A REPORT ON THE DIDDAH DIDDAH CREEK (SPRINGHURST) WATER SUPPLY CATCHMENT

A Proposal for Proclamation prepared for consideration by the Land Conservation Council

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INTRODUCTION

The township of Springhurst obtains its water supply from a reservoir located in the upper reaches of the catchment to Diddah Diddah Creek. The Springhurst Waterworks Trust is the responsible water supply authority.

The catchment is situated north west of the Pilot Range within the Barambogie Hills. The drainage line, on which the reservoir is located is not a named stream; but for the purposes of proclamation has been regarded as Diddah Diddah Creek.

A request for proclamation of the catchment has been made by the Trust, its principal concern being the amount of silt and animal faecal material entering the reservoir.

The catchment is located within the Land Conservation Council's North East Study Area - District 3, for which Council has published final recommendations. Council policy is, that where there is a multiplicity of uses in a catchment supplying water used for power generation or for domestic, industrial, or irrigation purposes, the catchment should be proclaimed under section 5(0) of the *Land Conservation Act 1970* and section 22(1) of the *Soil Conservation and Land Utilisation Act 1958*.

This report briefly describes the catchment and recommends its proclamation.

CATCHMENT FEATURES

1. General

Diddah Diddah Creek rises in the Barambogie Hills to the south east of Springhurst. The creek drains to the west onto the open plain, joining Black Dog Creek which flows directly into the Murray River (Refer Fig 1).

The catchment area to the reservoir is approximately 2,125 hectares.

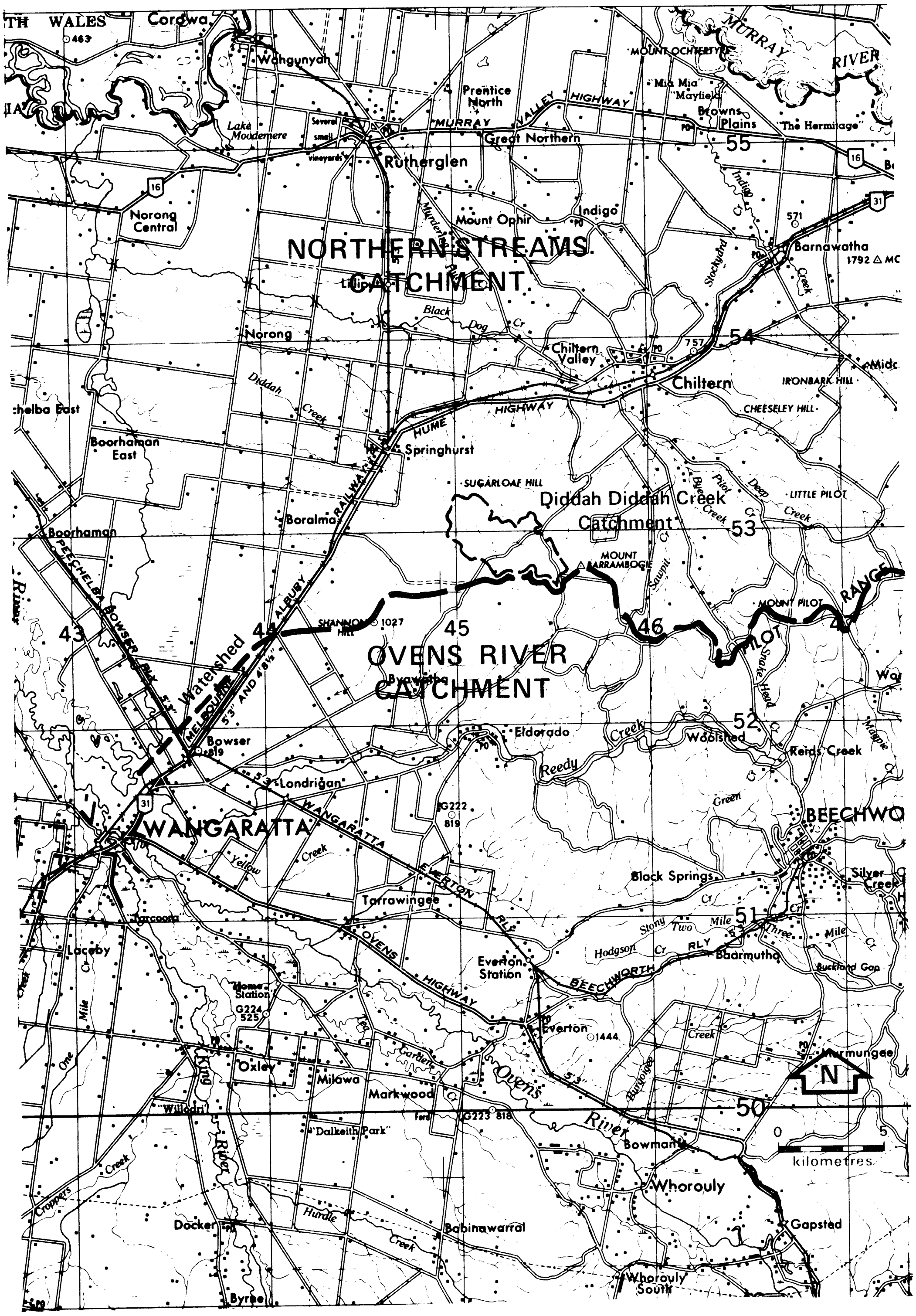
The catchment is within the Parish of Barambogie in the County of Bogong. The bulk of the area lies within the shires of Wangaratta and Chiltern. A small area in the south east falls within the United Shire of Beechworth (refer Fig 2).

