

**Shire of Denmark Town Planning Scheme No 3
Amendment 24**

Shire of Denmark

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

**Environmental Protection Authority
Perth, Western Australia
Bulletin 885
March 1998**

ISBN. 0 7309 8079 0

ISSN. 1030 - 0120

Summary and recommendations

This report is to provide the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment, related to the Shire of Denmark Town Planning Scheme No 3 Amendment 24.

The purpose of the amendment is to rezone various lots bounded by Peace St, Hardy St and the South Coast Hwy from Public Use, and Parks and Recreation, to Residential (R20) and Parks and Recreation. The rezoning will allow the retention of existing Karri parkland under the Parks and Recreation zoning, and the construction of aged persons units on the remainder of the site.

Portions of the site have been the subject of controlled and uncontrolled landfill including rubbish disposal. Concerns were raised with regards to possible contamination of the site, however, investigations revealed that the levels of contaminants on the site fall within background levels. As no contamination of the soil was apparent and no material which could cause contamination was detected, it is concluded that there is also no contamination of the groundwater.

Conclusion

The EPA has considered the Shire of Denmark's proposed amendment to its Town Planning Scheme No 3, Amendment 24. The main issues of concern relate to soil and groundwater contamination. As the site has not been found to contain contaminated material, there is no potential for risk to human health as a result of people being exposed to contaminated soil, water or air. Both potential soil and groundwater contamination identified by the EPA when the amendment was referred to it have been fully investigated to the satisfaction of the EPA and are no longer considered relevant to the amendment. No further assessment of the preliminary factors is necessary.

Recommendations

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

1. That the Minister notes that there are no relevant environmental factors or environmental conditions to which the scheme amendment should be subject which require reporting to the Minister for the Environment pursuant to Section 48 D(1) of the Environmental Protection Act;
2. That the Minister notes that the EPA commends the Shire of Denmark and the land owner in designing the development so as to protect as many of the existing Karri trees on the site as possible;
3. That the Minister notes the EPA believes that the environmental issues raised through the submissions (protection of remnant vegetation, protection of a small seasonal creek and disposal of stormwater) can be managed by the Shire of Denmark through appropriate planning controls.

Contents

Page

Summary and recommendations

1. Introduction.....	1
2. The scheme amendment.....	1
3. Relevant environmental factors.....	4
4. Conclusion.....	5
5. Recommendation.....	5
6. References	6

Tables

1. Summary of scheme amendment.....	4
2. Identification of Environmental Factors Requiring EPA Evaluation.....	8

Figures

1. Shire of Denmark TPS 3 Amendment 24.....	2
2. Location map.....	3
3. Indicative concept plan.....	7

Appendix

1. List of submitters	
-----------------------	--

1. Introduction

This report is to provide the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental aspects relevant to Shire of Denmark Town Planning Scheme (TPS) No 3 Amendment No 24 to rezone various lots bounded by Peace Street, Hardy Street and South Coast Highway, Denmark.

Shire of Denmark TPS 3 Amendment 24 was referred to the EPA on 23 January 1997 and the potential environmental impacts were considered to be significant enough to warrant a formal assessment. In accordance with Section 48C of the Environmental Protection Act 1986, an Environmental Review document was prepared by the responsible authority, the Shire of Denmark.

The site has been previously utilised as a council depot. Activities on site included vehicle parking, maintenance, and the stockpiling of sand, blue metal and limestone for road making. Portions of the site have been the subject of controlled and uncontrolled landfill including rubbish disposal. Based on concerns about possible contamination and the lack of data regarding the nature and extent of any contamination, the level of assessment was set at formal environmental review required.

The environmental review document for Shire of Denmark TPS 3 Amendment 24 (Harrington Consultants, 1997a) was made available for public review between 5 December 1997 and 16 January 1998 in conjunction with the advertising of the Scheme report. Both reports can be viewed at the offices of the Shire of Denmark, and the environmental review document can be viewed at the Department of Environmental Protection (DEP) library.

