areas to extend and protect some areas of foreshore and allow pedestrian access and views. Such a system would link up with and enhance future, dual use paths.
- Instigate a revegetation program of indigenous species to promote a more sustainable environment.

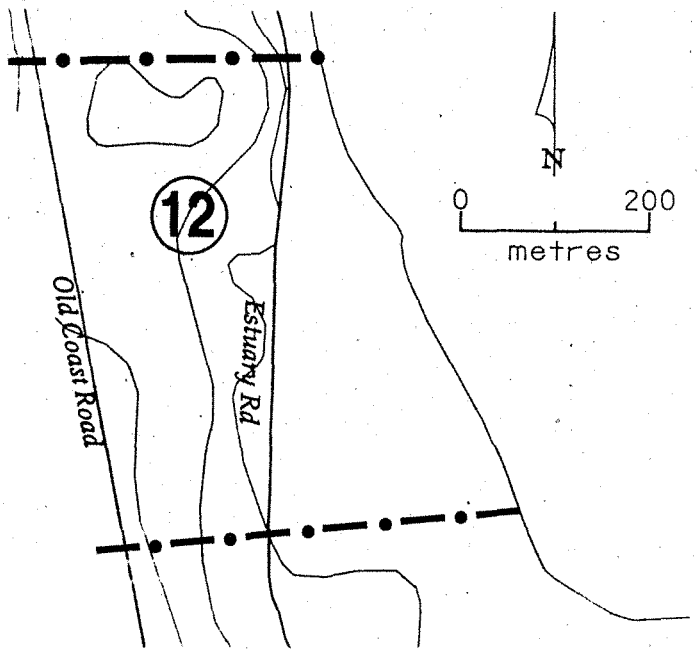
LANDSCAPE CHARACTER UNIT 11 **Photo 30**

An area of open wide views through a narrow foreshore and dense vegetation. Note weed species, *Watsonia*, in the foreground right.



LANDSCAPE CHARACTER UNIT 11 (Continued) **Photo 31**

Disturbed vegetation along the foreshore with incursion from dominant grass species.



4.1.12 Landscape character unit 12

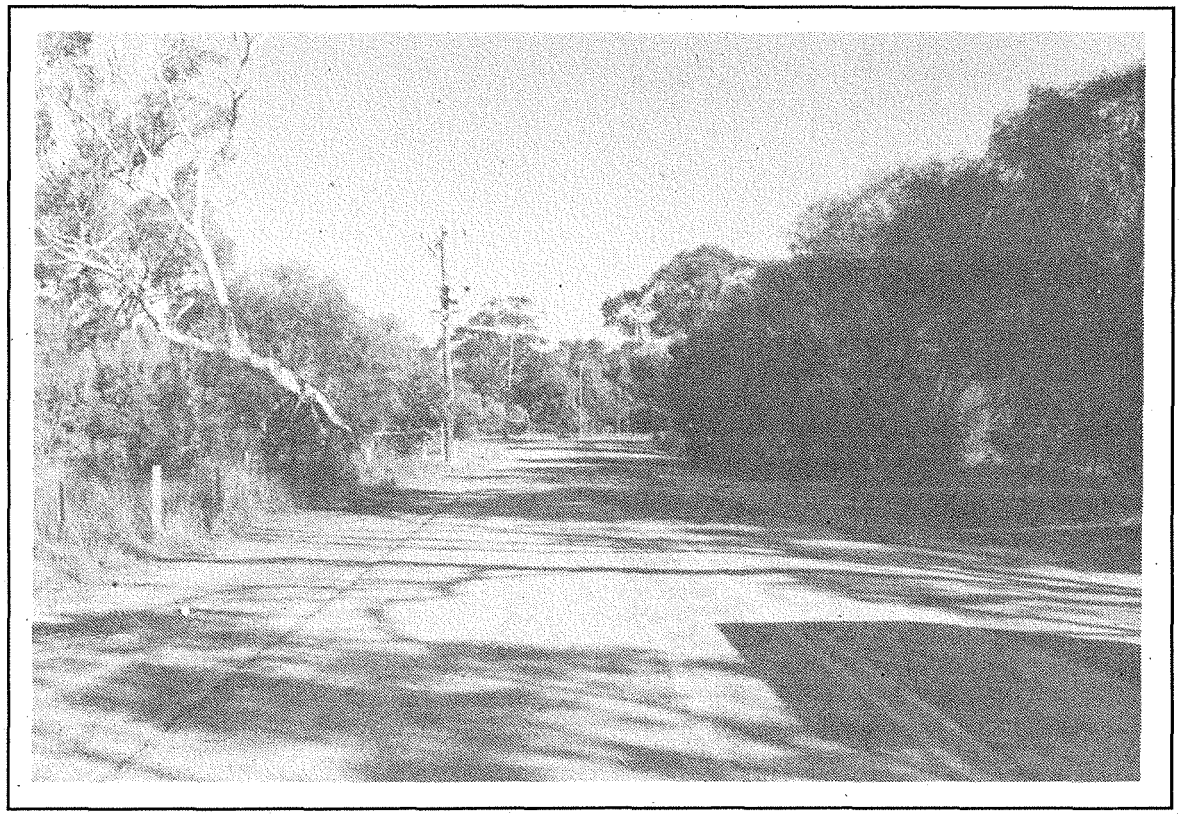
Housing on both sides of Estuary Road with no visible limestone areas.

The mostly straight, scenic road forfeits its wide views along the foreshore as it proceeds inland where the scenery changes to large lot houses on visibly grey soils. The flatness of the area is very pronounced, the housing forms have a modest and rural ambience. There is a distinct regularity about the area with visibility to the foreshore low and constrained by the verge treatment and built structures.

Relative visual quality rating - medium

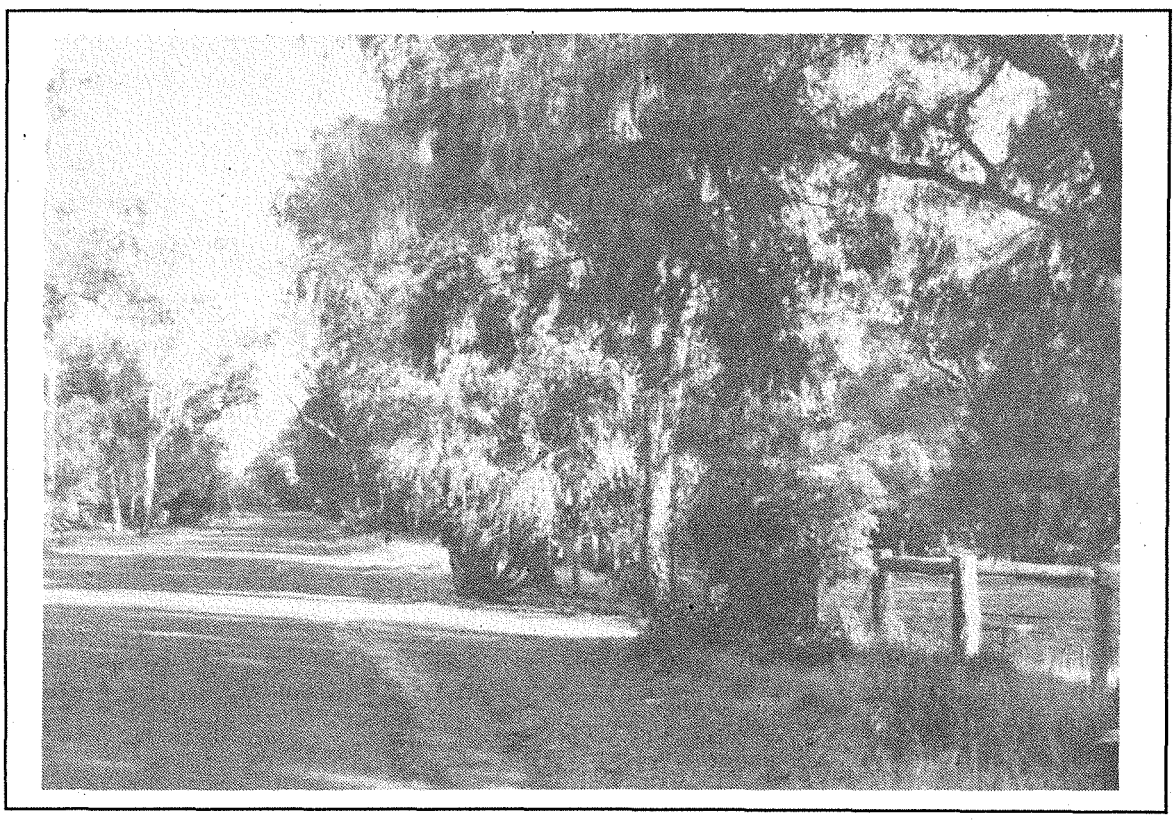
Recommendation

- Reinforce roadside vegetation to strengthen the 'avenue' quality and the semi-rural, linear style of the unit.



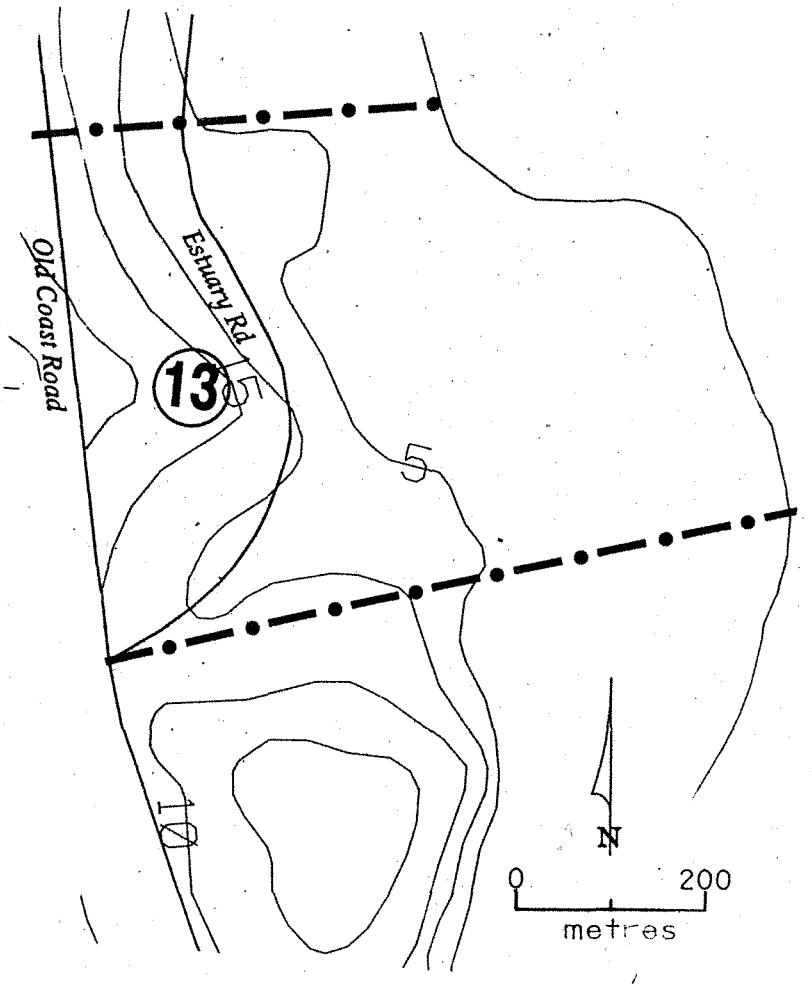
LANDSCAPE CHARACTER UNIT 12 **Photo 32**

As visibility to the foreshore is very low here, extra plantings would not affect views. Built structures are distant from the road.



LANDSCAPE CHARACTER UNIT 12 (Continued) **Photo 33**

Post and rail fencing in the right foreground was once a common item in the landscape.



4.1.13 Landscape character unit 13

A flat stretch of road which later becomes more steeply inclined to eventually connect with Old Coast Road - Yalgorup National Park (12189) to the south and west.