2. Geology, Topography and Soils

The Barambogie Hills is an area with rolling topography resulting from the dissection of the elevated plateau of resistant granite comprising the Mt Pilot plution. Elevations within the catchment range form 420 metres in the south east to 320 metres in the west, with full supply level at 265m, approximately. Two marked features of the surrounding landscape are: Sugarloaf Hill (586m) to the north and Mt Barambogie (496m) just to the east of the catchment.

Soils formed on the granite, range from coarse sands to red and yellow gradational soils; all have coarse sandy loam surface textures. Outcropping tors are common on the hilltops with surface outcropping frequently throughout the areas.

MAP - FIGURE 1 - CATCHMENT LOCALITY PLAN
(Northern Streams Catchment and Ovens River Catchment)



3. Climate

Average annual rainfall at Springhurst is 600 mm. A slightly higher average could be expected over the catchment. Rainfall is fairly evenly distributed throughout the year with about 57% falling during the winter/spring period. Average summer maximum temperatures of about 30°C could be expected. Minimum winter temperatures are often as low as 5°C.

4. Vegetation

Public land and a small amount of freehold land carries native vegetation. The remaining freehold land has been cleared either wholly or partially for pasture development. Pastures consist of introduced annual grasses and native grasses. Weeds are a common problem.

Native vegetation of the area is characterised as an open forest with long leaf box as the major species. Small areas of woodland, where blakely's red gum predominates, also occur. Associated species are red stringybark, broad leaf peppermint, candlebark, red box and cypress pine.

LAND TENURE & LAND USE

1. Freehold Land

Approximately 63% of the catchment area comprises freehold land held in property sizes ranging from 28 to 230 hectares. Very few properties have residences in the catchment. The major land use is sheep grazing for both wool and meat. Cattle grazing occurs intermittently.

Intermittent fodder cropping is undertaken on the more gentle slopes.

2.. Public Land

One large and two small areas make up the 37% of the catchment which is public land.

The largest of the three comprises the catchment area above Triangle Road that is Reserved Forest. The smaller areas are: the land occupied by the reservoir and its immediate surrounds and managed by the trust and a small portion of a Bushland Reserve that extends into the catchment from the north. A grazing licence extends over the reserved forest.