In compiling this report, the EPA has considered the information provided in the environmental review; issues raised by the public; specialist advice from government agencies; the responsible authority's response to issues raised; the EPA's own research and, in some cases, research provided by other expert agencies.

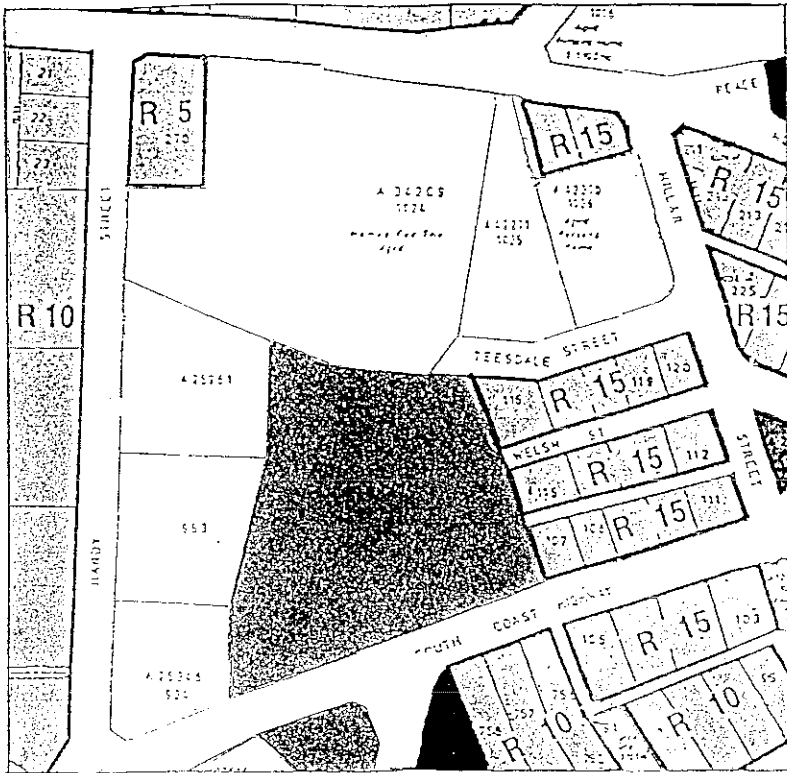
Description of the proposal is provided in Section 2 of this Report. Section 3 discusses the environmental factors, Section 4 presents the EPA's conclusion and Section 5 the EPA's recommendations.

Appendix 1 provides a list of people and organisations that made submissions. The DEP's summary of submissions and the proponent's response to those submissions has been published separately and is available in conjunction with this report.