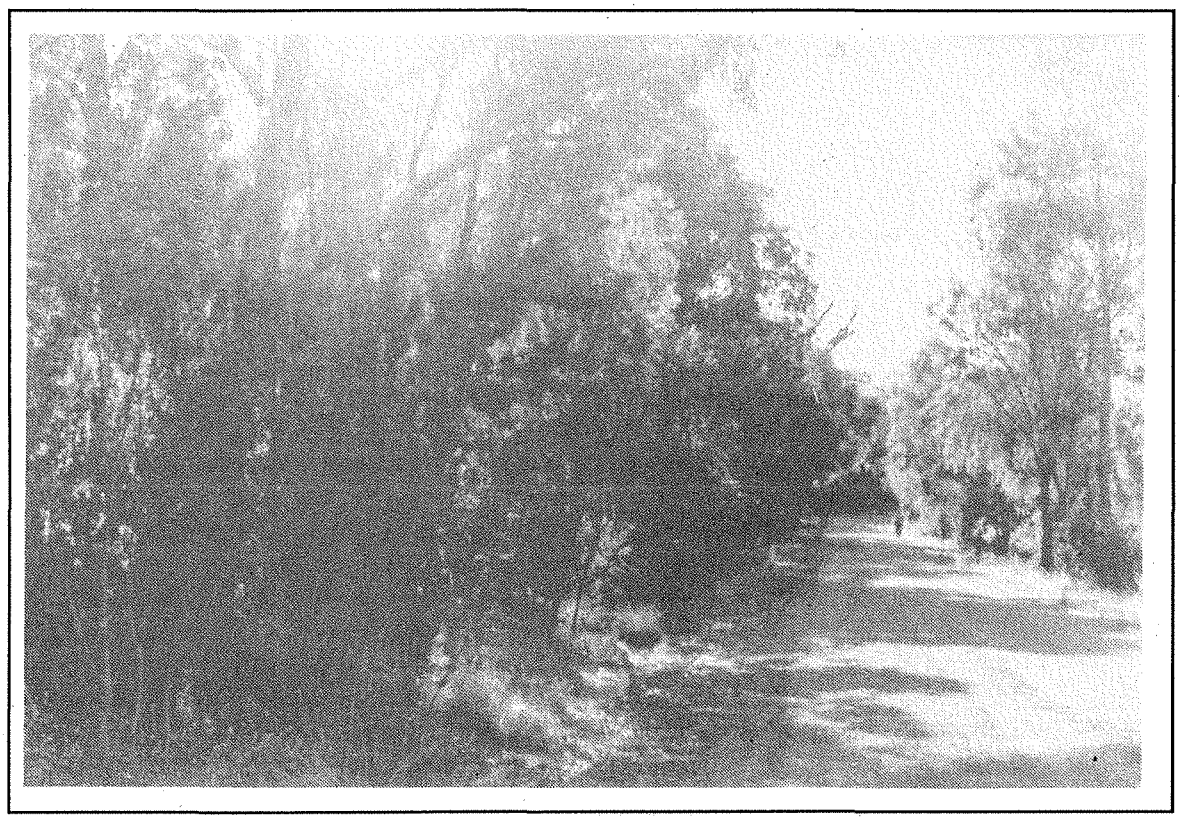
Foreshore

This is a refreshing, well vegetated area that overlooks a low, flat foreshore grown impenetrable with small leafed, immature eucalyptus trees and large shrubs.

Relative visual quality rating - medium - high

Recommendations

- Revegetate the entry point to Old Coast Road and provide a sense of identity by signage and distinct planting to add emphasis to this entry point at Old Coast Road (refer to General recommendations).



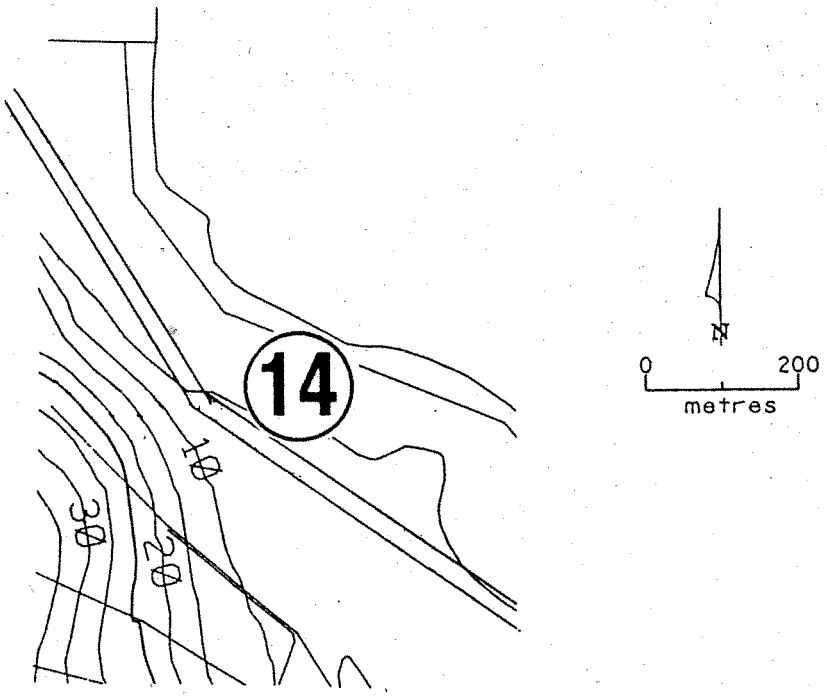
LANDSCAPE CHARACTER UNIT 13 **Photo 34**

A long winding stretch to Old Coast Road creates a fine walking path.

LANDSCAPE CHARACTER UNIT 13 (Continued) **Photo 35**

Roadside vegetation forms a moderately dense canopy.

Island Point Sector



4.1.14 Landscape character unit 14

Wide foreshore area approaching Island Point - commercial lots

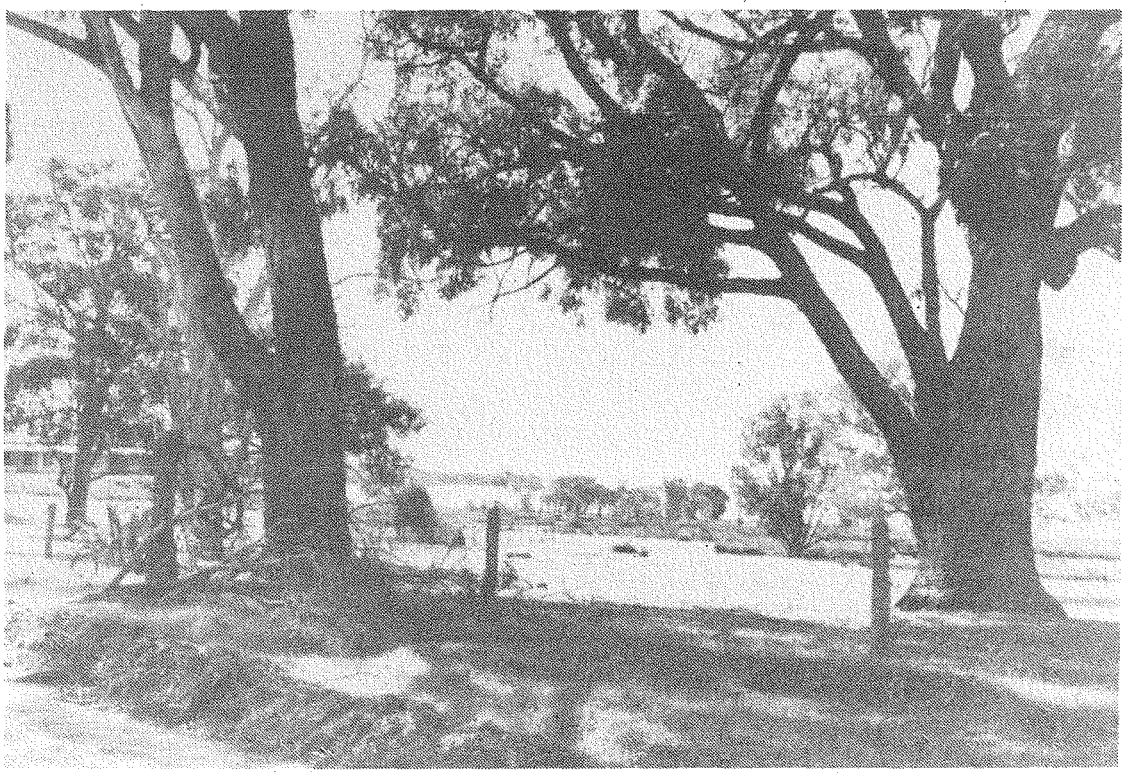
Southern Estuary Road branches off Old Coast Road and follows the bay to Island Point.

This unit is characterised by a large expansive foreshore which contains visually prominent areas of recent commercial and accommodation facilities. These structures have been designed sensitively in an unobtrusive way and are elevated onto pads to resist flood inundation. Other areas are occupied by grazing. (refer to photo 36)

Relative visual quality rating - medium

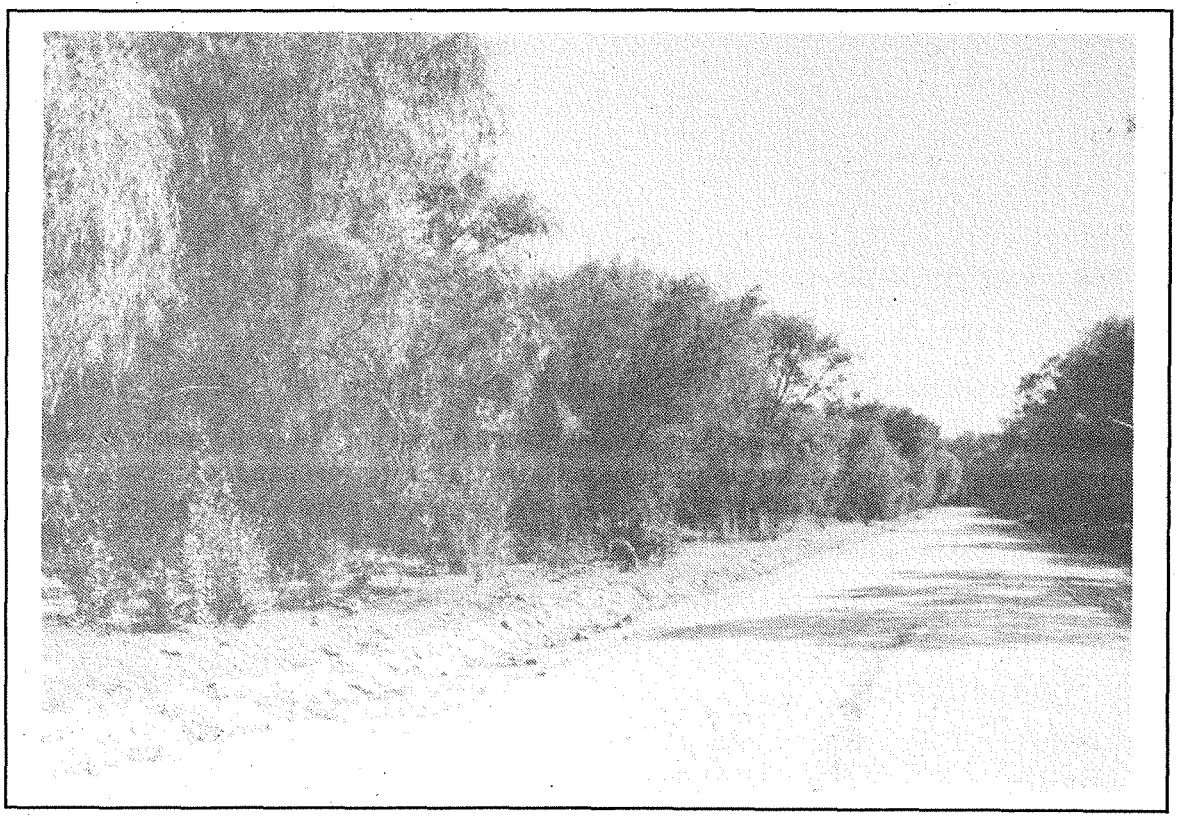
Recommendation

- Reduce the impact of commercial facilities on the foreshore by selectively planting indigenous species with consideration to retaining distant views of the headland opposite and to screening buildings and property infrastructure from visibility from the road.
- Increase identity to this entry point to and from Old Coast Road (refer General Recommendations).