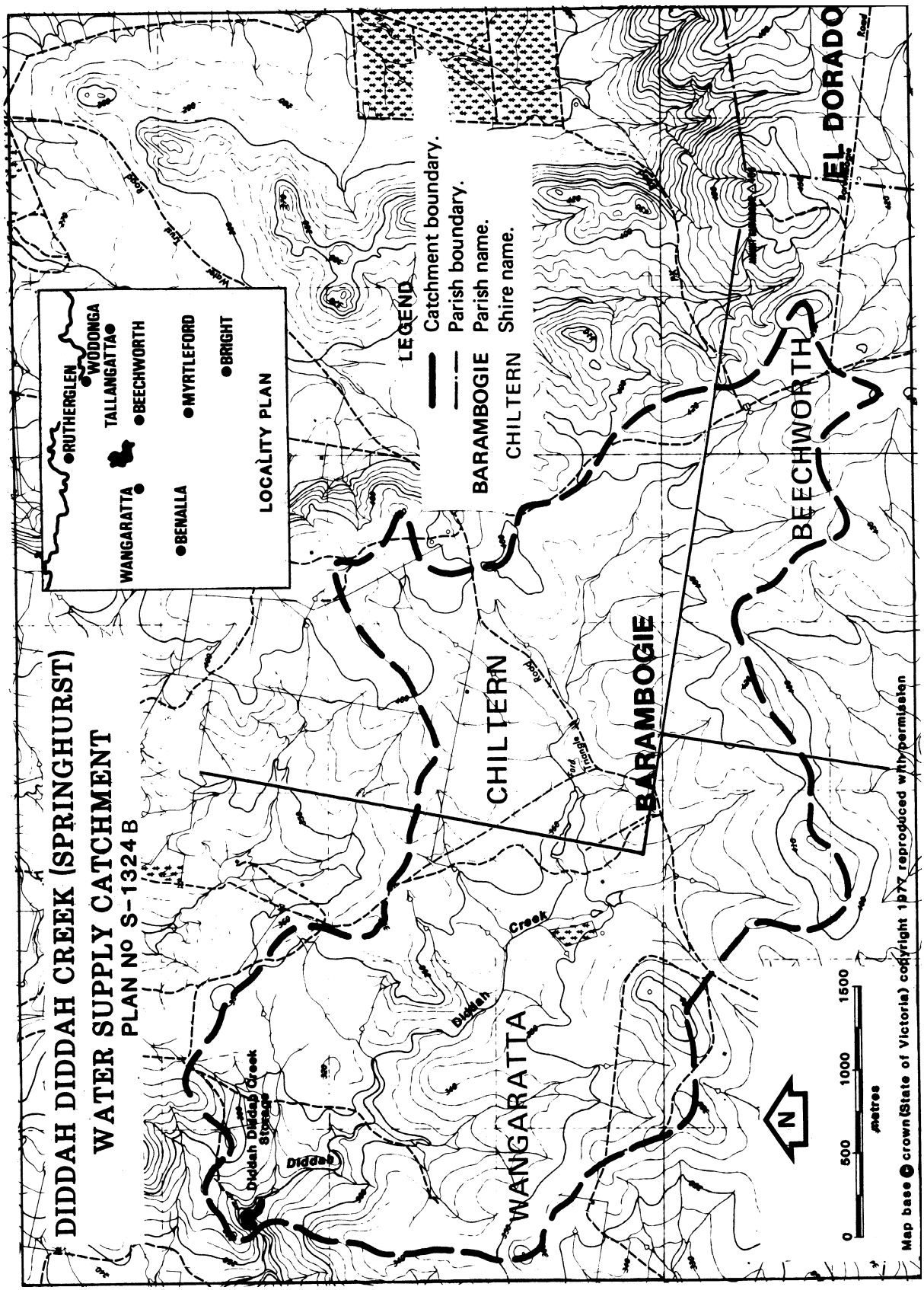
An edited extract from the Final Recommendations of the Land Conservation council for the above land is given below.