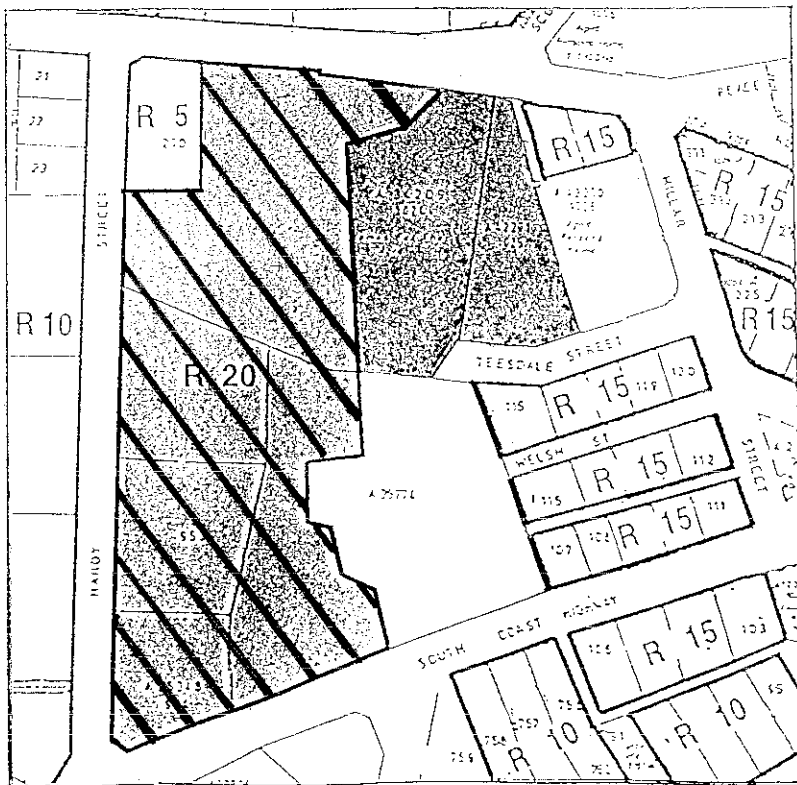
2. The scheme amendment

The scheme amendment is to:

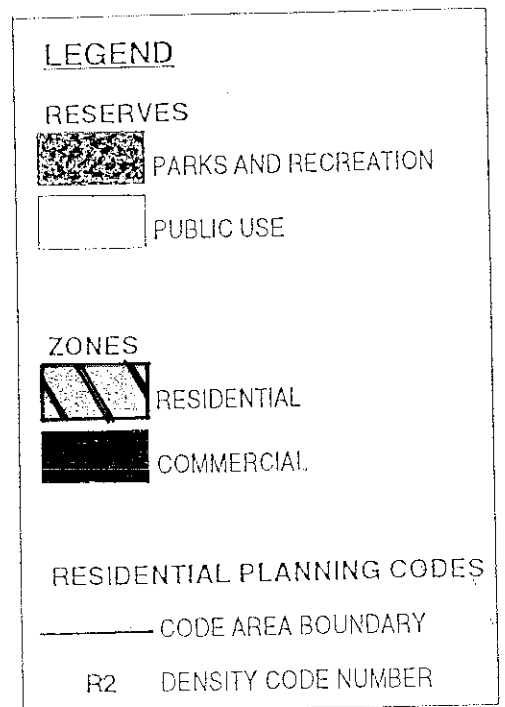
- rezone Part Reserve 34209, Reserves 25961 & 25348 and Lot 953, bounded by Peace Street, Hardy Street and South Coast Highway, from the Public Use reserve to the Residential zone with an R20 density coding;
 - transfer Part Reserve 34209 from the Public Use reserve to the Parks and Recreation reserve;
 - rezone Part Reserve 35774 South Coast Highway from the Parks and Recreation reserve to the Residential zone with an R20 density coding; and
- rezone Reserve 42271 Teesdale Street from the Public Use reserve to the Parks and Recreation reserve (Figure 1).