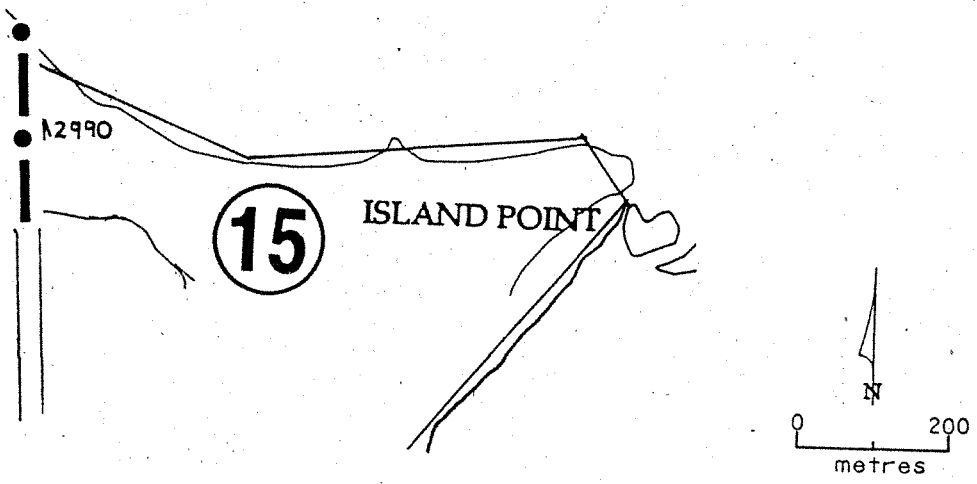
LANDSCAPE CHARACTER UNIT 14 **Photo 36**

Ancient Tuart trees in the foreground of the commercial faciltiy on a pad built along the foreshore, approaching Island Point.



LANDSCAPE CHARACTER UNIT 14 (Continued) **Photo 37**

Well vegetated track leading to Island Point.



4.1.15 Landscape character unit 15

Island Point is a major recreational, visually prominent landform closely associated with the Harvey Estuary. Due to the generally shallow nature of the estuary, Island Point is often accessible by water only in winter. It is approached from Old Coast Road by a 1600m limestone track which is well vegetated and enclosed from views until within the approach to the point area. The vegetation forms a consistently dense corridor to Island Point and is composed of saplings and large shrubs as in the previous unit. Informal parking off the loop road would visually detract from the area in popular periods and present a cluttered appearance.

Island Point was also linked historically with the eastern foreshore by way of a sandbar ford to Herron Pt opposite. Immediately south of the track from Island Point is reserve 2990. There are engaging views opposite the point, where sandy, white beaches increase the attraction of the surrounding bay areas.

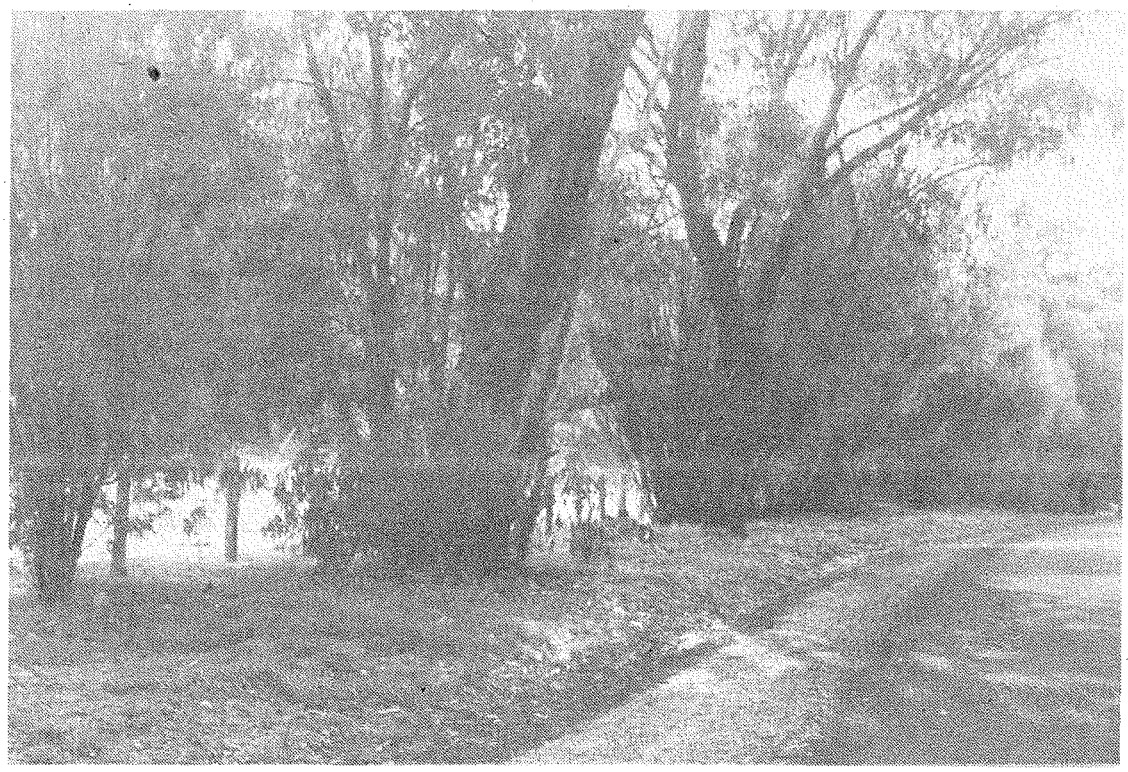
Relative visual quality rating - Island Point - high

Recommendations

- Prepare a management plan for the site to control the impacts of future residential and visiting populations. It should include the following:
- Rationalised and articulated car parking areas so as to reduce the visual impact of vehicles and damage to the environment. These may take the form of a number of well sited, gravelled parking bays for 4-5 vehicles.
- Reduced damage to the environment, by providing walking trails, information signage and/or visitor information huts to educate the public about the history and natural resources of the area.
- Restricted vehicle access to the site as a whole beyond an ascertained, appropriate point.

LANDSCAPE CHARACTER UNIT 15 **Photo 38**

Island Point - a good balance of light and shade creates a wonderfully vibrant scene.



LANDSCAPE CHARACTER UNIT 15 (Continued) **Photo 39**

Island Point - south of Island Point Road - mature trees line the fenceline along the base of the steep slopes in this unit.

LANDSCAPE CHARACTER UNIT 15 (Continued) **Photo 40**

High quality reed edging with diverse native trees at Island Point.

LANDSCAPE CHARACTER UNIT 10 (Continued) **Photo 41**

Island Point - view east to a sandbar was utilized as a crossing for stock in past years. Historical interpretative sign may be warrented.

4.16 General water views

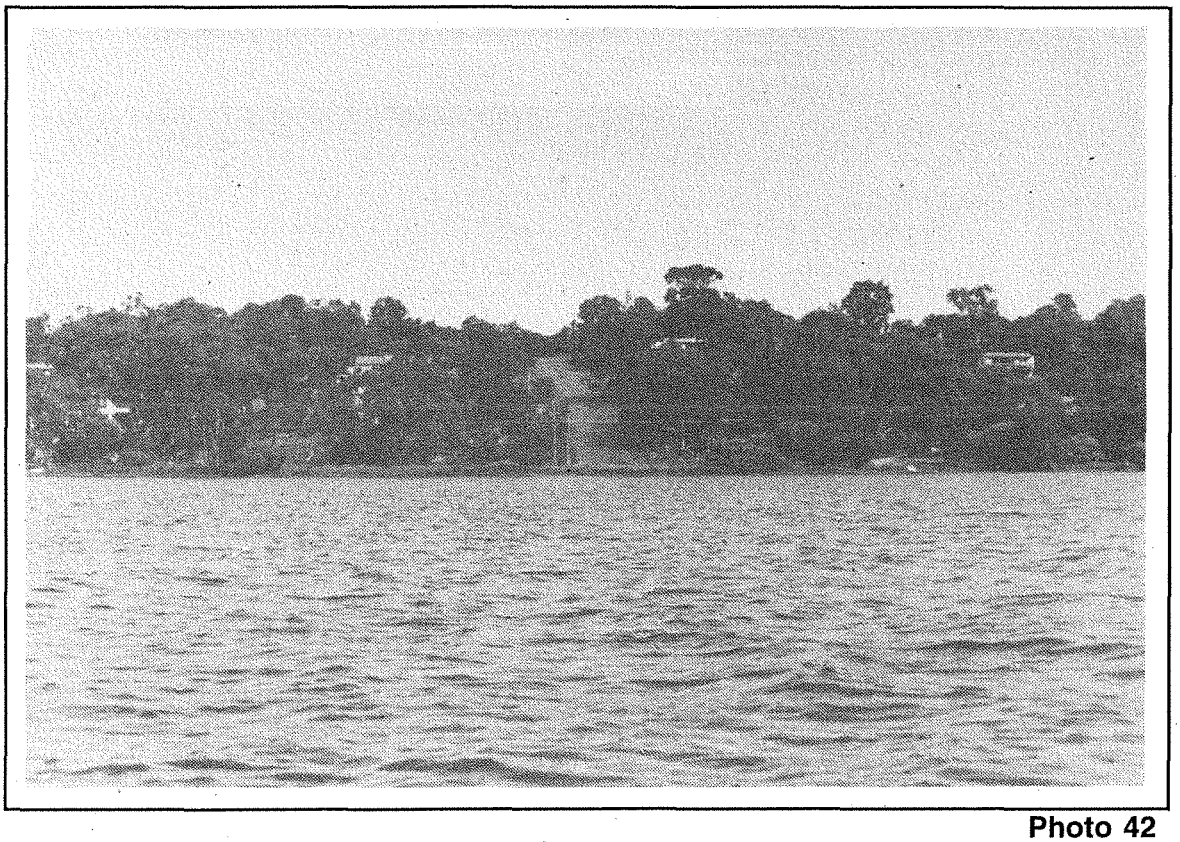


Photo 42

Compare the two photgraphs; as the percentage of tree cover decreases the visual resource is reduced ie. the perceived naturalness of the landscape is reduced.

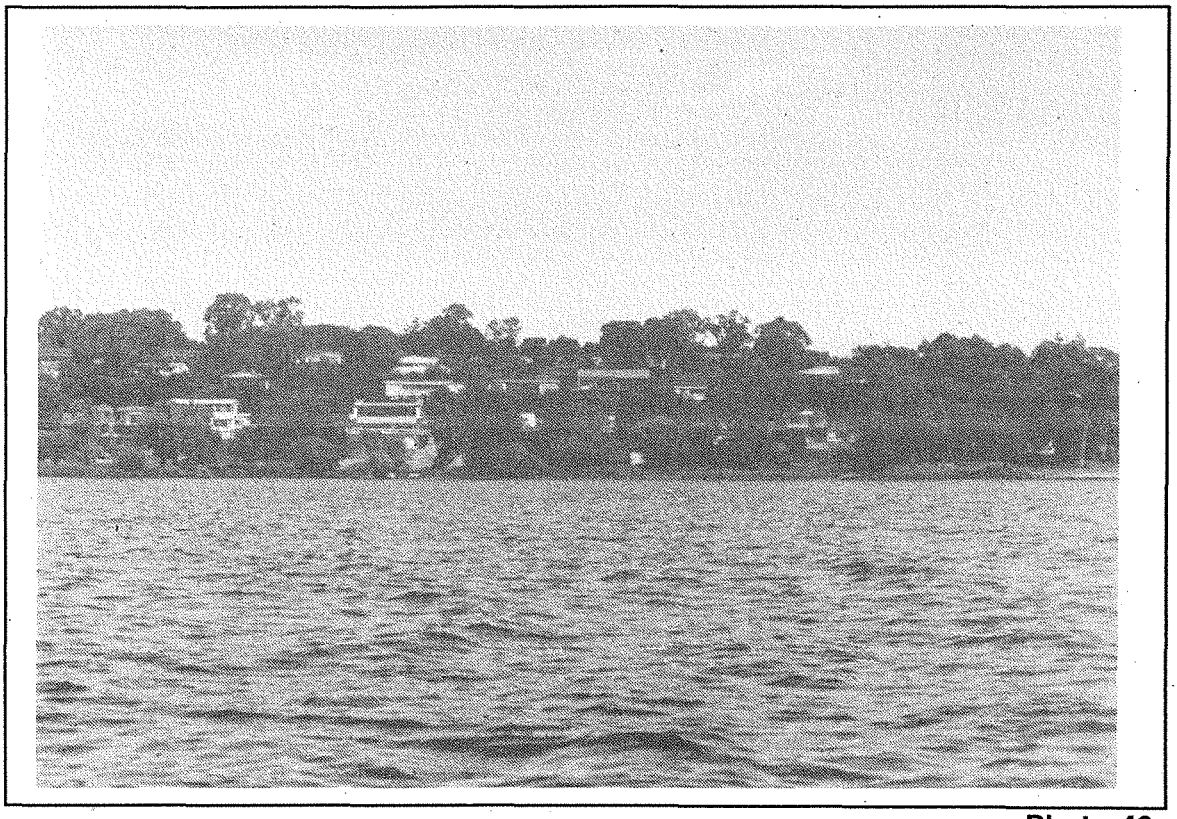


Photo 43

Increasing the tree cover along the foreshore would help to reduce the visual impact of housing as viewed from the estuary and headlands, by increasing the perceived naturalness.