D10 That in the case of the location listed below and shown on Fig 3. the present tenure and management of public land continue for the time being - Diddah Diddah Creek, Springhurst Waterworks Trust

H12 That the area shown on Fig 3 be used to:

(a) maintain the local character and quality of the landscape

MAP - FIGURE 2 MUNICIPAL BOUNDARIES. DDAH DIDDAH CREEK (SPRINGHURST) WATER SUPPLY CATCHMENT Plan No S-1324B



and

(b) provide opportunities for passive recreation such as picnicking and walking and that it be permanently reserved under section 4 of the *Crown Land Reserves Act 1958* and be managed by the Department of Crown Lands and Survey.

Expansion of any existing recreational facilities or new development should be permitted only where this does not conflict with the primary aim.

S1 That the area shown on Fig. 3 be used to:

(a) maintain the capability of the land to meet future demands

(b) to produce those goods and service required by the community (such as forest produce, grazing, and military training) that can be supplied without seriously reducing the long-term ability of the land to meet future demands

that

the land be Crown land withheld from sale and be protected forest under the provisions of the *Forest Act 1958*.

All recommendations have been accepted by the Government. The Bushland (Nature) Reserve has been implemented.

Water Supply

1. System

Diddah Diddah Creek reservoir is located approximately 4 kilometres upstream of Springhurst township. The reservoir has a nominal capacity of 57 ML; however available water is somewhat below that figure due to siltation since construction in 1962.

Water gravitates directly from the reservoir to the town's distribution system. Being a terminal storage, conditions within the reservoir are directly reflected at the taps. The water is untreated.

The reliability of supply is generally good; but during the 1982/83 drought an emergency source from a local well was used to overcome the shortfall in catchment supply. This well is now a permanent part of the distribution system but will only be used in emergency situations in the future, eg drought or when water quality is poor.

There are approximately 60 connections in the township serving a population of some 220. In addition a number of properties are serviced from the pipeline for stock and domestic supply.

Annual water consumption for Springhurst over the last few years has averaged 23 ML.

2. Water Quality

Water analyses throughout the system have been made on an irregular basis in the past. Recently the Trust initiated regular sampling and testing of the supply for bacteriological quality. Chemical analysis is also being carried out regularly now.

Results available to date indicate that water quality has failed to meet the desirable health standards*, particularly with respect to bacteriological quality and turbidity which have been consistent problems facing the Trust.

Some of the problems concerning water quality can be attributed to the free access of stock to the reservoir and catchment streams. These matters are currently being investigated with a view to regulation the access of stock or people to these areas.

HAZARDS TO THE WATER SUPPLY

Roads

As with most catchments, roading is considered to be a major contributor of sediment and colloids to catchment streams. Many roads and tracks in the catchment have eroded table drains and therefore will continue to adversely affect water quality during rainfall events.

Grazing

Under the present grazing management there is little doubt that animal wastes enter the storage via the drainage system. This provides the potential for increased bacteria and nutrient levels sufficient to stimulate the production of algal blooms. Unrestricted access to the storage by stock, native animals and humans provides a means for further contamination.