EXISTING ZONING



PROPOSED ZONING



SCALE 1 : 4 000

Figure 1: Shire of Denmark TPS 3 Amendment 24

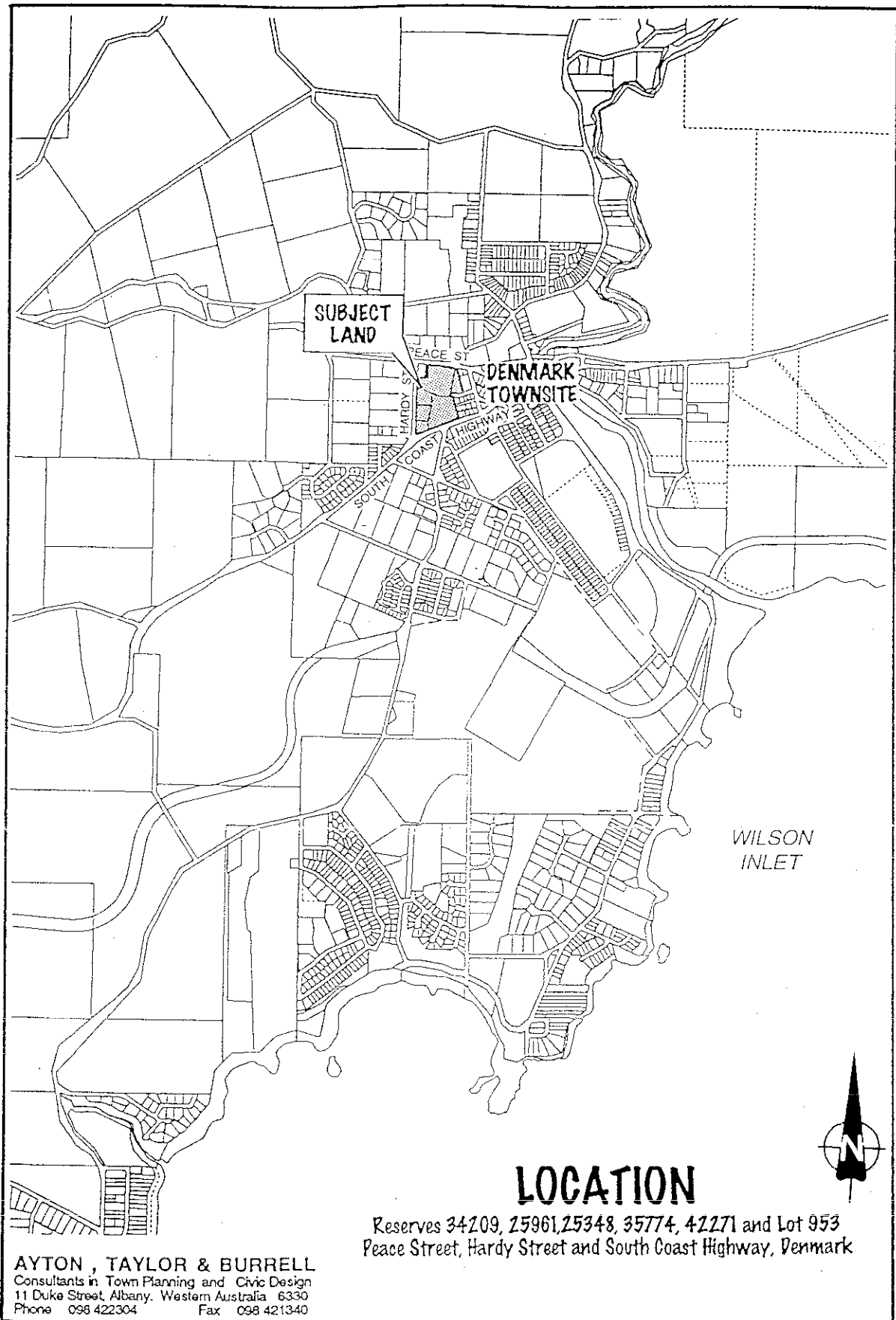


Figure 2: Location map

The scheme amendment area is located immediately to the west of the Denmark Town Centre and is bounded by Peace Street to the north, Hardy Street to the west and South Coast Highway to the south (Figure 2).

The purpose of the amendment is to rezone the land to the Residential zone and Parks and Recreation reserve in order to facilitate the development of low density aged persons' housing, rationalise the Parks and Recreation reserve to retain existing Karri trees where possible and retain a vegetated buffer adjacent to the seasonal drainage line. Figure 3 is an indication of the overall concept plan.

The scheme amendment is summarised in Table 1

Table 1. Summary of scheme amendment

Aspects	Description
Amendment area	5.82 ha
proposed land use	residential and recreation
past land use	controlled and uncontrolled landfill and council depot
Soil contamination	
contaminants	no levels above background were detected
proposed management	not applicable
Groundwater contamination	
contaminants	results of the soil investigation suggest no contamination would have occurred
proposed management	not applicable

3. Relevant environmental factors

Two preliminary environmental factors were identified as relevant to the proposal. These are soil contamination and groundwater quality.

As part of the work required for the preparation of the environmental review, investigations of the nature and extent of soil contamination were carried out by Harrington Consultants. Twelve test holes were dug in April 1997 across the cleared area of the site using a backhoe to determine the soil profile.