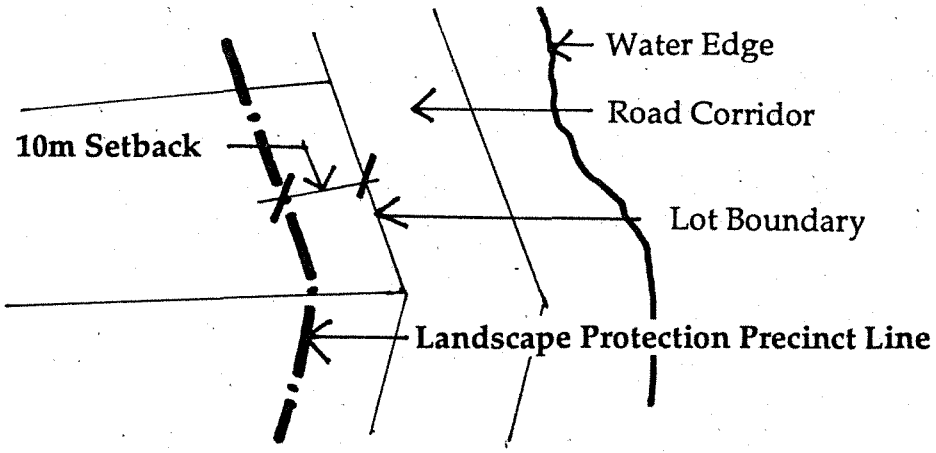
5.0 LANDSCAPE PROTECTION PRECINCTS

5.1 Discussion

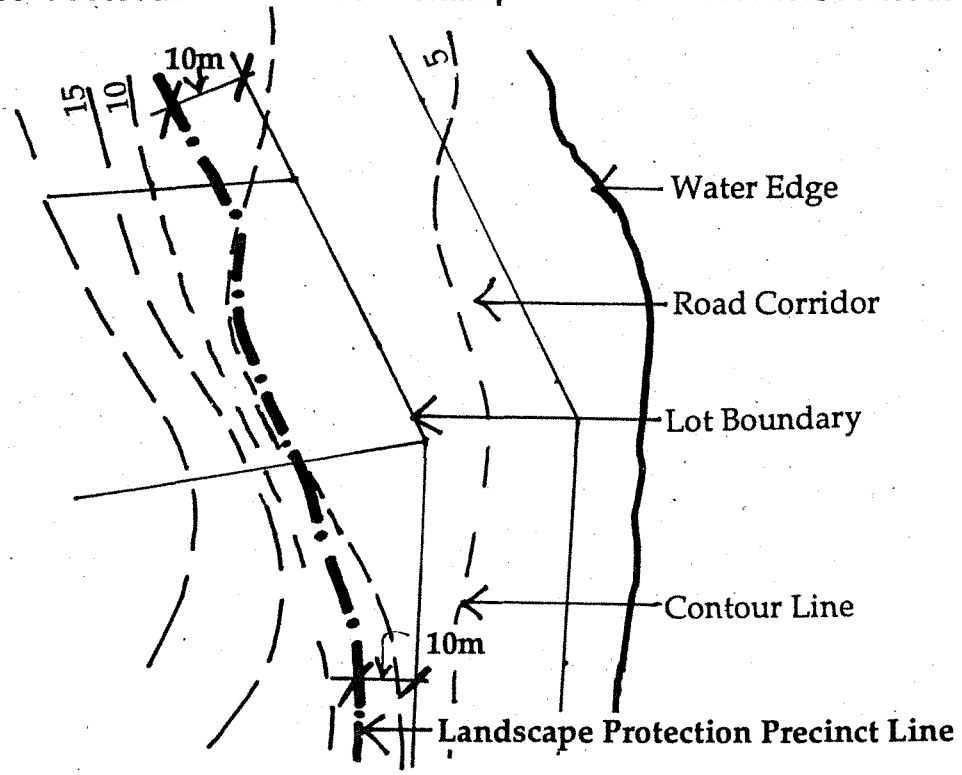
Following the visual assessment survey a number of recommendations were proposed for each landscape character unit in the study area. The formulation of a Landscape Protection Precinct line along each cadastral lot of Estuary Road, Western Foreshore, is linked to these recommendations for the landscape character units. Refer to landscape character units (4.1 to 4.15).

Due to the scale of the maps and the area comprising the site, a 10m Landscape Protection Precinct is insufficient in width to show upon an ordinary scale of map. Instead the indicative tables below are intended to illustrate the Landscape Protection Precinct.

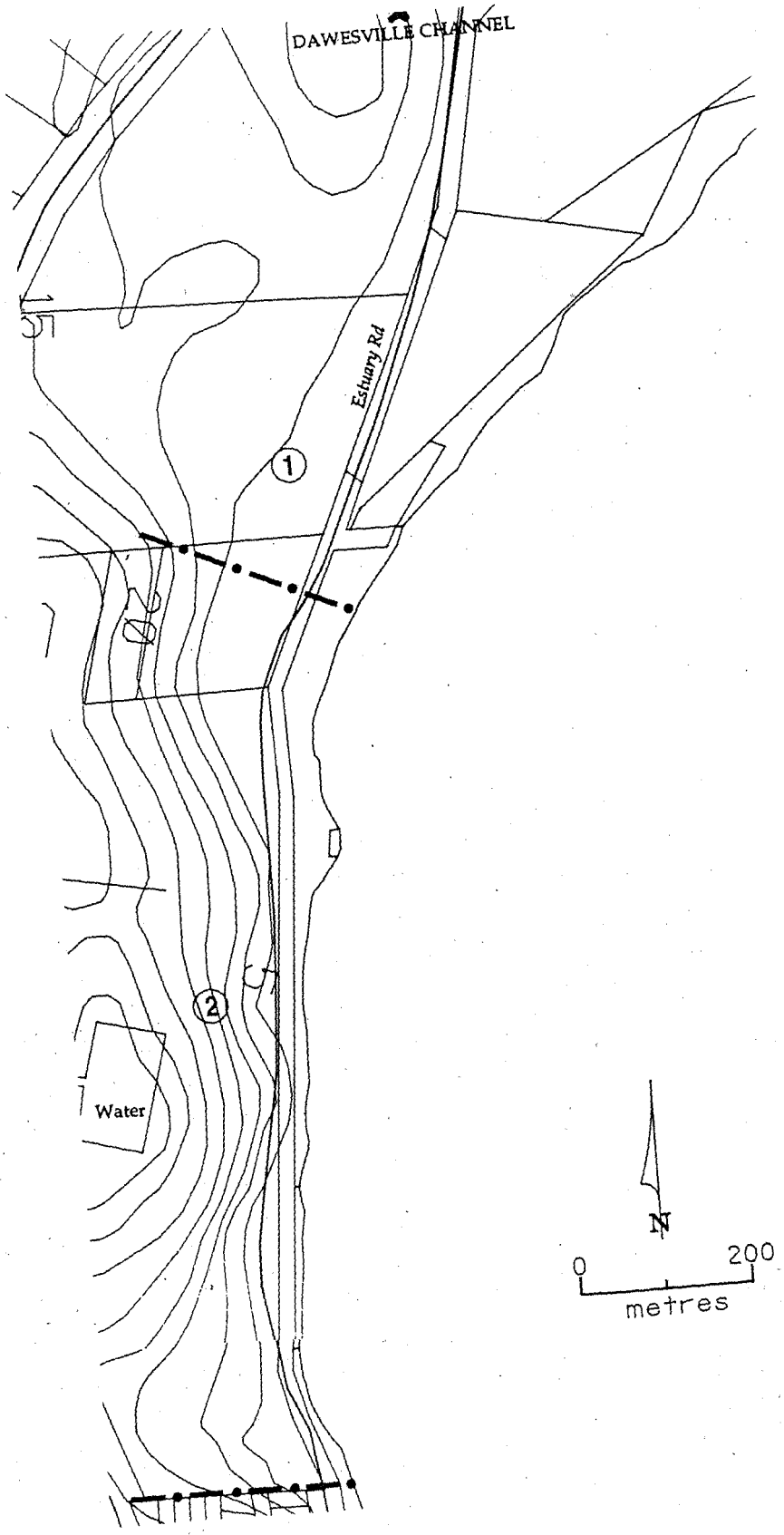
Landscape Protection Precinct - typical 10m setback



Landscape Protection Precinct - example of 10m setback/contour



* Exceptions may exist where frontages of lots are less than 15m, in which case the protection precinct should occupy a distance of one third of the lot frontage.



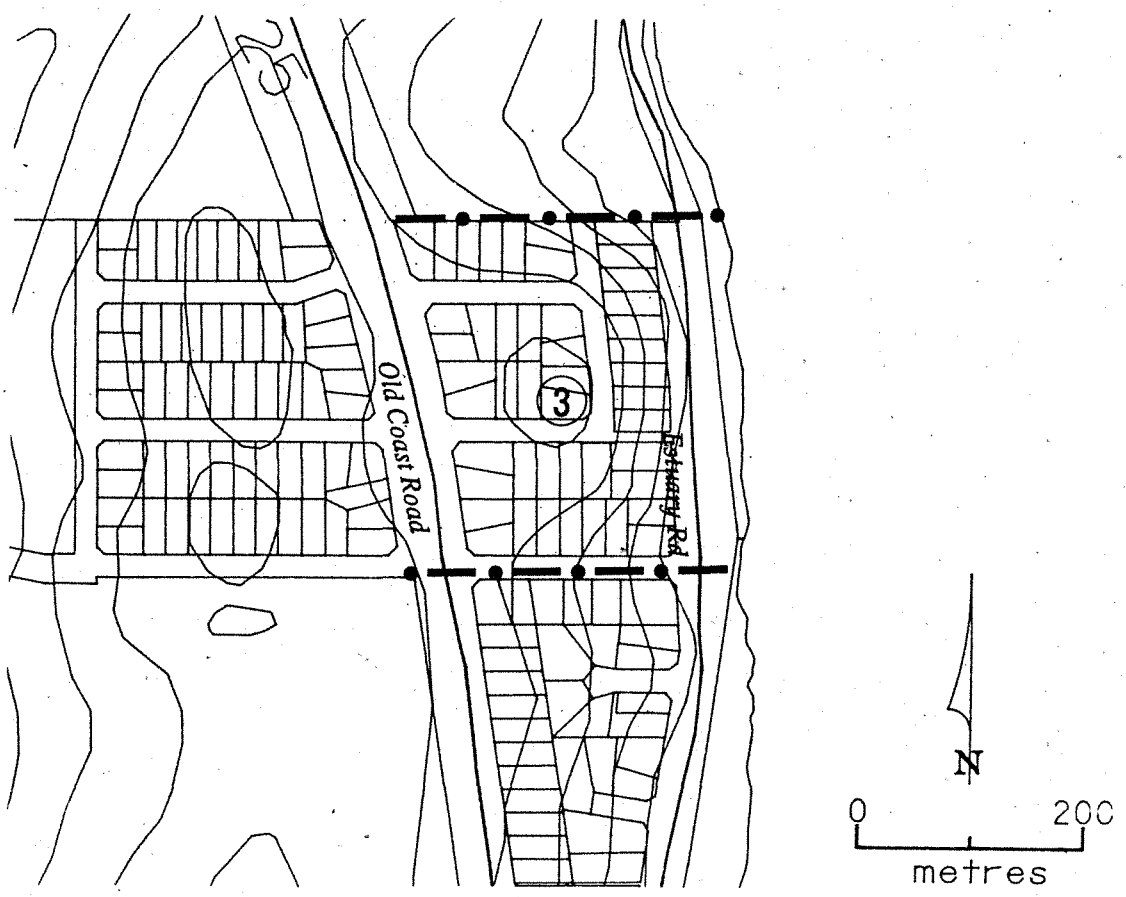
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION - RESERVE