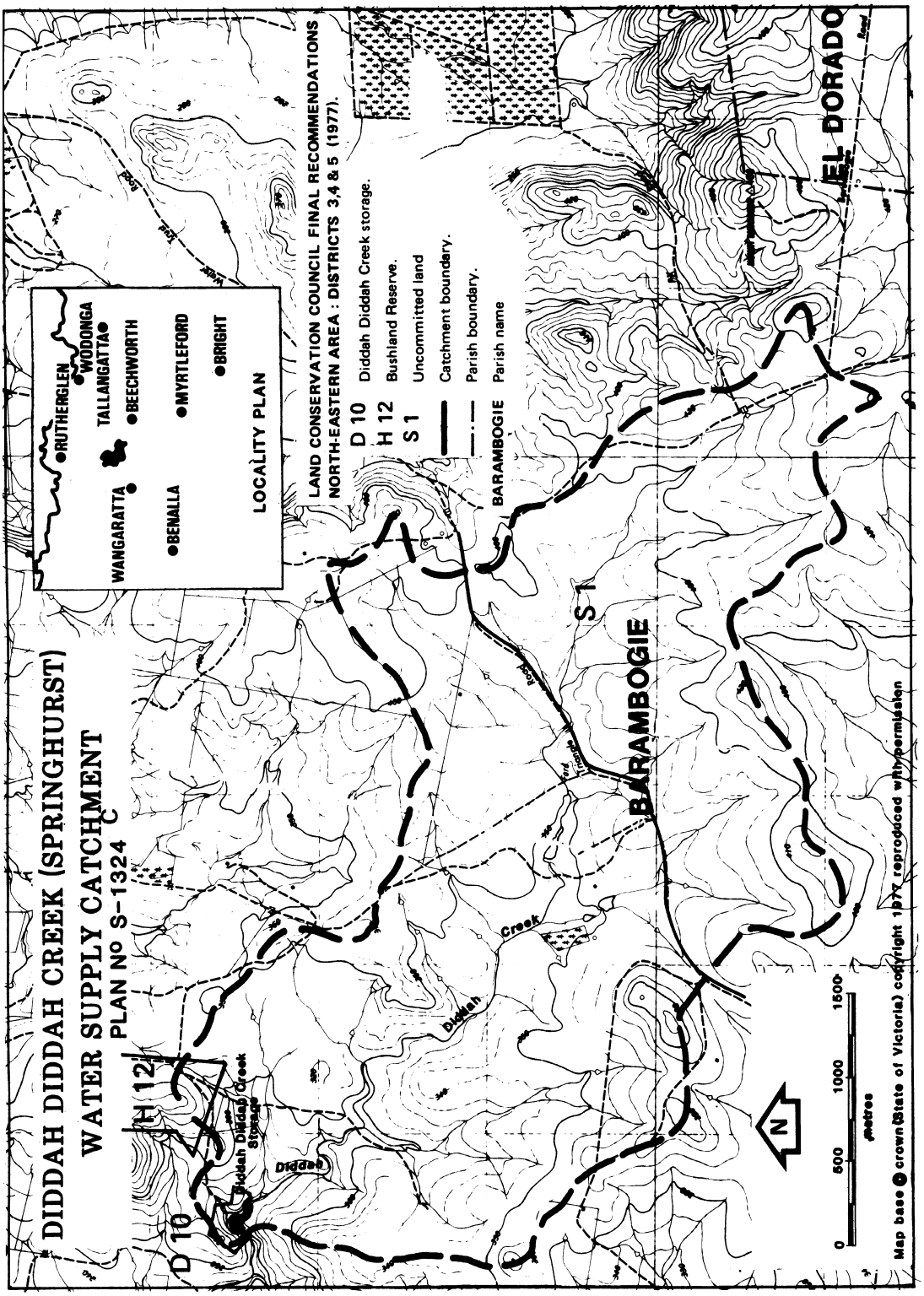
The long detention time in storage offers a natural improvement in water quality, particularly with respect to turbidity and bacteriological quality; however, high levels of bacteria can be expected to persist in the water supply until arrangements are implemented for the exclusion of stock from the reservoir surrounds.

Erosion

Erosion of the gullied courses of streams in the catchment is a cause of high turbidity levels and sediment in the storage. Stock trafficking and access to the gullies contributes to the persistence of this problem.

* Department of Health and Medical Research Council, Australian Water Resources Council (1980). Desirable Quality for Drinking Water In Australia. Australian Government, Canberra.

MAP - FIGURE 3 - L.C.C. FINAL RECOMMENDATIONS. DIDDAH DIDDAH CREEK (SPRINGHURST) WATER SUPPLY CATCHMENT - Plan No.S-1324



RECOMMENDATION

That under Section 5(1)(b) of the *Land Conservation Act 1970* the Land Conservation Council recommend to the Governor-in-Council that the catchment to the Diddah Diddah Creek storage, as shown on catchment plan S-1324, (Fig 4) be proclaimed under of Section 22(1) of the *Soil Conservation and Land Utilisation Act 1958*.

MAP - FIGURE 4 PROCLAMATION PLAN DIDDAH DIDDAH CREEK (SPRINGHURST) Plan No.S-1324