Five boreholes were drilled in July 1997 located both up- and down-grade on the site to confirm the soil profile and determine the presence, if any, of soil contamination. A list of possible contaminants was agreed to by the DEP and four soil samples were sent to Australian Environmental laboratories for analysis of contaminants. The analysis included contaminants that could reasonably be expected on-site as a result of the land use history such as nitrogen, phosphorus, heavy metals, hydrocarbons and organochlorines.

The investigations revealed that the levels of potential contaminants on the site fall within background levels. An officer of the DEP checked and confirmed the validity of the sampling regime and levels of contamination detected. The results are below the investigation and

response levels (Harrington Consultants, 1997b) and hence the potential for toxicity is such that no management or further investigation of this factor is necessary.

No groundwater samples were taken due to the unreliable nature of the aquifer; however, as no contamination of the soil was found and no material which could have led to contamination detected through the sampling, it is assumed that there is no contamination of the groundwater. This conclusion is supported by the DEP.

The EPA has reviewed all preliminary environmental factors generated from the environmental review document. Consideration has been given to the submissions received in conjunction with the amendment characteristics (including significance of the potential impacts) and the adequacy of the responsible authority's response. On this basis, the EPA considers that soil and groundwater contamination, and the impact on remnant vegetation, protection of small seasonal creek and disposal of stormwater and other issues raised in the submissions, including regional planning considerations, do not require further evaluation by the EPA. The identification process is summarised in Table 2.

Further, the factors of remnant vegetation, protection of small seasonal creek and disposal of stormwater can be managed by the Shire of Denmark through appropriate planning controls. The EPA notes that the Shire of Denmark and the land owner have designed the development so as to protect as many of the existing Karri trees on the site as possible and this is commended by the EPA.

4. Conclusion

The EPA has considered the Shire of Denmark's proposed amendment to its Town Planning Scheme No 3, Amendment 24. The main issues of concern relate to soil and groundwater contamination. As the site has not been found to contain contaminated material, there is no potential for risk to human health as a result of people being exposed to contaminated soil, water or air. Both potential soil and groundwater contamination identified by the EPA when the amendment was referred to it have been fully investigated to the satisfaction of the EPA and are no longer considered relevant to the amendment. No further assessment of the preliminary factors is necessary.

5. Recommendation

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

1. That the Minister notes that there are no relevant environmental factors or environmental conditions to which the scheme amendment should be subject which require reporting to the Minister for the Environment pursuant to Section 48 D(1) of the Environmental Protection Act;
2. That the Minister notes the EPA commends the Shire of Denmark and the land owner in designing the development so as to protect as many of the existing Karri trees on the site as possible;
3. That the Minister notes that the EPA believes that the environmental issues raised through the submissions (protection of remnant vegetation, protection of a small seasonal creek and disposal of stormwater) can be managed by the Shire of Denmark through appropriate planning controls.

References

Harrington Consultants, 1997a. Shire of Denmark Town Planning Scheme No 3 Amendment 24 Environmental Review.

Harrington Consultants, 1997b. Health and Environmental Risk Assessment, Denmark Town Planning Scheme No 3 Amendment 24.