1 AND 2

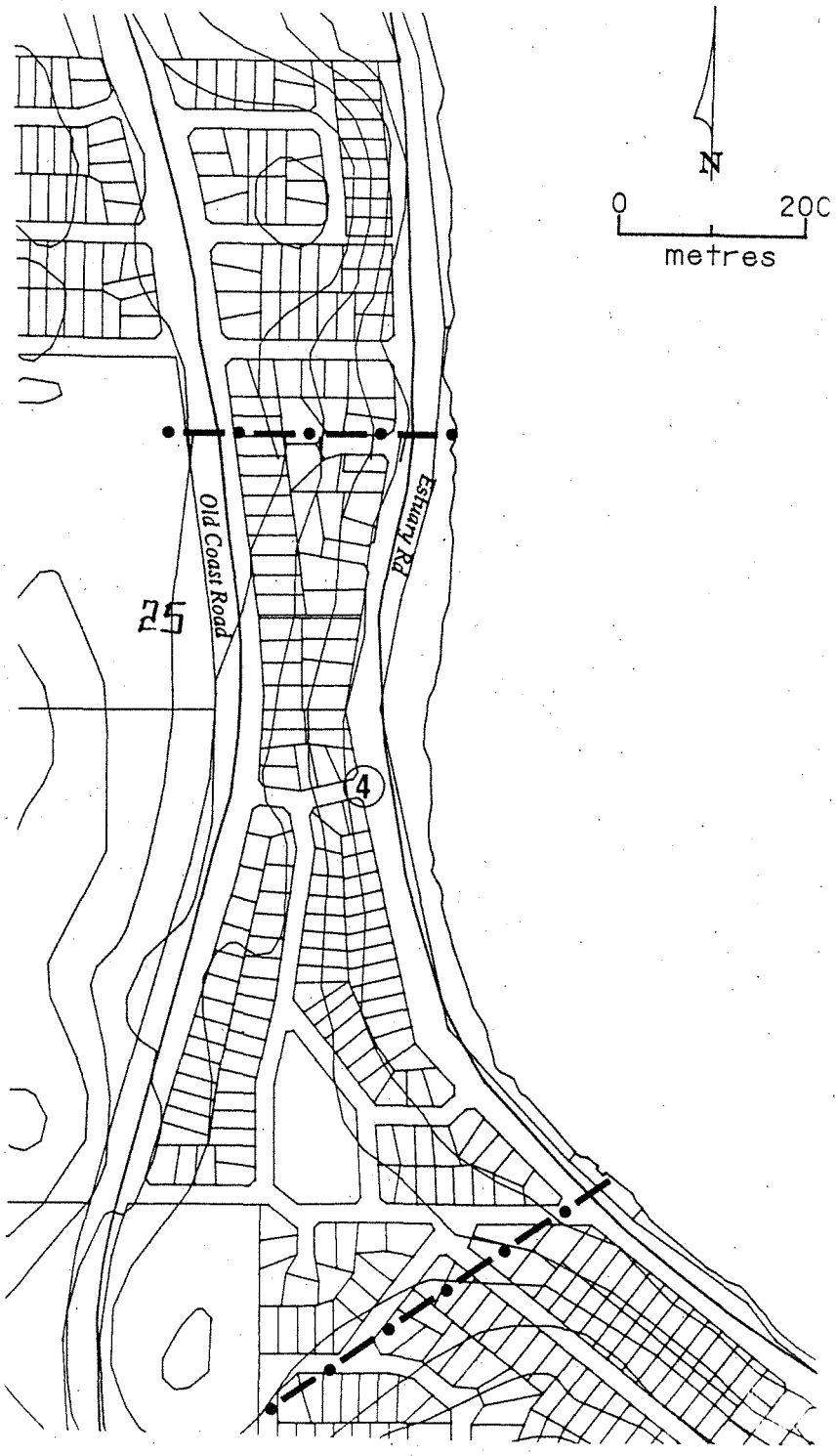
LCUS

CONDITIONS NONE APPLY



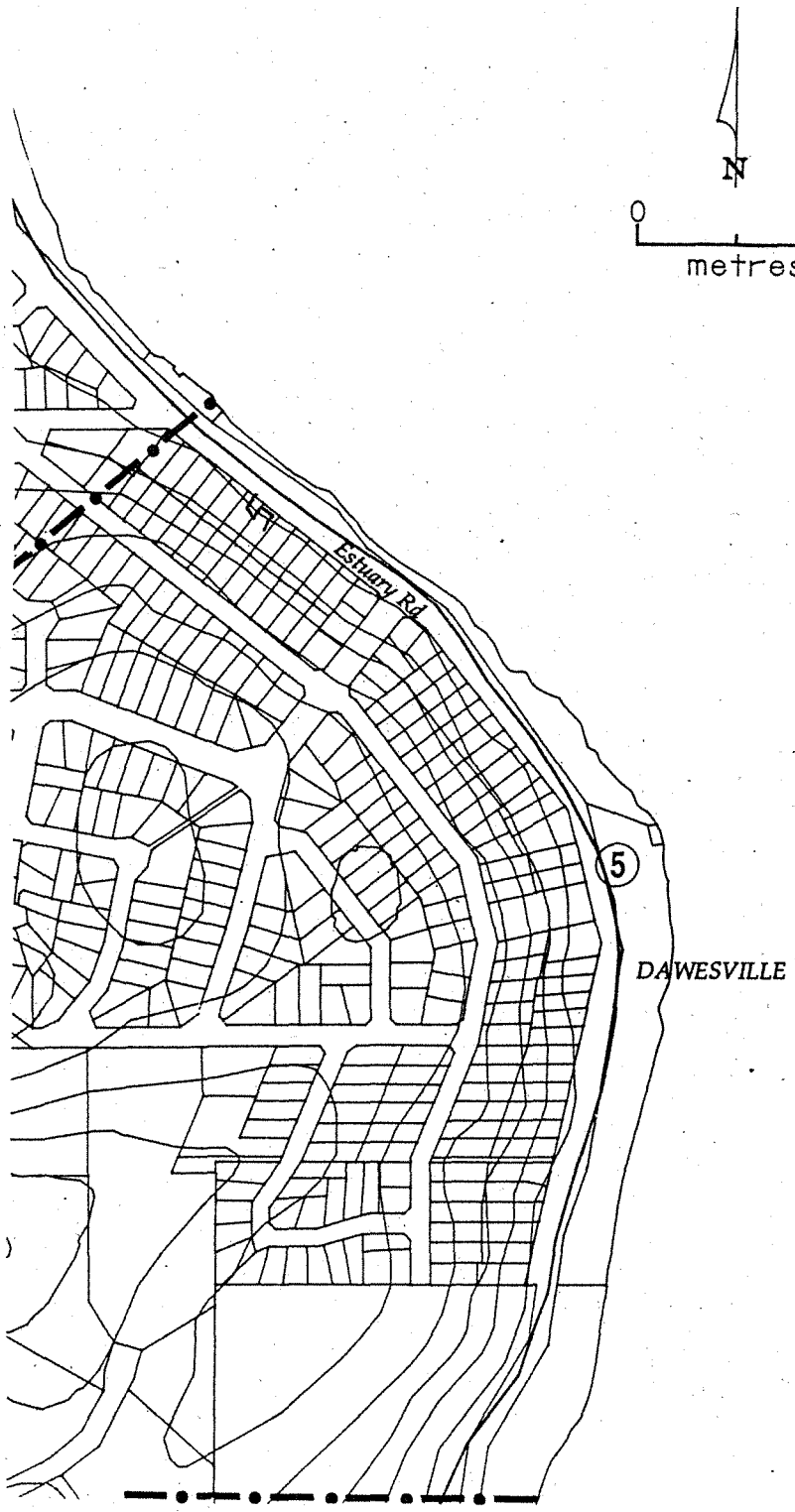
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL
LCU	3
CONDITION	15M SETBACK FROM THE LOT BOUNDARY
VISUAL AIM	PROTECT RIDGE OUTCROPS AND NATURAL VEGETATION



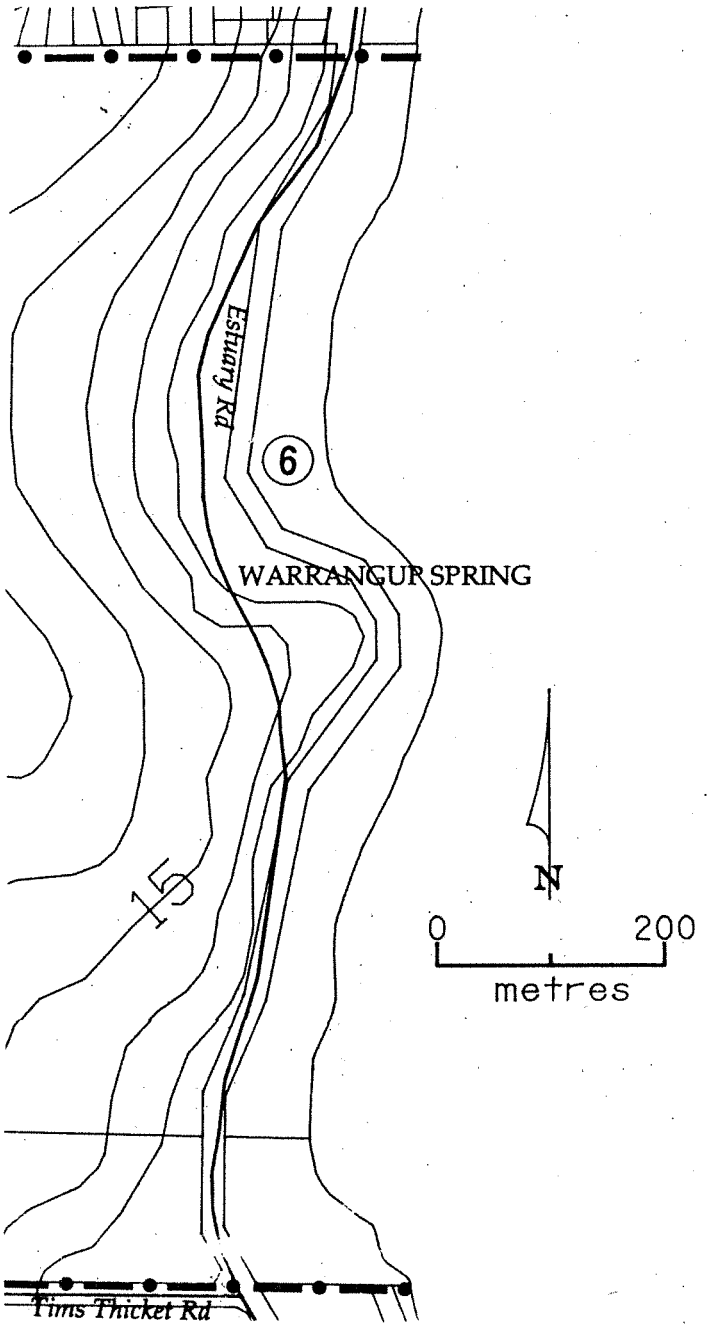
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL
LCU	4
CONDITION	10M SETBACK FROM THE LOT BOUNDARY
VISUAL AIM	TO LIMIT PERCEIVED THREAT TO RESIDENT'S VIEWS



