

Post War Reconstruction.

Detailed Proposals for the planting of approximately
16,000 acres of *Pinus pinaster* at the rate of
1,000 acres per year at Ghangara.

ACCESS - ROADS.

The work will be facilitated and the utilisation of the indigenous timber for firewood made possible by the construction of a road linking the Plantation to the Metropolitan road system.

It is recommended that a road be made from Malaga Park north of Bayswater to the South West corner of Compt. 76a and thence north along the wide firebreak to the north east corner of Compt. 34. This represents about $8\frac{1}{2}$ miles of construction 6 miles of which would be necessary before reaching the plantation area. A certain amount of survey would be necessary before work could be started, as there is not a direct route surveyed between the two points mentioned.

Regarding the type and cost of this road, Mr. Godfrey, an engineer of the P.W.D., estimated, in 1938, that a consolidated gravel road 9' wide and six inches deep, would cost approximately £500 per mile as follows :-

Clearing 20' wide	10. 0	per 100 ft.
Formation	£2.10. 0	" " "
Gravelling 6" consolidated	5.10. 0	" " "
Grading	10. 0	" " "
	<u> </u>	
	£9. 0. 0	per 100 ft.

This road will run right through the centre of the plantation area and stabilised tracks will be all that is needed for feeders. As work extends to the north so the road can be constructed to keep pace with it.

SOIL TYPES - AREA AND CLASSIFICATION.

All that area contained within the blue line shown on the attached plan, has been roughly type mapped.

A plan showing this classification is attached hereto, and details of the types recognised, are as follows :-

Flats	}	Good planting country.
Sub Flats		
Low Dunes		Fair planting country.
Medium and High Dunes	}	Very poor planting country.
Swamps		

Details of the area of each type are as follows :-

Flat (shown red)	=	11,646 acres
Sub Flat (Blue)	=	1,597 "
Low Dunes (Yellow)	=	<u>2,559</u> "
Plantable country		<u>15,802 acres</u>

Medium and High Dunes	=	4,290 acres
Swamps	=	<u>2,470</u> "
Unplantable country		6,760 acres
		<u>=====</u>
Planted country (including breaks)		2,500 acres
		<u>=====</u>

This makes a total of approximately 25,000 acres of which about 16,000 acres are plantable.

LAND RESUMPTION.

The following table gives details of the private property held within the classified area, and the area of each soil type contained therein:-

Private Property:

Loc.	Area	Flat	Sub Flat	Low Dunes	High Dunes	Swamps
1497	100	58		4		38
1558	10			10		
1564	120	22	10		32	56
1570	160	94	46			20
1584	150					
1739		43		14		8
1846	60	25		3		32
1856	98	50		17	3	28
1866	90	25	Balance outside line.			25
1920	160	95	30	15		20
1933	160	108				52
1934	100	58				42
1999	160	70	35	30		25
2075	30	17				13
2084	100	41		8		51
2311	100	20		60		20
2314	100	50				50
2316	100	68				32
2323	100	62	30			8
2515 Part	160	160				
2688	221	82	134			5
2943	150	148				2
3231	96	60				36
		1356	285	161	35	563

Total area classified = 2,400 acs. approx.

It is recommended that consideration be given to the resumption of all these Locations, with the possible exception of Locations 2316, 2311, 1866 and 1584, which have been improved to a considerable extent, and might be fairly expensive to resume.

The following table gives details of the land at present open for selection and the area of each soil type included therein:-

Land open for selection:

Loc.	Area	Flat	Sub Flat	Low Dunes	High Dunes	Swamps
1932	100	55			45	
2253	100	40		5		55
2254	100	45				55
Total	300	140		5	45	110

Total 300.

It is recommended that these three locations be reserved to the Crown.

The following table sets out details of the vacant Crown land in this area which I take it is available at this stage for selection. It is recommended that all these locations be withdrawn from selection or alienation.