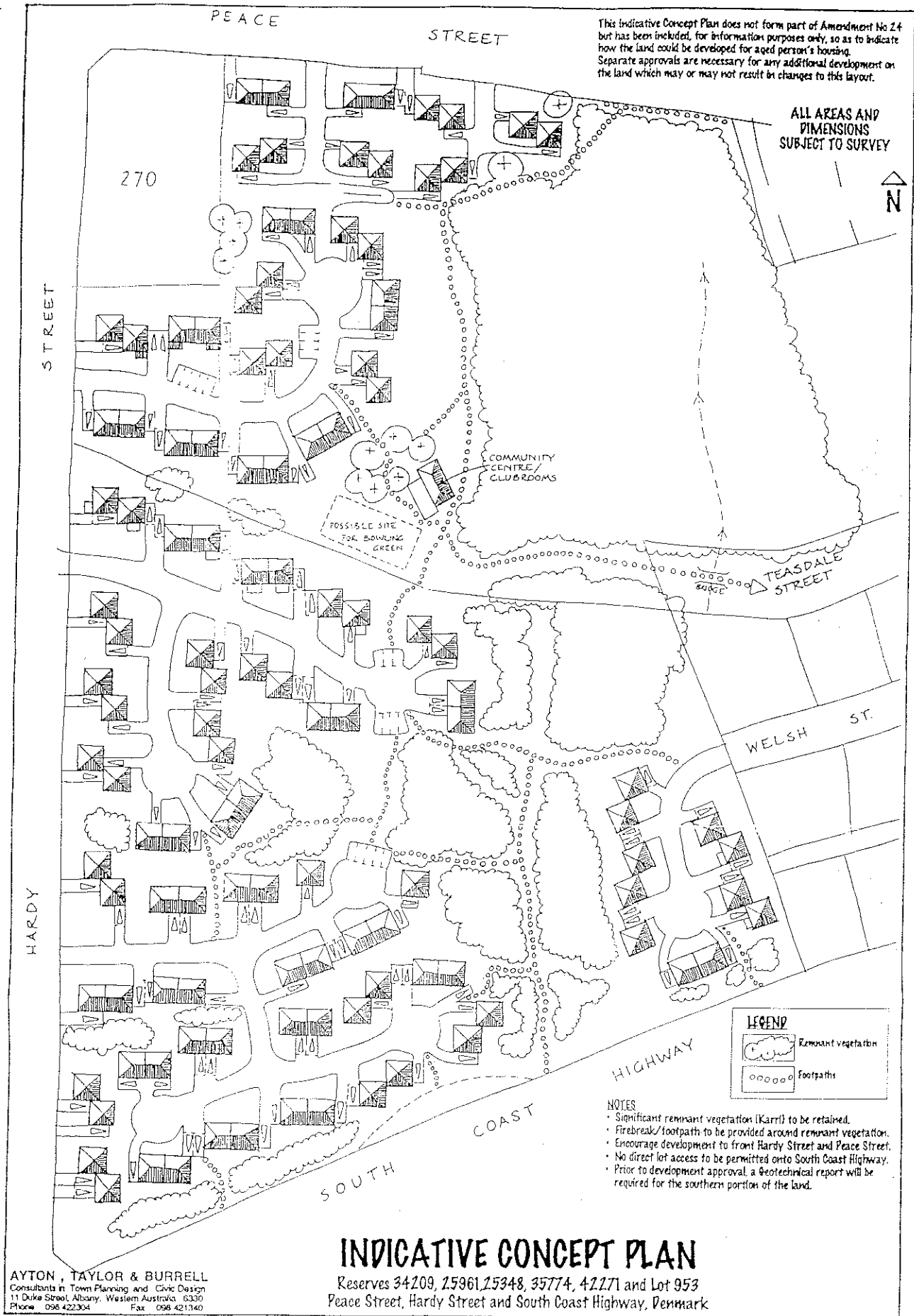


Figure 3: Indicative concept plan

Table 2. Identification of Environmental Factors Requiring EPA Evaluation

Preliminary Factor	Proposal Characteristic	Government Agency and Public Comments	Identification of Relevant Factors
Biophysical			
Vegetation	<p>The eastern portion of the site is adjacent to a drainage line. It is well vegetated with a tall Karri association in the north and a Redgum dominated association in the south. Apart from the periphery of the north eastern Karri association which has been invaded by exotic plants, the remainder of the understorey is in relatively healthy condition.</p>	<p>The Wilson Inlet Management Authority (WIMA) would support the retention of remnant vegetation adjacent to the drainage line to minimise the export of nutrients and sediments to Hospital Creek and ultimately the Wilson Inlet (WRC).</p> <p>WIMA recommend that a foreshore management plan be prepared which includes the identification and rehabilitation of weed infested areas; the management of recreational development areas; and the visual amenity of the foreshore. WIMA support the protection of the creekline through the provision of a 50 - 100m buffer as is consistent with EPA guidelines for seasonal drainage lines (WRC).</p> <p>The Denmark Environment Centre (DEC) strongly suggests that all of the remnant forests be retained in Reserves 34209, 35774 and 42271, and their reserve status maintained (DEC). Development may need to be clustered in order to retain/conserv remnant vegetation and no clearing of the eastern section of the amendment area should occur (DCS).</p> <p>Weed control and treatment should be budgeted as part of the cost of development (DCS).</p> <p>A buffer should be proposed to surround the remnant vegetation as a safety measure to allay fears of windfall by the occupants of the subject land (DEC).</p>	<p><i>Factor does not require EPA evaluation.</i></p>