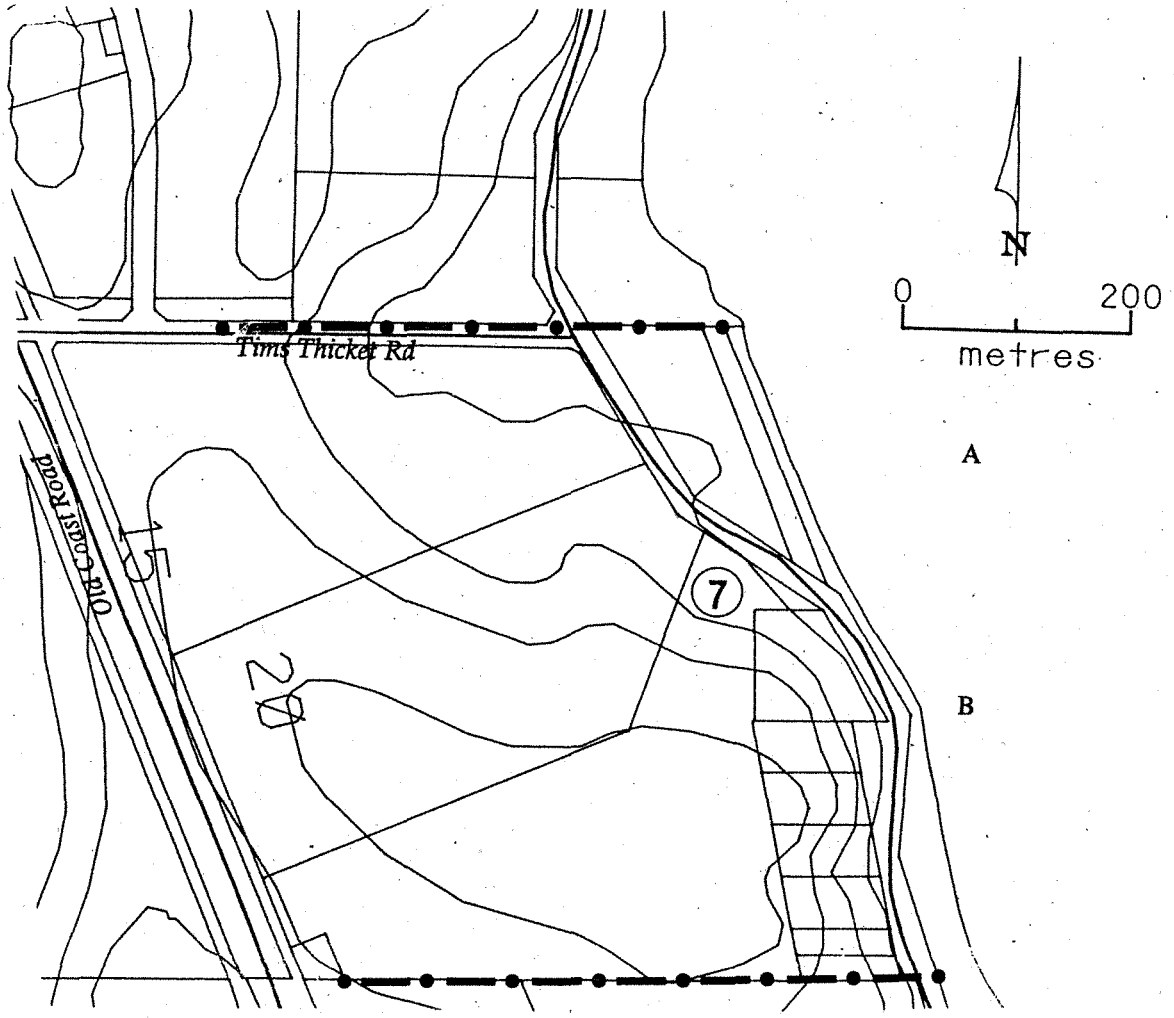
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL
LCU	5
CONDITION	SETBACK TO THE 5M CONTOUR LEVEL OR 15M FROM THE LOT BOUNDARY, WHICHEVER IS THE GREATER DISTANCE.
VISUAL AIM	VISUALLY EXTEND THE NARROW FORESHORE RESERVE



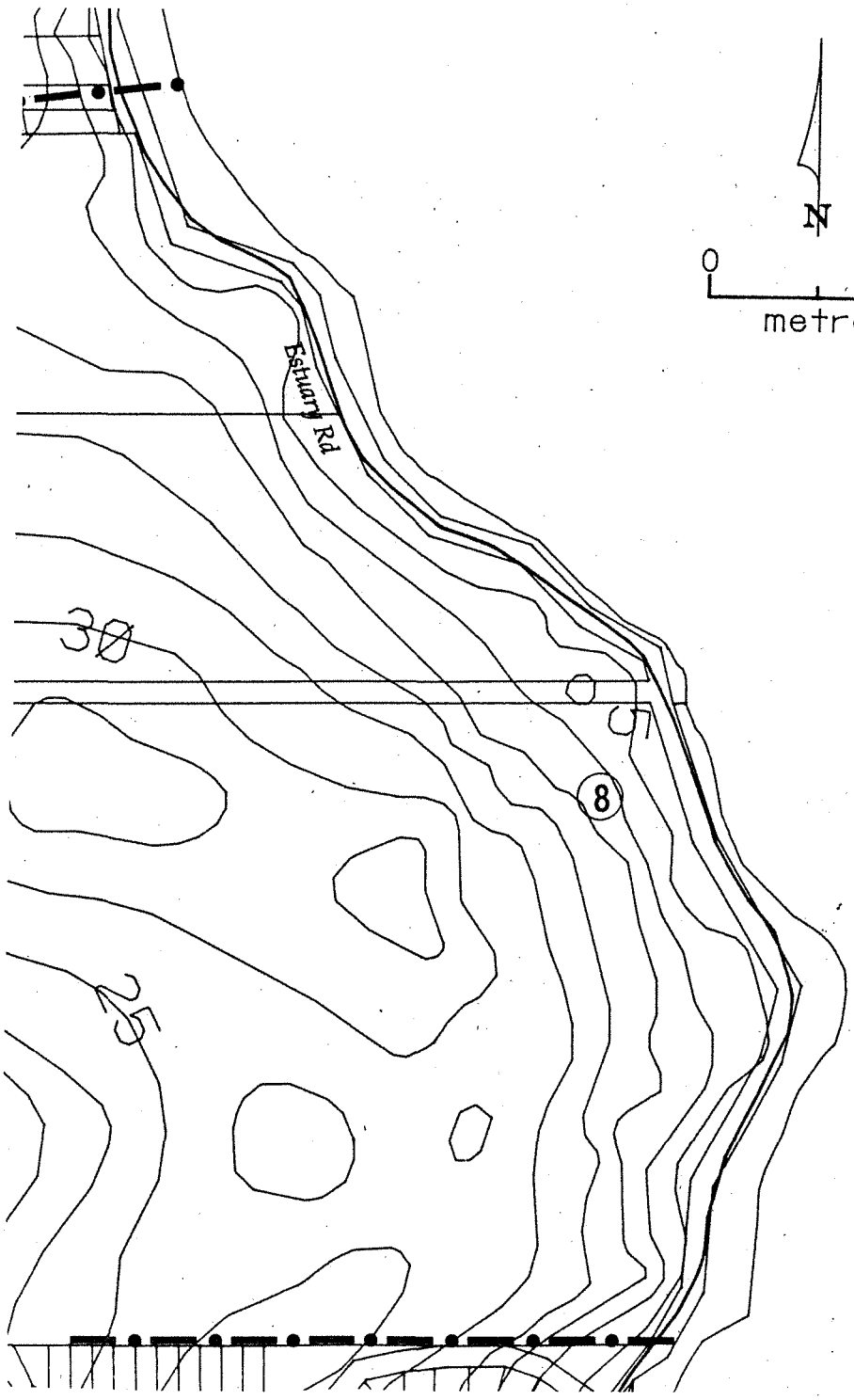
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	A)	RESERVE
	B)	RURAL LANDUSE
LCU	6	
CONDITIONS	A)	NONE APPLY
	B)	10M SETBACK EACH SIDE OF ESTUARY ROAD
VISUAL AIMS	B)	ADDRESS IMBALANCE DUE TO LACK OF FORESHORE RESERVE PROVIDE VISUAL CONSISTENCY WITH RESERVE 860



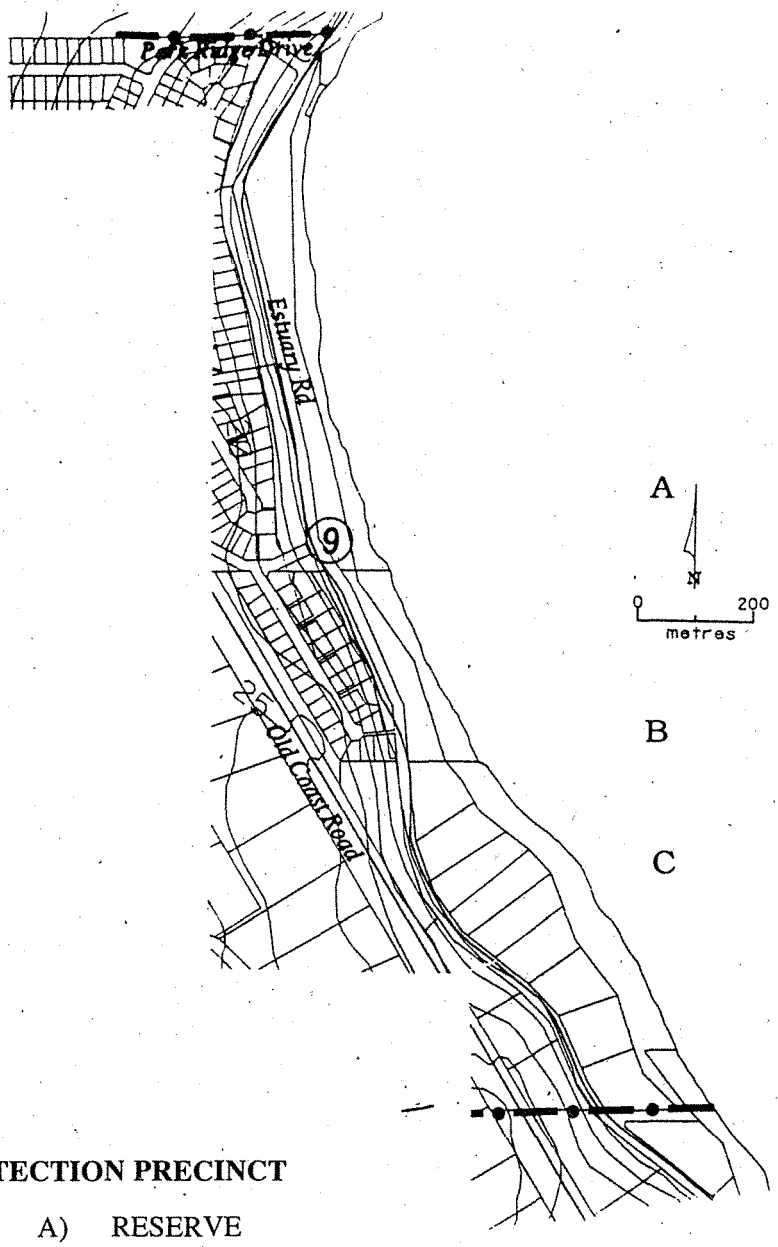
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	A)	RURAL LANDUSE
	B)	RESIDENTIAL
LCU	7	
CONDITIONS	A)	25M SETBACK FROM THE LOT BOUNDARY EACH SIDE OF ESTUARY ROAD
	B)	SETBACK TO CONTOUR LEVEL 8 OR 10M FROM THE LOT BOUNDARY WHICHEVER IS THE GREATER DISTANCE.
VISUAL AIM	ADDRESS IMBALANCE DUE TO GENERAL LACK OF FORESHORE RESERVE	



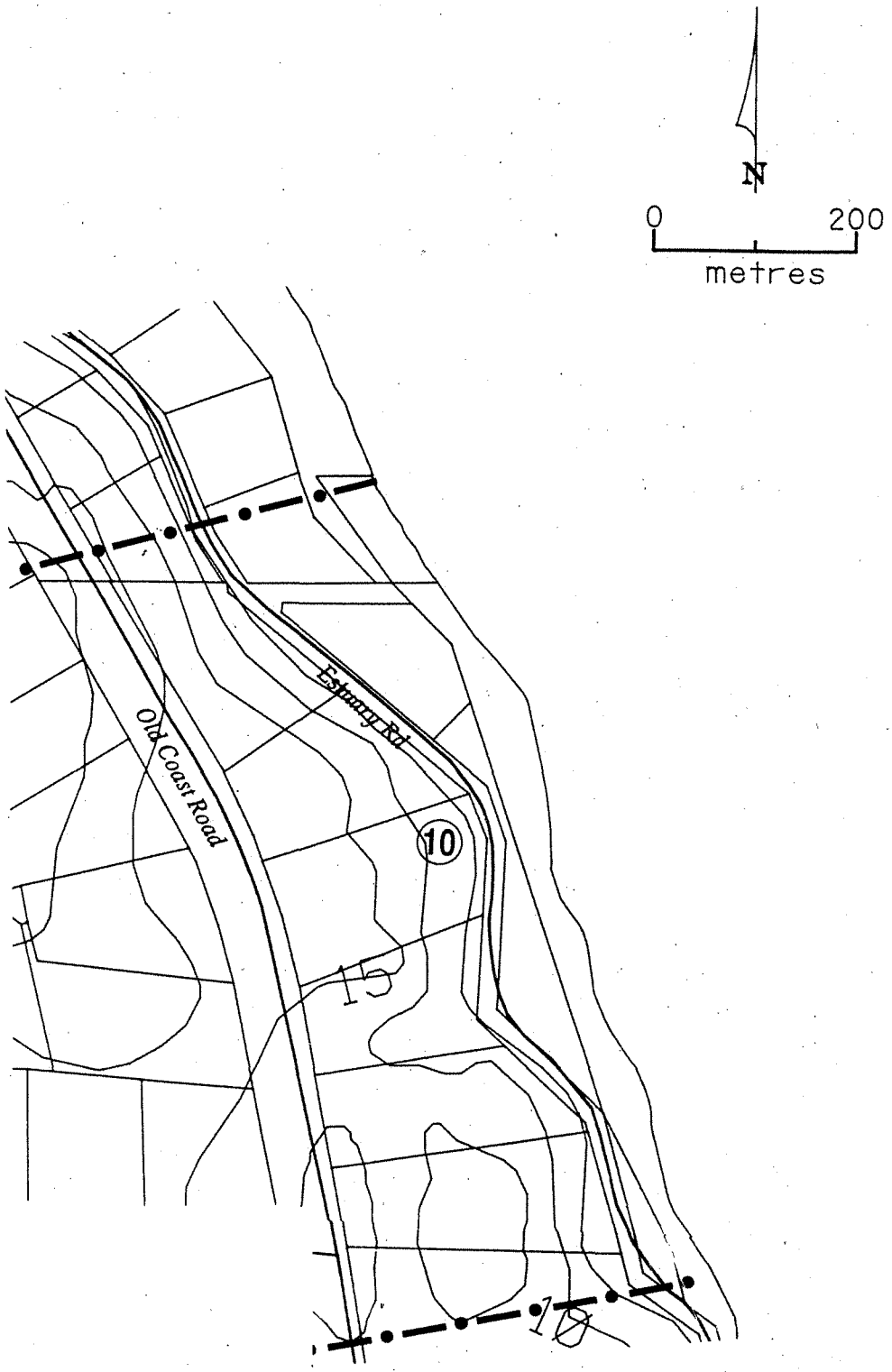
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RURAL LANDUSE
LCU	8
CONDITION	SETBACK TO 25M FROM LOT BOUNDARY OR 5M CONTOUR LEVEL WHICHEVER IS THE GREATER DISTANCE
VISUAL AIMS	ADDRESS IMBALANCE DUE TO GENERAL LACK OF FORESHORE RESERVE
	PROTECT RIDGE OUTCROPS AND NATURAL VEGETATION