Vacant Crown land:

Loc.	Area	Flat	Sub Flat	Low Dunes	High Dunes	Swamps
2235	100	50	35			15
3382	240	200				40
3383	200	125	20		10	45
3384	205	125	30			50
3385	148	108				40
3386	157	102		5		50
3387	187	122				65
3388	194	124	15	20		35
3389	187	107				80
3390	229	154				75
3391	171	141				30
3392	161	91				70
3393	183	176				5
		1625	100	27	10	600

Total = 2,362

This table gives details of the only Location on the area reserved for Government requirements. I am not sure what these requirements are, but it is probable that as long as this Department's activities do not run counter to the reason for the original reservation, this location could be placed under the control of the Forests Department.

Government Requirements:

Loc.	Area	Flat	Sub Flat	Low Dunes	High Dunes	Swamp
8714	100	5	12		80	3

Total = 100.

The following table gives details of the area of each soil type within Reserve 108/25

Land within Timber Reserve:

Flat	Sub Flat	Low Dunes	High Dunes	Swamp	
4,700	1,200	2,350	3,100	1,200	Total = 12,600

UTILISATION OF SWAMP LAND FOR SETTLEMENT.

In recommending the resumption of all alienated land and land open for alienation, I am not desirous of prohibiting land settlement in this area. The formal subdivision of the locations in question has resulted in the inclusion of a lot of first class planting country within their boundaries. Such country is quite useless for any present known agricultural pursuit. Many of the swamps, however, have possibilities for vegetable growing, and to a limited extent dairying, and the Department would not stand in the

way of the alienation of these areas. In fact, I think settlement should be encouraged to obtain a sprinkling of residents over the area. These people would form a potential labour reservoir and could assist with fire detection and suppression.

I would recommend that the question of resumption and reservation of all private property and land open for alienation be dealt with immediately if possible. It may be much more difficult to deal with this matter after the war finishes.

SUBDIVISION FOR PLANTING.

Approximately 2,500 acres of this area have been subdivided into 40 acre compartments. The balance of the area remains to be done. The early subdivision did not take into account the use of unplatable country as firebreaks, but this question should be considered in all future work.

FENCING.

It is not thought that any fencing of plantation areas will be necessary, with the possible exception of external boundaries.

HOUSING.

It is suggested that the Headquarters office and residence of the officer in charge be established on the main road at West Swan. It will be necessary to purchase land for this purpose. Further houses could be built at West Swan if it was necessary to provide accommodation for permanent members of staff.

A further settlement or group of houses could be erected on or in the vicinity of the high ridge which lies immediately east of Lake Gngangara on Reserve 8399. These houses would be within a mile or so of a made road along which a school bus travels.

As work proceeds north, further settlements might be established in the vicinity of Jandalup Lake on the west and location 1474 on the east.

This arrangement for the housing of the staff places them all with the exception of the tenant in the house on location 2828, within easy reach of a school. It also makes it possible to organise the local residents on both sides of the area for fire fighting purposes, and an adequate lookout can be maintained.

It may be necessary to erect a house or two in the vicinity of the high lookout points. These are situated south east of location 588 and south of location 1932.

CAMP SITES FOR MEN.

These may be established almost anywhere, as water is available at shallow depths over the major portion of the area.

It is not economical to have men working more than a mile from camp if walking to and from work, so that each camp will serve a radius of about one mile.

TELEPHONE:

The officer in charge would be connected to the P.M.G.'s. system at Guildford. All other centres would be connected by a cheap fence or pole line to the residence and office of the O.I.C.

STAFF.

CLOVER

Asst. Forester Clair is well able to take charge of any scheme for expansion at this centre. He is at present rated "D" class, but should, upon the implementing of any further scheme to enlarge the plantation area, be given the status of "C" class Asst. Forester, I consider.

The assistance of a clerk to help with pays and returns would be necessary, probably another Assistant Forester to assist with subdivision and other fieldwork, and overseers at the rate of one to every 25 to 30 men.

FIRE CONTROL AND LOOKOUTS.

The two main lookout points for the area are situated -

1. On the high ridge about a quarter of a mile east of the south east corner of location 1588.
2. On the high ridge about 10 chains south of the south west corner of location 1932.

These two points command a view of the whole area in question.

As mentioned under another heading, an effort would be made to settle people on the better class swamps with a view to establishing the nucleus of a fire fighting gang.

The settlers along the eastern and western boundaries could also be organised to assist with fire suppression.

NURSERIES AND PLANTING STOCK.