Pollution Management			
Soil contamination	<p>Site is an old Council fill site which has had various quantities and quality of fill placed on it over the last 25 years. The site ceased to be used as a Council depot about 5 years ago.</p> <p>The rear of the site is uncleared and vegetated with large karri and Redgum trees with bracken, blackberry and rushy bushes in the low lying areas. The cleared area is covered in thick kikuju and has several stockpiles of assorted rubbish material including timber and scrap metal.</p>	<p>Twelve test holes were dug in April 1997 across the cleared area of the site using a backhoe to determine the soil profile. The site was classified P in accordance with AS2870.1 - 1988 (Wood & Grieve, 1996)¹.</p> <p>Five boreholes were drilled in July 1997 located both up- and down-grade on the site to confirm the soil profile and determine the presence, if any, of soil contamination. The analysis included contaminants such as nitrogen, phosphorus, heavy metals, hydrocarbons and organochlorines.</p>	<p>The levels of potential contaminants on the site fall within background levels. The results are below the investigation and response levels and hence the potential for toxicity is such that no management of the environmental factor is required.</p> <p><i>Factor does not require EPA evaluation</i></p>
Groundwater quality	<p>The groundwater at the site is not within a designated water extraction catchment and is not intended for human consumption on or off the site. The limited aquifer under the site is expected to drain to the watercourse and then to the Denmark River.</p>		<p>As no contamination of the soil on site was found and no material which could cause contamination detected, it is assumed that no contamination of the groundwater exists. This is supported by the DEP</p> <p><i>Factor does not require EPA evaluation</i></p>
Surface water quality	<p>There is a small seasonal creekline running from the Teesdale Road reserve northerly to a creek which flows easterly through the grounds of the Denmark hospital.</p>	<p>Significant runoff from the site during heavy rainfall events may occur as a result of the increased amount of hard surfaces associated with the development. This has the potential to flood downstream of Hospital Creek. A Stormwater Management Plan should be prepared to the satisfaction of WIMA to address these issues.</p> <p>The direct disposal of stormwater into the area of proposed Parks and Recreation is not acceptable.</p>	<p><i>Factor does not require EPA evaluation.</i></p>

¹ Wood & Grieve Engineers (30 April 1996). Correspondence to Mr Nick Ayton of Ayton, Taylor & Burrell.

Other		
Regional planning considerations	<p>The DEC feels that the information prepared by Harrington Consultants is misleading and inconsistent with the Environmental Review and the Denmark Residential Strategy.</p> <p>The retention of all remnant forests is consistent with the Denmark Residential Strategy (DEC).</p>	<i>Factor does not require EPA evaluation.</i>
Other	<p>The DEC strongly opposes further commercial development along the section of the South West Highway within the amendment area (DEC).</p> <p>There should be a "no cat" policy for the proposed development which will provide maximum protection for fauna in the remnant forest reserve (DEC).</p>	<i>Factor does not require EPA evaluation.</i>

Appendix 1

List of submitters

Government Agencies

Water and Rivers Commission (WRC)

Organisations

Denmark Conservation Society (DCS)

Denmark Environment Centre (DEC)

Members of the Public

Ms Diane Harwood

Ms Andrea Harman

Ms Tina Richardson