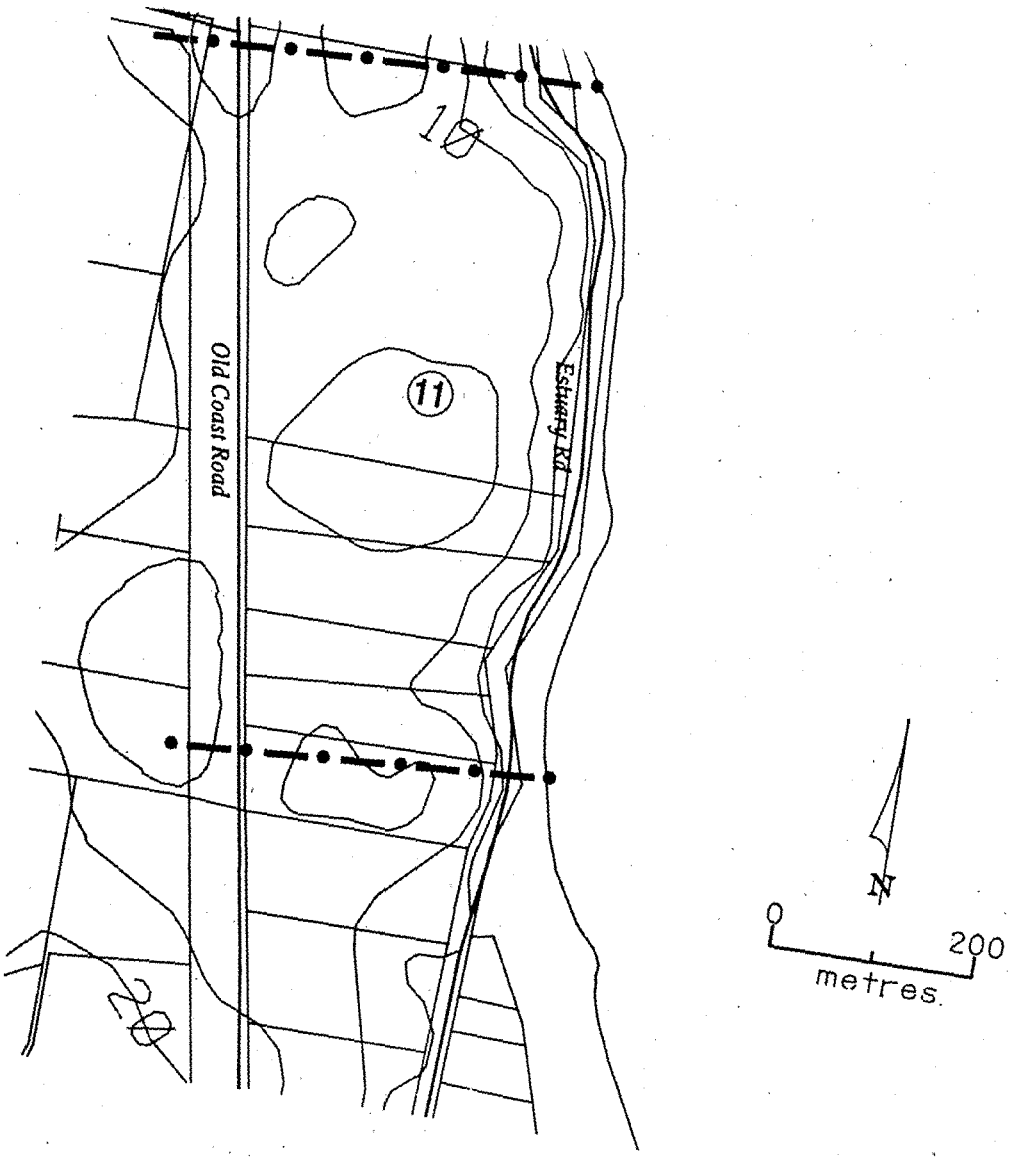
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	A)	RESERVE
	B)	RESIDENTIAL
	C)	RURAL LANDUSE
LCU	9	
CONDITIONS	A)	NONE APPLY
	B)	10M SETBACK FROM THE LOT BOUNDARIES SOUTH OF LOT 156 (DRAINAGE RESERVE) UNTIL LOTS 17 AND 37
	C)	EAST SIDE OF ESTUARY ROAD - A 20M SETBACK FROM THE LOT BOUNDARY
		WEST SIDE OF ESTUARY ROAD - UP TO 8M CONTOUR LINE OR 15M WHICHEVER IS THE GREATER DISTANCE ROAD
VISUAL AIMS	B)	TO PROVIDE VISUAL CONSISTENCY WITH RESERVE
	C)	TO ADDRESS IMBALANCE DUE TO LACK OF FORESHORE RESERVE



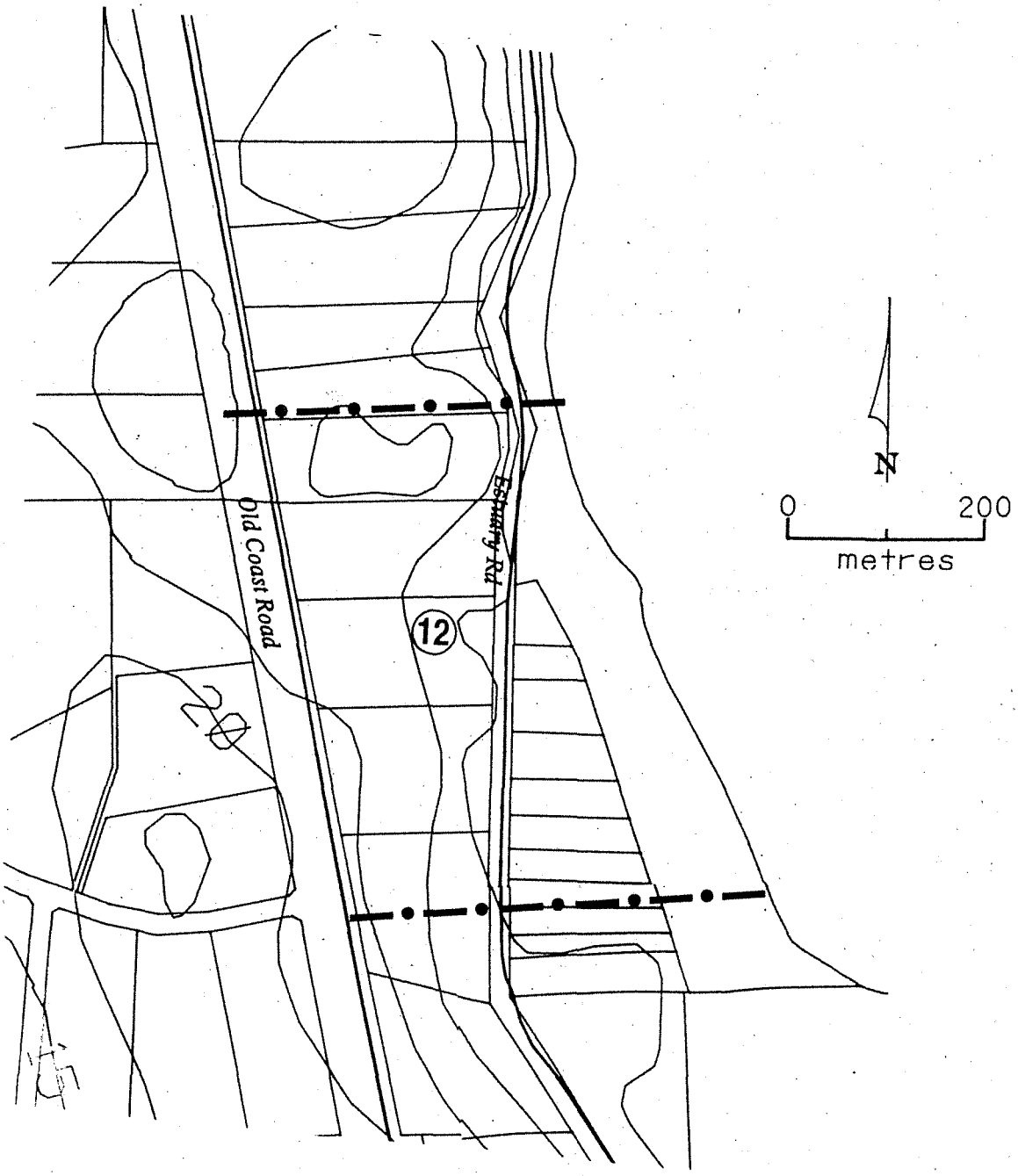
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL
LCU	10
CONDITION	SETBACK TO 10M CONTOUR LEVEL FROM THE LOT BOUNDARY
VISUAL AIMS	JUSTIFY RELATIVELY HIGH VISUAL QUALITY RATING
	ADDRESS IMBALANCE DUE TO GENERAL LACK OF FORESHORE RESERVE