The raising of one year old stock of standard size offers no problems providing we can procure plenty of stable manure. The present nursery on compartment 95 is capable of producing 300,000 plants per year, allowing half the nursery to lie fallow each year, or 600,00 if the whole area is sown.

To implement a programme of 1,000 acres per year, and to allow for crop rotation at yearly intervals, would require a nursery area of about 5 acres. It is not anticipated that the provision of such an area would be difficult. On short notice the best method would be to clear an area of pines on a suitable soil type as the ground would then be thoroughly infected with mycorrhiza. If sufficient time was available a nursery could be established following the standard practice.

I am opposed to the transporting of stock over long distances as this makes difficult the quick stopping and resuming of planting operations to take advantage of suitable weather.

CLEARING AND PRODUCTION OF FIREWOOD.

This could be done by piece work or day labour. Most of this country could be cleared by mechanical power, but I take it the object will be to make the greatest use of manpower. All Banksia and Sheoak and any small Eucalypts up to 15" dia. will be felled ground level. The bigger Eucalypts will be felled at axe handle height. All Blackboys will be pulled by a horse.

Practically the whole of the indigenous timber crop could be worked up into firewood. The utilisation of this, however, depends upon the construction of a road of access.

Upon completion of the removal of the wood the area would be burnt and all remaining debris disposed of. The complete removal of all logs etc. greatly facilitates ploughing and subsequent cultivation.

PLOUGHING.

Ploughing to a depth of 10" is necessary. The only ploughs so far located that will stand up to this work are the H.V. McKay "Sunbow" and "Sungrade".

The Sunbow is a four furrow disc plough of very solid construction, and capable of a high jump. This is essential for deep ploughing on stumpy country. We have two 4 furrow models on hand, but no further ploughs of this type are being made. These two ploughs could cope with 1,00 acres of ploughing per annum if the work is properly planned. It might also be possible to purchase one or two second hand ploughs of this type.

Ten horses (heavy draught) are required to pull these ploughs.

The Sungrade plough will also plough this country to the above specifications, but requires four horses for draught purposes. This is a twin disc reversible plough.

I am still strongly in favour of horse drawn implements for this work for reasons already put forward by me on numerous occasions.

The employment of big horse teams will also help solve the nursery problem as large quantities of stable manure are required to satisfactorily raise plants at this centre.

SUBSEQUENT CULTIVATION.

Cultivation to destroy annual grasses can be done very satisfactorily with a Sunpearl cultivator with alternate discs removed.

One and possibly two ploughings are then required at intervals of two years to keep down the indigenous scrub until canopy is formed.

COSTS.

Following are approximate costs of establishment and tending to the age of six years :-

Clearing	£3. 0. 0	per ac.	(includes cost of firebreak establishment)
Firewood cutting	£2. 0. 0	" "	(based on 6 cords per acre)
Burning up)	£2. 10. 0	" "	(If no firewood removed)
" "	15. 0	" "	(If all wood removed)
Ploughing	£1. 0. 0	" "	
Poisoning Xmas trees	7. 6	" "	
Lining out	7. 6	" "	
Planting	£3. 0. 0	" "	
Superphosphate	14. 0	" "	
(2 applications)			
Subsequent cultivation	6. 0	" "	
for grass			
Ploughing between	1. 6. 0	" "	
rows - twice			
Controlled burning	3. 0	" "	Period of 6 years.
Firebreak maintenance	3. 6	" "	Period of 6 years.

The capital cost of houses and plant, gear and tools, telephone lines, etc., is not shown.

The labour costs per acre to establish and maintain a plantation for 6 years, may be estimated to be :-

£14.17. 6 is no firewood is removed.

£13. 2. 6 if firewood is removed.

1.3.43.
DHE/BF.

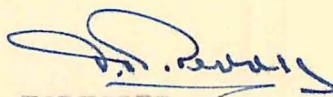
P. J. Davis
FORESTER.

Further alternative plan to plant 5,000 acres
in three years.

The previous proposals put up to cover the larger area
apply in general to this scheme.

An area of 5,000 acres of plantable country would be
included in all that land lying south of a line drawn west from the
north east corner of Swan location 1.

It would only be necessary to consider the resumption
of one private property location in this area, and that is location
2515.


FORESTER.

1.3.43.
DHP/BP.