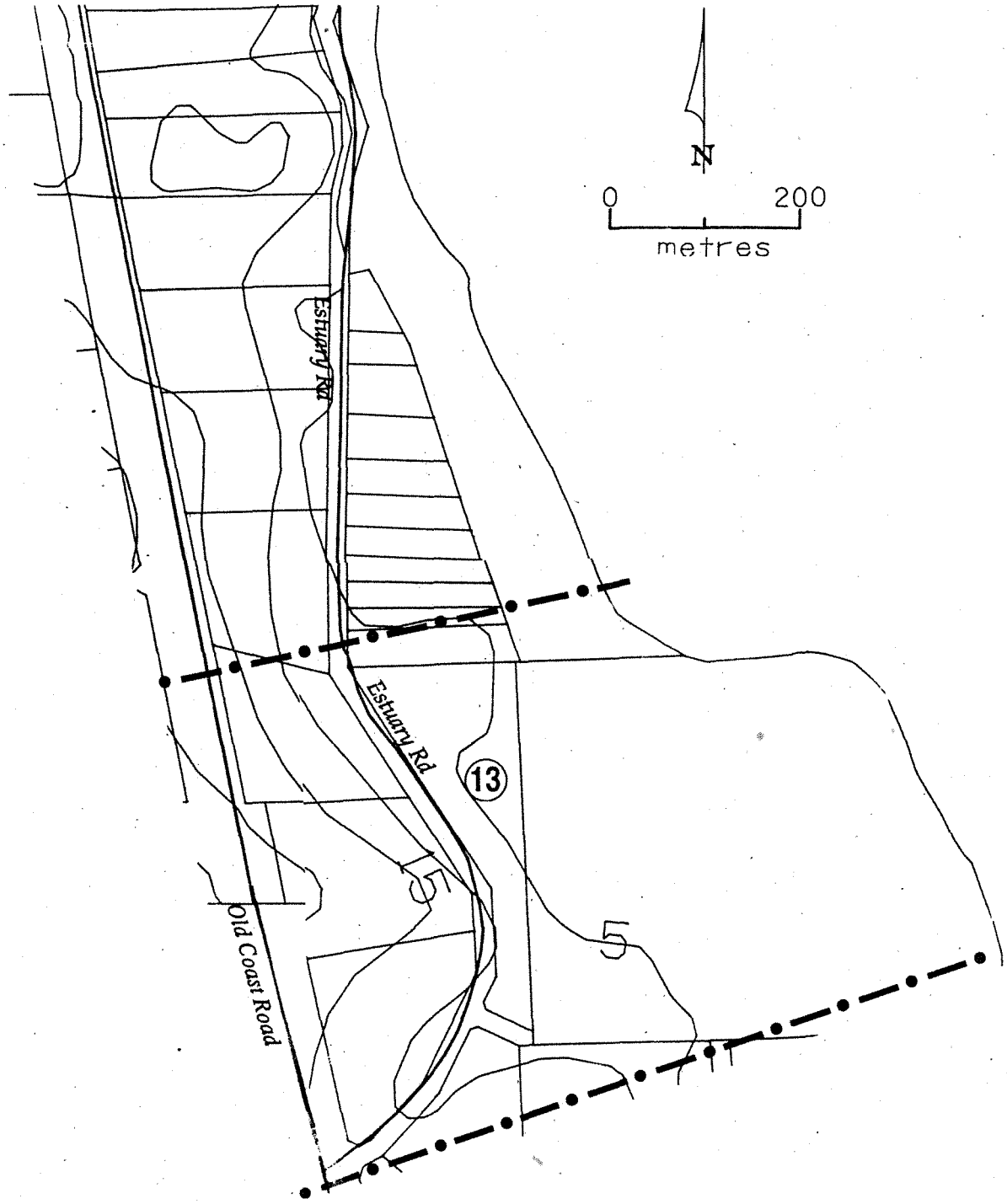
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RURAL LOTS
LCU	11
CONDITION	SETBACK TO 10M CONTOUR LEVEL FROM THE LOT BOUNDARY
VISUAL AIMS	JUSTIFY RELATIVELY HIGH VISUAL RATING
	ADDRESS IMBALANCE DUE TO GENERAL LACK OF FORESHORE RESERVE



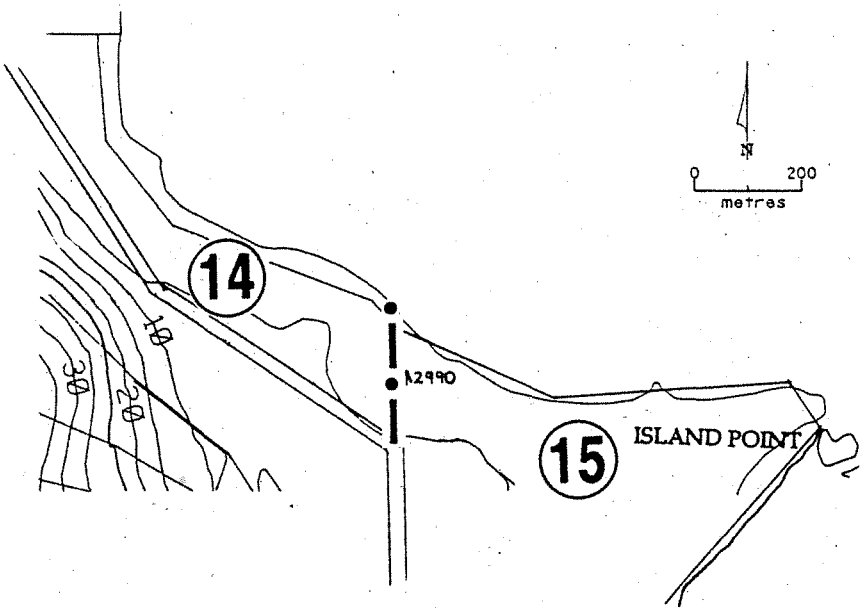
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL HOUSING
LCU	12
CONDITION	10M SETBACK FROM THE LOT BOUNDARY EACH SIDE OF THE ROAD
VISUAL AIMS	ADDRESS IMBALANCE DUE TO GENERAL LACK OF FORESHORE RESERVE



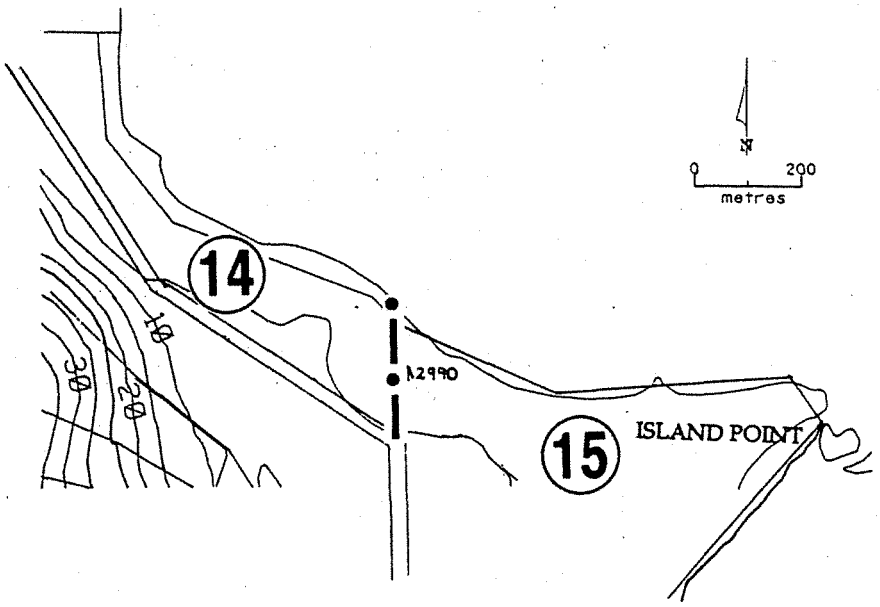
LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESIDENTIAL HOUSING
LCU	13
CONDITIONS	10M SETBACK FROM THE LOT BOUNDARY EACH SIDE OF ESTUARY ROAD
VISUAL AIMS	IMPROVE VISUAL AMENITY
	VISUALLY EXTEND AND RELATE TO YALGORUP RESERVE



LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	COMMERCIAL
LCU	14
CONDITION	20M SETBACK FROM THE LOT BOUNDARY
VISUAL AIM	IMPROVE VISUAL AMENITY
	VISUALLY EXTEND AND RELATE TO ISLAND POINT RESERVE



LANDSCAPE PROTECTION PRECINCT

DESCRIPTION -	RESERVE
LCU	15
CONDITIONS	NONE APPLY

6.0 IMPLEMENTATION STRATEGIES

The following strategies for implementation are not intended to be comprehensive. They an intended to provide an indication on how to deal with the recommendations listed in this report. The recommendations generally fall into two categories: **Revegetation** and the **Development of an Identity** for the area concerned.

Organisations in the Peel-Harvey region affected by the recommendations include:

1. **City of Mandurah -**

   Division of Administration and Community Services

   - Recreation

   Division of Engineering and Technical Services

   - Engineering
   - Parks and Gardens
   - Recreation
   - Environmental health

   Division of Planning and Developmental Services

   - Building
   - Planning

2. **Department of Conservation and Land Management (CALM)**
3. **Department of Planning and Development (DPUD)**
4. **Peel Preservation Society**
5. **Peel Development Commission**

These authorities will need to liaise and possibly to combine their resources towards the development of an integrated program which will include the following strategies:

1. Landscape Protection Precinct

- Present report to City of Mandurah for the inclusion of a proposed Landscape Protection Precinct in the Town Planning Scheme No. 3.
- Undertake to implement a specific number of units during a set period of time eg 5 units, every two years.

2. Community consultation

Develop an agenda for a public community forum. The agenda might include organisation for voluntary revegetation teams/programs, possibly development of housing types/codes, identity for townships, cooperative community/school/service heritage research and promotion, approach taken to obtain land care, Greening WA grants and others.

3. Monitoring and research

Ensure the relevance of these recommendations through ongoing research and monitoring of the subject site along Estuary Road:

- Recreation use monitoring (both passive and active recreation)
- Tree and shrub performance surveys.

7.0 GLOSSARY

Coherence

this is the "making sense' component at this surface level of analysis". ie. factors which make the 'picture plane' easier to organise, to comprehend and/or to structure. Included are repeated elements and textures which can identify a 'region' or particular area in a picture plane (S. Kaplan, 1979).

Complexity

this is the relating and 'involving' aspect at this level of analysis. It may be referred to as 'diversity' or 'richness' and be descriptive of the 'action' of a scene (S. Kaplan, 1979).

Diversity

'the amount of visual interest as viewed from any one location' (S. Davies, 1983).

Mystery - this is a provocative concept which signifies that if one proceeds, there will be extra information available.

Visual catchment

the study area that is used for the visual assessment. It is defined as being the complete region of land and water surface which can be seen from a coastal or waterway corridor.

Visual prominence

the quality of areas of higher altitude which can be seen easily.

Visual sensitivity

the quality of areas that are seen from several viewpoints with any changes having a high visual impact.

Viewpoint

a point on land or a building from which one or more views of any type can be seen; high priority viewpoints provide access to views of high scenic interest (Mann, 1975).

8.0 REFERENCES

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APPENDIX 1

Extract from:
Visual assessment assumptions - People's preferences
State Pollution Control Commission (1981) Record Sheet

3.1 Assessment of landscape elements

3.1.1 Assumptions

The rating tables used to evaluate visual quality are based on a series of assumptions which have been accepted widely in landscape studies, both in Australia and overseas. Public attitude surveys have indicated that the assumed visual preferences represent the visual attitudes of a majority of the community. These assumptions are:

- People prefer natural to artificial landscapes in coastal areas. Naturally vegetated areas are regarded as the most attractive and industrial areas the least attractive.
- People prefer landscapes which have appreciable variation in slope.
- Trees are highly valued in the landscape.
- People value water in the landscape. Moving water or surf has more interest than still water, and clear water is more attractive than muddy or turbid water. Large bodies of water create more visual interest than narrow streams.
- Natural foreshores and river banks are preferred to those which are artificially made or modified, such as sea walls or sheet piling.
- Contrast amongst the elements in a landscape, whether natural or artificial, creates visual interest.
- Natural contrasts are successful and enjoyable because they are perceived as 'fitting' or normal. The greater the contrast amongst natural elements the more the view will be enjoyed.
- Artificial contrasts can be ill-considered and an 'eyesore' where they intrude into the landscape in a disharmonious or disruptive fashion. They can be pleasing where they appear to belong to or 'fit into' the landscape and, in such instances, can add to visual quality.
- Movement and activity, both natural and artificial, add to a view. Natural movement and activity created by wildlife is highly valued in coastal areas. Responses to artificial activities depend both on the visual characteristics of the movement or activity and the person's assessment of the value of the activity. For example, some people derive pleasure from the movement and shape of an oil tanker within the coastal landscape, while others are more impressed by the potentially serious ecological damage that can result from an oil spill. Views of activities associated with enjoyment, such as recreational boating, have added visual value.
- Places with a view are more highly regarded than those without. The most favoured views are those over a long distance which include water bodies and extensive areas of trees.

The assumptions used in any visual evaluation should be clearly stated for the benefit of those studying and/or using the analysis. The assumptions may be altered to suit local conditions, but should conform to perceived public visual preferences.

(State Pollution Control Commission 1981) pp 8-11

APPENDIX 2

Extract from

Shire of Mandurah Town Planning Scheme No. 1a District Zoning Scheme, 1983.

4.5 Landscape protection area

4.5.1 (a) Landscape protection areas are shown as such on the scheme map according to the legend thereon and are created primarily to protect areas of scenic ecological value or to provide for landscaped vistas in relation to the built environment.

4.5.2 Notwithstanding that a parcel of land contained within a landscape protection area is superimposed upon a base zone, a person shall not without the special approval of the council carry out any development including the uses permitted in the zone in which the land is situated including, but without limiting, the generality of the foregoing.

(a) Clearing the land nor fill, lop, top or damage any tree or vegetation;

(b) Alter the contour of the land by the filling or dredging thereof;

(c) The erection of advertising signs.

4.5.3 The provisions of Clause 6.2 apply with the necessary modifications to applications for special approval of the Council under Clause 4.4.2.

4.5.4 The Council may from time to time prepare or adopt policies with reference to any one or more landscape protection areas.

4.5.5 The Council may give its special approval to development within a landscape protection area if the development -

(a) Complies with land use requirements of the zone in which the development is proposed; and

(b) Complies with the requirements of any Council policy in respect of the landscape protection area.